

## PROJECT DESCRIPTION

### **SEAHOLM POWER PLANT** **800 West Cesar Chavez Street, Austin, TX 78703**

#### **GENERAL DESCRIPTION**

Seaholm Power Plant consists of three buildings: the Turbine Generator Building (TGB), the Water Intake Structure, the Oil Heating Building and related site elements including smokestacks, boilers and piping. The Water Intake Structure is not within the property boundary of this project and is not included in this application. The redevelopment site is approximately 5.5 acres and consists of three individual tracts of land: Lot 1 is 2.619 acres and the Turbine Generator Building sits on the northern portion. Lot 2 is 1.512 acres and covers the northwest portion of the site, and the remaining northeast corner is Lot 3 with 0.854 acres. The Turbine Generator Building, surrounding elements and the iconic south lawn are the primary focus of the rehabilitation with new supplemental infill elements placed in the rear, to the north, on the adjacent tracts of land. On Lots 2 and 3, the following new construction is proposed: a new low-rise mixed-use building, a new high-rise residential tower, a central pedestrian plaza over three levels of underground parking and enhanced vehicular and pedestrian access around the site.

The Turbine Generator Building (TGB) was constructed in two phases, the eastern portion completed in 1951, and the western portion completed in 1955. A modest frame and stucco addition, scored to mimic the grid at TGB, was built in 1972 on the west elevation for administrative office space. Between this addition and base of boiler #9 is a small, shed-roofed concrete block infill addition added in 1987 that necessitated the removal of two windows at Boiler #9's base.

This project is to be phased and the scope of this application is Phase One which includes redevelopment of the historic site, construction of new buildings on adjacent lots, and the "white box" rehabilitation of the TGB which includes core improvements to prepare the building for tenant leasing

#### **SITE IMPROVEMENTS**

The grassy south lawn is a significant component of the historic landscape and faces the popular hike-and-bike trail along Lady Bird Lake. There is a small flat roofed, metal and glass clad guardhouse that dates from the mid-to-late 1970s at the south site entry and post-dates the period of significance. Along the south boundary, a required sidewalk and *greenway* will be created adjacent to the Lance Armstrong Bikeway as part of the Great Streets initiative of the City of Austin. A retaining wall will be installed along at the north edge of the new sidewalk to maintain an even slope at the south lawn, as the roadway drops to the west. The wall will be interrupted with two new stepped concrete approaches to the south lawn. Two level areas, approximately 50'x70', at the east and west ends of the upper south lawn will be covered with synthetic turf lawn and are provided for tented events. The synthetic lawn material is a high quality material, very natural in appearance, and similar to what is used at professional sporting venues. The low retaining walls at the south end of the turf lawns will serve as benches for gatherings on the south lawn. The Italian cypress trees will be protected during construction and retained. There is one cypress tree that appears in ill health most likely from the 2011 drought. Any damaged cypress trees will be replaced in kind as needed. Existing paving around the building will be removed, retaining the original concrete steps and landings at the two main south entries. The non-historic gatehouse will be removed.

At the western boundary, Walter Seaholm Drive will be extended to the north to intersect with West 3<sup>rd</sup> Street. The western edge of the site will be excavated to meet the extension of Walter Seaholm Drive and to create a new public street level entry at Entry-Level 2 of the Turbine Generator Building (TGB).

Proposed site work to the north of the TGB on adjacent Lots 2 and 3 includes removal of the Oil Heating Building and associated underground fuel tanks and construction of a three-level underground parking garage with public plaza above. West Avenue will be extended to the south to connect to West Cesar Chavez Street.

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### NEW CONSTRUCTION

The areas of proposed new building construction, which will be on adjacent Lots 2 and 3 located to the north of Lot 1, are currently asphalt parking lots and located at the rear of the historic site. The Oil Heating Building is located here.

Two new buildings are proposed for the rear of the redevelopment site. On Lot 2 at the northwest corner a two-story steel framed mixed-use office/retail building with a flat roof is proposed; its height limited by a governing Capitol view corridor. Ground floor retail space will be approximately 80% clear glass. Second floor office space will be approximately 40% glass. Cladding for non-glazed surfaces of the building will be a combination of a cementitious panel product and sand finished, integrally colored, limestone-based plastering system over metal stud framing. Roofing will be a white TPO membrane.

A high-rise residential tower is proposed for Lot 3 at the northeast corner of the site with a public plaza over three levels of below-grade parking uniting these two new buildings with the historic Turbine Generator Building. The proposed high-rise will be 28 stories tall and will be clad in high performance glass (approximately 60%) and a combination of a composite metal panel system and the same limestone-based plastering system as on the low-rise building.

### SITE ELEMENTS – PAVING & LIGHTING

The south lawn currently slopes gently to West Cesar Chavez Street and down to the Water Intake Building on Lady Bird Lake. Beneath the lawn is a honeycomb of piping and weirs utilized in the original function of the plant bringing water in to and out of the TGB. At the north elevation of the TGB, the ground between the boilers contains pipe trenches covered with removable concrete slabs. Other former trenches on this side of the building are filled in with asphalt. A defunct railroad spur passes along the eastern end of the boilers and enters the TGB at the northeast corner through a rolling overhead steel door; it was here that the giant steam turbines were delivered in pieces by train. The asphalt paving is in poor condition throughout. The concrete sidewalks are in poor condition and the abandoned train tracks remain in reasonably good condition.

The existing piping and concrete weirs below the south lawn will be left in place and utilized for rainwater collection from the roofs of all three buildings within the redevelopment project. This water will be used for irrigation purposes and the entire system will be featured by the City of Austin as part of its Commercial Rainwater Demonstration Program. This rainwater collection system will provide the irrigation requirements for 75,000 square feet of landscaping that will therefore be kept off the grid.

Existing asphalt paving, concrete curbing and sidewalks will be removed. The existing concrete trenches and trench covers will be removed, and the proportions of the original rectangular covers will be used as a repetitive feature on new concrete walks. New paving materials at the site plaza include textured and integrally colored concrete, unit pavers and ceramic tile as accents, and decomposed granite. Proposed paving along the north edge of TBG in the smokestack vicinity will be discrete and industrial in appearance.

The existing light poles do not appear in any historic photos and will not be reused on the site. Proposed site lighting is contemporary and simple in design and will include pole fixtures 12' and 18' tall, bollard fixtures, surface mounted wall washers, in-grade step lights and café light strands, all at the locations of new construction and the plaza. The historic TGB will retain its original back-lit signage. In-ground, recessed up-lighting will be used to accent the Italian Cypress trees that line the iconic south façade of the TGB.

Proposed site furnishings will be provided only in areas north of the smokestacks and the TGB and will include simple, contemporary elements such as benches, bicycle racks, litter receptacles and bollards.

### OIL HEATING BUILDING

The Oil Heating Building is located approximately 110 feet north of the Turbine Generator Building (TGB) and has a footprint of roughly 40'x38'. The building served as a secondary supplemental building to the TGB. Its

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function was to store and supply heated fuel in underground pipes to the boilers on the north face of the Turbine Generator Building. The scale of the Oil Heating Building is diminutive in comparison to the TGB and it is located to the rear (north) of the main structure in a location rarely seen by the public. The Oil Heating Building is a secondary structure that served in a support capacity for the larger Turbine Generator Building and was not an element in the public's historic perception of the site.

Flanking the west and east sides of the Oil Heating Building are four underground fuel storage tanks, two on each side, aligning north-south. The Oil Heating Building housed a boiler, pumps and piping to provide heated fuel to the turbines inside the Turbine Generator Building.

The Oil Heating Building and its associated, below grade elements will be removed. At the original location of the Oil Heating Building, interpretive educational elements are proposed to convey the location, design, scale and function of the Oil Heating Building and its relationship to the TGB and overall operation of the Seaholm Power Plant. Interpretive signage, recent and historic photographs and large-scale diagrams will be placed on all sides of the 8-foot tall air vent enclosure adjacent to this site in the plaza. The original location of the building footprint will be marked by special paving materials as will the location of original pipe trenches that ran to the TGB. The removal of the Fuel Oil Building, while unfortunate, will not have a detrimental or adverse effect on the overall character, public views or the historic significance of the site.

### **BUILDING ENVELOPE & FOUNDATION**

The Turbine Generator Building (TGB) was constructed in two phases, identical in method and technology. All floors, walls, structural beams, columns and roof decks are site-cast concrete. The building contains a total of four levels, identified as Intake-Level B2, Entry-Level B1, Turbine-Level 1, and Mezzanine-Level 2. The two below-grade levels, Intake-Level B2 and Entry-Level B1, were created by partial excavation and partial fill added to the contours of the original site. The foundation appears to be in good condition.

The poured in place, load-bearing concrete walls vary from 8"-14" in thickness and are in good condition with some evidence of surface expansion cracking, rust stains and weathering. The large concrete exterior walls have a scored pattern of 4-foot by 4-foot panels, with visual evidence of the plywood forms. The spandrel panels are vertical corrugated smooth concrete in all locations except the small one-story east appendage where the corrugation shifts to a horizontal orientation.

The top of the north (rear) elevation and south (primary) facade terminate after two stories with a horizontal parapet, capped by a cast stone coping which conceals the flat roof beyond. One additional story, the exterior of the Turbine Room, is stepped back from the main building mass. The walls of this additional story terminate with a horizontal parapet, also capped by a cast stone coping. At both roof levels, a portion of the precast parapet coping is missing or in disrepair.

#### Spalls and Cracks:

Where necessary, repair work is to meet the Secretary of the Interior's Standards for the Treatment of Historic Properties.

#### Matching Repair Mortars:

Where necessary, repair work is to meet the Secretary of the Interior's Standards for the Treatment of Historic Properties. Final appearance will be established from actual field mockups prepared by the contractor. Field mock-up samples will be prepared by the contractor for evaluation of technique, quality, and appearance for review and approval by Texas Historical Commission.

#### Cleaning:

The exterior of the historic power plant is modern-era cast-in-place concrete. This material is amenable to monitored pressure-washing. The preferred method of cleaning will use pre-wetting, followed by application of a cleaning agent, followed by controlled pressure-washing. Mild cleaning agents will be used such as bio-degradable non-ionic surfactants (like Simple Green).

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Pressure washing shall be done in a controlled process to prevent gouging of the surface. Field representatives of the Historic Architect will make site visits as appropriate during the cleaning to verify adherence to method and procedure.

Damaged parapet copings will be repaired when possible and, if necessary, replaced with similar cast stone material and profile. All parapet copings will be removed so that flashing membrane may be properly installed at all roof perimeters. Copings will be cataloged and reinstalled in original location.

### WALLS

Existing concrete walls and columns will be left exposed (cleaned and sealed) to the greatest extent possible. New exterior infill will be glass partitions using clear anodized frames and clear glass.

### ROOFS

There are two roof levels. The upper roof covers the Turbine Hall. A 1999 re-roof specification indicates it is a built-up roof system with an aluminum top sheet, trade name "Veral" manufactured by Siplast. This roof is in good condition, and is not recommended for replacement. The lower roofs, located at the north, south and east elevations, have a standard built-up modified bitumen system. The lower roofs are currently in fair-to-poor condition and are considered to be at the end of their expected lifecycles. The lower roofs will be removed to existing concrete deck and new R-30 polyisocyanurate insulation will be added with a white TPO (thermoplastic polyolefin) membrane roof type. At the Boiler 9 enclosure roof, a roof deck accessible to the public will be created. The existing guardrails will be modified to meet current building code requirements; a new egress stair will be added between Boilers 8 & 9 to provide building code required egress. This stair is to be supported with the existing Boiler 9 flue support structures, which will be salvaged when the Boiler 9 flue is removed.

Topping the Turbine Generator Building is an 80-foot aluminum communications tower that was presumably used to control electronic switching at substations. The 80-foot aluminum communications tower appears in historic photos dated 1955 and will be stabilized and left in place. The upper roof will be prepared to receive a solar panel array that will not be taller than the parapet walls and thus not visible from street level.

### HISTORIC WINDOWS

In general, existing windows are industrial type, mill-finish aluminum frame with single glazing. The basic window type is fixed divided lights with one or two operable awning sections. There is glass block behind the primary entry signage over the two main entry porticos on the south elevation and within a large concrete grid at the east elevation. All existing single pane window frames will be cleaned, reused and retrofitted to receive a clear plexiglas insulative panel on the interior side. A mock-up of this proposed solution has been installed in two windows *in situ* to allow review and evaluation by Texas Historical Commission to determine the visual impact on the building and to ensure that the historic character will be maintained. The Texas Historical Commission project reviewer has reviewed and approved this mock-up. The exterior glass block will be left in place, cleaned and stabilized if necessary.

### HISTORIC DOORS

Existing exterior doors are either single or paired. The most common type is a steel, half-lite with 6 divided lites over a single panel. The door leading out of the stairway at the north lower roof level is solid two-panel metal. An overhead rolling steel door is located at the northeast corner of the building where the railroad spur entered the building. Another overhead rolling steel door is located at the west elevation and is currently concealed from exterior view by the 1972 west addition. The two main entries on the south elevation each have a pair of single lite aluminum mill finish doors with a four-lite transom over. These doors are to remain in place, with hardware modifications (if necessary) for accessibility. Original single and paired hinged doors will be replaced with full lite

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hollow metal doors. The rolling overhead door at the northeast corner of the TGB will be removed, with a new fixed storefront in natural anodized aluminum frame to be set within the existing door opening. The rolling overhead door on the west elevation will also be removed. Similar to the treatment at the northeast corner, a new fixed glass storefront with natural anodized aluminum frame will be set within the existing concrete opening.

### **SOUTH ELEVATION**

The south facade is the main public elevation of the building and faces Lady Bird Lake and the Water Intake Structure. This elevation has two monumental enframed entry portals that project slightly from the building plane. Each has an inset vestibule and paired aluminum doors with four-light transoms and a projecting flat roofed, aluminum clad canopy. The upper part of the portal, above the canopy, is infilled with glass block. Aluminum Moderne style graphics applied on the outer face of the glass block spell out "City of Austin" along with an inverted lightning bolt, symbolizing the building's power generating function. Standing on top of each canopy are similar graphics spelling "Light" on the east and "Power" on the west. The signage and glass block appear to be in good condition.

Two rectangular concrete air intake shafts with steel grate inset covers align with the building's water table appear in the middle and western end of the building. These are in good condition and originally served as ventilation intakes to the below grade levels of the building. The steel grate inset covers will be removed and replaced with skylights that will be set below the top of these airshafts so that they will not be visible from the south.

The South facade appearance, materials and signage will be preserved in their original condition. No changes are planned for this main façade. The entry portals will remain as is. The non-original handrails will remain.

### **WEST ELEVATION**

The original west elevation was completed in 1955 and features the Art Moderne style, maroon-colored 4-foot tall letters spelling "City of Austin Power Plant," which are illuminated red at night, representing one of the building's iconic images. The letters, located near the cornice line, are aluminum, pin-mounted and are similar in style to the other signage on the south elevation entry portals.

There are no visible openings on this elevation today, however an original overhead rolling door and man door exist but are currently concealed by a 1972 addition. This addition is frame construction with stucco veneer scored to resemble the 4'x4' grid concrete at the TGB. It was constructed to house administrative and training offices. Also visible at this west elevation is a manufactured building was placed on the site to the north of the 1972 addition sometime after 1972 to house additional administrative offices. There is a steel ladder mounted to the face of the southern portion of the lower roof area for roof access.

There is a built-up earthen berm and flat concrete retainage sloping to a retaining wall that extends down to Walter Seaholm Drive, at an elevation drop of approximately 13' below Turbine Hall finished floor level. Due to this significant drop in grade and adjacent railroad trestle bridge, public view of the west elevation has historically been limited to the upper level signage only.

Boiler #9 and its associated flue and smokestack are also visible on this elevation. There is a one level concrete masonry unit (CMU) surround at the base of boiler #9 with several openings, and exposed steel superstructure, ladders, piping and equipment loom above, taller than the highest parapet wall of the Power Plant.

The 1972 addition and manufactured building are non-contributing elements of the site and will be removed. The steel ladder mounted flush on the south wall of this elevation will be left in place, but the lower 10 feet will be removed for safety reasons.

The built-up grade and concrete retainage will be removed and grade will be lowered to meet the extension of Walter Seaholm Drive. To allow light into the sub-grade level of the TBG and to create a public entry at the new street level (Entry-Level B1), six new openings will be punched into the west wall between existing structural

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columns and infilled with two pair of glass doors and fixed aluminum storefront. Directly above on Turbine Hall-Level 1, three new openings, also between existing structural columns will be added, along with a metal canopy installed over the two new pair of glass entry doors. The existing original overhead door opening will remain, and glass infill placed in the concrete opening. The head heights of the punched openings will be lower than the height of the rolling doorway, thus creating a distinctly different and secondary position and scale of the new elements. Aluminum storefront will be compatible yet differentiated from historic windows so as not be confused as a historic feature. The frames at new storefront infill will be larger in section than any existing aluminum or steel profiles at doors or windows.

New concrete retaining walls, walkway, stairs and ramp will be added to connect the plaza and south lawn together as well as to connect these features to the street level at Seaholm Drive and provide accessible entry to the building and south lawn. All new concrete will be different in appearance from the smooth, board-formed or corrugated finish of the original building.

At boiler #9 the steel superstructure, pipes, ladders and catwalks elements above the CMU surround will be cleaned, painted and remain in place, except elements from the roof deck to approximately 14' above the roof deck will be removed to create usable area at this location. The existing window and door openings in the CMU infill at the ground level of boiler #9 on the west face will remain and the frames will be retrofitted with clear plexiglas insulative panels on the interior side. This CMU wall will be punctuated with new openings in a random pattern to allow light into the tenant space. The new fixed window locations are designed to be distinctly different in shape and placement from other windows on the historic structure so that they cannot be confused with historic elements. A shade structure constructed with salvaged (on site) steel bar grating and steel framing is to be constructed along a portion of the CMU wall at boiler #9.

The iconic Art Moderne style aluminum signage will be removed, restored and reinstalled in its original position.

### **NORTH ELEVATION**

The north elevation is dominated by the five large boilers and stacks. Each boiler is clad in a cubic mass of corrugated, embossed aluminum that was recently (2000) installed as part of the decontamination of the plant. The boilers were originally clad in asbestos insulation contained within a woven wire mesh, plaster and canvas, all of which was painted a light color. A small CMU infill addition between the 1972 west addition and the base of boiler #9 was built in 1989. This has a pair of double doors on its north face.

The westernmost boiler, #9, is different in appearance and operation from the other four, and was built sometime after 1957. Boilers #5 through #8 are mounted on the ground and expanded upward as they got hot. The boiler faces, which contain the boiler controls, breach the north concrete wall of the TGB, entering through large openings. Boiler #9 is a "hanging" boiler, expanding downwards as it got hot during operation. It is therefore much taller than the other boilers, with a much more pronounced steel superstructure that rises above the Turbine Generator Building, holding the boiler above a hole at grade (Turbine-Level 1) through which it hangs into the Entry-Level B1.

Between each boiler at the north face of the building is a pair of steel doors with screen doors at the exterior leading to Turbine-Level 3 and an aluminum 12-lite window above. There is an existing overhead rolling steel door also on the north elevation, at the wall leading directly into the high volume of Turbine Hall. All doors are in fair condition, but are being replaced because their swings were not correct for building code egress requirements.

The steel superstructure, pipes, ladders and catwalks at boiler #9 will be remain in place and be cleaned and repainted. All boiler #9 elements above the CMU surround will be cleaned, painted and remain in place, except elements from the roof deck to approximately 14' above the roof deck will be removed to create usable area at this location. The CMU surround at plaza level will be mostly removed and infilled with aluminum and glass

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storefront system to allow natural light into the space. The existing steel doors and windows above will be repaired, painted and left in place. The overhead door will be removed and aluminum and glass storefront infill installed in the existing concrete opening.

The smokestacks at all boilers are to remain. The flue at boiler #9 will be removed to allow pedestrian access into the future tenant space. The resultant opening where the flue penetrates the CMU enclosure will be infilled with new storefront glass. The small non-contributing CMU infill addition from 1989 will be removed.

The dominant superstructure at boiler #9 and all components of boiler #5 at the east end will be retained, along with a majority of the steel superstructure, catwalks, piping and stairs that weave along the north face serving boilers #6, 7 & 8. The goal is to retain the essence of the west and east elevations to maintain the historical views of the TGB. The north elevation will remain industrial in character while it will also serve as the connection between TGB and new development to the north, both within this site and the rapidly developing context of the city. A majority of components of boilers #6, 7 and 8 will be removed to provide access and light into the building from the new public plaza to the north. Skylights will be constructed over boilers #7 and 8 and a stepped entry down to Entry-Level B1 will be created at the boiler #6 location. New aluminum curtainwall glazing will be installed at the existing concrete openings where boilers #6, 7 and 8 were removed.

Boiler #5 will remain and its insulating housing will be removed to allow for more visibility of the boiler for interpretive purposes. All remaining boiler #5 elements will be cleaned and painted. The area around boiler #5, both outside and inside, will become the primary interpretive center of the project.

### **EAST ELEVATION**

This elevation remains today much as it was when completed and continues the same scored and fluted concrete vocabulary seen on the principal facade. There is minor decay of the concrete surface, some rust stains, but in general, it is in good condition. One notable feature on this elevation is the large scale cast stone, gridded frame with glass block infill spanning the full height of the open interior space, just to the south of Boiler 5. The side view of Boiler 5 is visible and is covered with insulation housing adding during a decontamination project in 2000.

All components of the east elevation will be retained and repaired as needed. The concrete will be cleaned and any necessary repairs made to the concrete surfaces. Windows will be cleaned, retrofitted with clear plexiglas insulative panels on the interior side and will remain in place. The housing shroud will be removed from boiler 5 and all elements will be cleaned and painted to remain in place as part of the interpretive program.