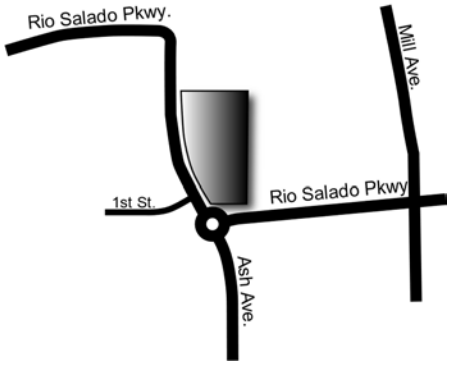
CITY OF TEMPE
HISTORIC PRESERVATION COMMISSION

Meeting Date: 05/11/2022
Agenda Item: 6

ACTION: Request for recommendation of approval of a General Plan Land Use Map Amendment from Public Open Space to Mixed-Use and a Density Map Amendment from No Density to High Density-Urban Core (more than 65 du/ac); a Zoning Map Amendment; a Planned Area Development Overlay to establish development standards; and a Development Plan Review for a new 14-story office building with ground floor commercial for 250 Rio, related to the proposed landscape improvements to the Ash Avenue Bridge abutment approach/roadbed and adjoining west side embankment, located at 250 West Rio Salado Parkway. The applicant is Gammage & Burnham P.L.C. (PL210130/HPO220003). The presenters are Manjula Vaz, Mike Duffy, and Mark Vinson. This item was previously considered at the April 2022 HPC meeting.

RECOMMENDATION: Approve recommendation of approval, with conditions



Property Owner:	City of Tempe
Applicant:	Gammage & Burnham
Tempe Hist. Prop. Reg. Status:	Designated
National Register Status:	Listed (Tempe Beach Stadium)

ATTACHMENTS: Ash Avenue Approach and Bridge Abutment File (includes excerpt from June 2021 meeting minutes that discusses the applicant's original informational presentation to the HPC)

STAFF CONTACT(S): Zachary J. Lechner, Planner, Interim Historic Preservation Officer, 480-350-8870

Department Director: Shelly Seyler, Interim Community Development Director
Legal review by: N/A
Prepared by: Zachary J. Lechner, Historic Preservation Officer

STAFF NOTE:

At its April 2022 meeting, the Historic Preservation Commission voted on a motion to recommend approval of this action item. While the City of Tempe HPO recorded the motion as passed, a later review by the Assistant City Attorney determined that the motion failed, stating that according to City Ordinance governing the Historic Preservation Commission (specifically, TCC 14A-3[f]), "the concurring vote of five (5) members shall be necessary for any action of the commission on any matter." The April vote on these action items did not pass the five-vote threshold, necessitating, per the applicant's request, these items to be placed back on the agenda for the May 2022 HPC meeting.

COMMENTS:

The property (Ash Avenue Bridge approach and abutment and western embankment) is located at 80 and 250 W Rio Salado Pkwy. The roadway that comprises the bridge approach, as well as the abutment, is listed in the Tempe Historic Property Register as part of Tempe Beach Park Stadium. The Stadium was listed in National Register of Historic Places in 1985. The Ash Avenue Bridge was demolished in 1990, though the southern abutment was left standing. Staff evaluation of the request for recommendation of approval of the various items under consideration utilized information on the Tempe Directory of Historic Buildings website, the Secretary of the Interior's Standards for the Treatment of Historic Properties, and VinsonStudio PLLC's *Assessment of the Historic Roadbed and Bridge Abutment for the City of Tempe, Arizona* (2018) as guidance when analyzing the submittal.

HISTORICAL OVERVIEW:

The roadbed that serves as the approach to the Ash Avenue Bridge abutment is a historic section that is no longer a part of Ash Avenue. It serves as link to an earlier era of the city's transportation history. So too does the Ash Avenue Bridge abutment, the one remaining vestige of that historic bridge, which was demolished in 1990. The concrete roadbed has been closed to vehicular traffic since the construction of the Mill Avenue Bridge in 1933. Pedestrian and bicycle access has been closed off since the demolition of the Ash Avenue Bridge.

Ash Avenue Bridge/Abutment History

From VinsonStudio PLLC's *Assessment of the Historic Roadbed and Bridge Abutment for the City of Tempe, Arizona* (p. 12, 24-25):

The Ash Avenue Bridge (also known as the Tempe Bridge, Old Tempe Bridge, and Salt River Bridge) was "unquestionably Arizona's most historically important bridge" due to many factors. Built over the most heavily traveled river crossing in Arizona and a significant example of the use of prison labor in public projects, it was also a "remarkable example of early twentieth century bridge technology." The bridge and its approaches were an important link on the main north-south highway in Arizona, as well as on the national roadbeds known as the Bankhead Highway and the Ocean-to-Ocean Highway. The approach is all that remains of one of the earliest concrete roadbeds in Arizona that was also one of the first of Arizona's federal aid highway projects undertaken after the passage of the Federal Aid Road Act of 1916. . . .

The Ash Avenue Bridge and related roadbed was a significant connector in transportation in the early 20th century, playing a pivotal role in state and national roadbeds. It was part of the north-south state highway, a key part of the Bankhead Highway, Dixie Overland Highway, and Ocean-to-Ocean Highway, among other national roads. As a key component of such heavily-used highways, the bridge and road were part of the earliest construction of concrete roadbeds in Arizona circa 1918-1919. The paving of the stretch of road connecting to the bridge, and including the approaches, was Federal Aid Project No. 2 in Arizona under the 1916 Federal Road Act. The bridge and the road have received attention in multiple national publications. The bridge itself was also an excellent example of early concrete bridge construction/technology and the use of prison labor in public projects. On September 21, 2018, the Arizona Transportation Board voted to approve the designation of the Historic Arizona US Route 80. Historically, US 80 included the Ash Avenue Bridge until the time of the completion of the Mill Avenue Bridge in 1931.

The remaining portion of the approach and roadbed still embodies its original profile, concrete paving, and relationship to the remaining portion of the bridge. . . . Even with the addition of the stadium bleachers in 1936, the roadbed on the approach maintains its integrity of right-of-way, west embankment, and original longitudinal and cross slopes. The significance of this section of road and bridge abutment is linked to the earliest days of the state of Arizona in terms of transportation, bridge engineering, and roadbuilding. Looking forward, the continued use of the ball field for Little League and Community Recreational League play (126 days in 2017), plans for a streetcar stop and traffic circle at the intersection of Rio Salado Parkway and Ash Avenue, and proposed redevelopment of the parcel adjoining the west right-of-way line, ensure that now and in the future, the roadbed will occupy an important place in the experience of many. Since the Tempe Town Lake area is the second most visited location in the state, visitors and residents alike can experience this significant connection to the earliest days of statehood.

From Tempe Directory of Historic Buildings website entry "Tempe Beach Park Stadium + Ash Avenue Bridge Abutment":

The Tempe State Bridge, better known as the Ash Avenue Bridge, was the first major highway bridge crossing the Salt River. When construction began in 1911, labor was provided by prisoners from the Arizona Territorial Prison in Florence. The bridge was completed in 1913. It provided the first dependable crossing between Phoenix and Tempe and Mesa for wagons and automobiles. Unfortunately, the bridge was obsolete by the time it opened. It had been designed more for wagons than for automobiles, and it was too narrow to carry two lanes of traffic. In 1916, a flood weakened one of the supporting arches and seriously damaged the bridge. After the Arizona Highway Department built a new bridge [Mill Avenue Bridge] in 1931, the Ash Avenue Bridge was no longer used.

The Tempe Concrete Arch Highway Bridge was an 11-span reinforced concrete open spandrel rib arch bridge that crossed the Salt River at Tempe. The design for the Tempe bridge employed ten piers anchored to the bedrock below the streambed. Every third pier was constructed on a solid bottom concrete abutment type. The intermediate piers were anchored on two concrete filled steel cylinders six feet in diameter driven into the bedrock. There were ten 125-foot long open spandrel rib arches and

each consisted of two three-hinged segmented arch ribs placed 13 ft. on center. The reinforced concrete deck was carried by 12-inch by 12-inch concrete spandrel columns placed 11 feet on center and connected at the top by semicircular spandrel arches. On the exterior side of the spandrel columns were semi-spandrel arch brackets cantilevered out from the columns to carry the curb and desk balustrades. It was designed to carry a 15-ton tractor engine and a live load of 100 pounds per square foot.

The Tempe Concrete Arch Highway Bridge, built 1911-1913, was the oldest surviving multiple arch concrete bridge in Arizona. It was also significant as one of the first major bridges built by the Territory of Arizona and as the first large highway bridge across the Salt River. As the first automobile bridge between Phoenix and Tempe, this structure provided a vital link between Phoenix and communities to the south. It was also significant in the development of Tempe during its two decades of service as a major highway route across the river.

In 1909, the State of Arizona began to develop a north-south highway system and the need for a bridge at the Salt River became apparent. That year, the Territorial Legislature appropriated funds for the construction of a highway bridge at Tempe. Preliminary work began in the spring of 1911 on an alignment approximately 500 feet east of the 1905 Arizona Eastern Railroad Bridge. When construction began in 1911, labor was provided by prisoners from the Arizona Territorial Prison at Florence. Although convict labor had been used on earlier projects, this bridge is one of the last remaining examples of construction accomplished under that system. Although Roosevelt Dam was completed in 1911, flooding of the Salt River was still a fairly common experience, and periodic repairs [1916, 1920,and 1925] were necessary to maintain safe conditions on the bridge. By the late 1920s, automobiles became wider, heavier, and more numerous, stressing the structure beyond its design limits. In 1928 the Arizona Highway Department recommended the construction of a new river crossing and in 1931, when the new structure [HPS-226, Mill Avenue Bridge] was complete, the 1911 bridge was closed to all but pedestrian traffic.

The Ash Avenue Bridge was demolished in 1991 [sic] *because it would have cost too much to repair the structural damage that it had suffered. Only a segment of the bridge at the south abutment was saved. The current listing on the National Register should be amended to redefine it as a standing ruin.*

PROJECT ANALYSIS:

The applicant seeks to rehabilitate the historic Ash Avenue roadbed approach and bridge abutment as part of its larger 250 Rio redevelopment project, which, per City code, will require that the applicant obtain City approval of a General Plan Land Use Map Amendment from Public Open Space to Mixed-Use and a Density Map Amendment from No Density to High Density-Urban Core (more than 65 du/ac); a Zoning Map amendment; a Planned Area Development Overlay to establish development standards; and a Development Plan Review for a new 14-story office building with ground floor commercial for 250 Rio, located at 250 West Rio Salado Parkway.

According to the project website, 250 Rio is envisioned as "a high-quality commercial development within a mixed-use area that will increase the commercial/creative office and restaurant/retail mix within the Downtown Tempe District, preserve and rehabilitate the historic Ash Avenue roadbed

along the Site's eastern perimeter, enhance pedestrian connections to Tempe Beach Park, and enhance the pedestrian realm along Rio Salado Parkway. The Applicant anticipates strong and sustainable demand for Class A commercial office space" on the site of the old *Arizona Pennysaver* building.

The proposed rehabilitation of the historic Ash Avenue roadbed approach would cover the roadbed with a new concrete topper, while leaving reveals of the roadbed, which is in generally poor condition. The historic curb is to remain (and repaired if necessary) and historic planters rehabilitated alongside the roadbed.

Guidelines from the Secretary of the Interior's Standards for the Treatment of Historic Properties (Standards for Rehabilitation) relevant to this proposal include:

1. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

2. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

3. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

4. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

STAFF RECOMMENDATION:

Based upon the information provided and the above analysis, staff recommends approval of Planning Case No. PL210130 subject to the following conditions pertaining to the landscape plan for the Ash Avenue Bridge abutment approach/roadbed and adjoining west side embankment, including those including those identified by Commissioners at the April 2022 HPC meeting:

CONDITIONS OF HPC RECOMMENDATION FOR APPROVAL:

1. The applicant shall revisit the design to the Ash Avenue roadbed cut-outs to ensure safety and proper drainage and provide the revised landscape plan to the Historic Preservation Commission for review and comment.

2. The applicant shall continue to make the VinsonStudio PLLC's *Assessment of the Historic Roadbed and Bridge Abutment for the City of Tempe, Arizona* (2018) integral to their plan for restoring the Ash Avenue Bridge abutment approach.

3. Prior to the issuance of a building permit, Developer shall provide City with an archaeological survey of the Property conducted by a qualified person or firm, to ascertain the presence, and to review and assess the impact, of archaeological artifacts or ancestral remains that may exist upon or otherwise impact or affect the Property. If such artifacts or remains are required by applicable law to be removed, relocated, preserved or otherwise remediated to permit development of the Property, then developer shall diligently undertake to satisfy all such legal obligations, at no cost or expense to the City.

4. Any minor changes to the landscape plan dated April 12, 2022, as submitted, shall be reviewed by the Historic Preservation Officer for compliance with the Certificate of Appropriateness (HPO220003) and issuance of a Certificate of No Effect.

SAMPLE MOTION:

"I move to recommend approval of a General Plan Land Use Map Amendment from Public Open Space to Mixed-Use and a Density Map Amendment from No Density to High Density-Urban Core (more than 65 du/ac); a Zoning Map amendment; a Planned Area Development Overlay to establish development standards; and a Development Plan Review for a new 14-story office building with ground floor commercial for 250 Rio, related to the proposed landscape improvements to the Ash Avenue Bridge abutment approach/roadbed and adjoining west side embankment, located at 250 West Rio Salado Parkway."

(Commissioners can also amend the conditions of approval when making a motion.)

Excerpt from June 9, 2022, Historic Preservation Commission Meeting Minutes Pertaining to Potential Ash Avenue Bridge Abutment Approach Rehabilitation

Presentation by Staff, John Southard, Historic Preservation Officer

Mr. Southard informed the Commissioners that the Ash Avenue Bridge approach and abutment is listed in the Tempe Historic Property Register. As part of the Tempe Beach Park Stadium and rock wall listing. The designated area was shown to the Commissioners. The Ash Avenue Bridge was completed in 1913 and was only in use for a short period of time. The completion of Mill Avenue Bridge illuminated the need for the Ash Avenue Bridge. The Ash Avenue Bridge sat in disrepair for many years till 1991. In 1991 a mass majority of the bridge was demolished. What remains was the approach from North Rio Salado Parkway. The embankments on the East side includes the bleachers for the baseball field. And the abutment which is on the Northern end. The parcels to the West is the Penny savers building. There is a development that is contemplating redevelopment of the property and the area to the North as well. As part of that there is rehabilitation to the Ash Avenue approach.

Presentation from Applicant: Manjula Vaz & Mike Duffy

Ms. Vaz informed the commissioners that they have a very brief presentation. This is an introduction to the high-level concept. As they develop the concept, they will be back to seek the Commissioners input over the next 6 months or so. They are looking at the penny saver building and the area that is designated as historical property.

Mr. Duffy informed the commissioners that the site is full of historical resources. The Ash Avenue Bridge abutment was developed into a monument. The project sits immediately to the West when looking at the site for the project the development team was aware of the things that are unique to the area. The Development team guiding conceptual principles is to celebrate historic Ash Avenue bridge, activate historic Ash Avenue, manage views to park lake & mountains, connect to the Beach Park and Downtown Tempe, as well as create shade. The development team is aware of the work that Mark Vincent [Vinson] did to provide an assessment of the resource. The design plan shows some cut a way to highlighting some of the existing roadway elements. Provided drawings showing the update version of the roadway elements to make the area code compliant for pedestrian access. There is preservation of the curbs and other features that are in good shape and can be preserved. The goal is to maintain the burn and add a new topping and stabilization of the roadway as well as providing landscape. Provided the commissioners with an enlarged site plan of the area that shows the ideas in 3D view.

Mr. [Alex] Smith [Deputy Community Development Director—Special Projects] informed the commissioners that there is a dash line that will be the new property line and the western most column line. There is an 18-foot strip that City of Tempe is exchanging with the developer for the parking lot property that is currently there. Ms. Vaz is going to take title of the property knowing that the property is listed as historic. There are two main reasons that the project has

been brought to the commissioners which is the treatment of the approach and the interaction with the slope that is associated with the approach.

Mr. Duffy also informed the Commissioners that there is an element of the building that hangs out over the burn.

Mr. Smith stated that the City has been working on this for a while and that there was a previous plan that was circulated within the City that was related to the Veterans Memorial. The plan showed a bunch of trees in the approach which could be problematic. So, the overhang of the building is to provide some shade outside of planting trees.

Commission Discussion

Chair [Chuck] Buss asked if the roadway in the drawing is off to the right and with the walkway will one be able to distinguish the older road.

Mr. Duffy explained that the roadway is off to the right on the drawing and that there is new paving. They will have to be paved over to be rehabilitated for use. The elements of the historic road are in the cut out to reveal elements. That state that the road it is in is not readily available in place.

Vice Chair [Martin] Ball stated that the critical thing in order to the roadbed is the section that is being maintained. While he does understand the Chair Buss concern about the loss of the historical elements that is something that could be explored more in the paving pattern and the exact amount of the original surface. The challenge will be maintaining the character and the publicness of the original historic element with the private structure. The shading of the area does not bring in cause for concern. In developing the design concept further there should be some type of distinction between the public and private areas. What are the purposed uses adjacent to the walkway?

Mr. Duffy answered that one of the things central to the concept is the ideal that Ash Avenue is the Front door rather than Rio Salado. Being so close to the resources that will be addressed as the main focal point. There is a double height lobby that goes along with the site as Ash Avenue ramps up. The ground floor lobby is at a lower level and then the second-floor double height lobby enters at the North end of Ash Avenue.

Vice Chair Ball stated that there is a great opportunity to have an urban approach on the roundabout. Should consider exploring what potential there is to create a shaded urban character frontage along the roundabout side of the structure.

Chair Buss asked if the western embankment is disappearing.

Mr. Duffy stated that it is a little difficult to read from the elevation that is shown to the commissioners because the burring is falling away from the landing. He showed the commissioners several elevations to help explain the drop off.

Commissioner Montero stated that she would like to see some photographs of the area and how it will tie into the plans next time they present to the Commission.

Mr. Smith asked for Mr. Duffy to talk about the ADA ramps that will be installed on the property as well.

Mr. Duffy stated that one of the things that will be seen at the North end is the reconfiguration of the existing switchback ADA ramp to bring access from the parking lot to the top of the abutment. The reason is to improve the area and provide better access to Ash Avenue also working with some site constraints with maintaining everything that is on the property to date.

Commissioner Garraty stated that the roadway and the abutment are an Historic Preservation Commission concern but there are archaeological concerns as well. On the western edge there was some Hohokam prehistoric settlement. That area goes East from 100 Mill and could also be in this area.

Ms. Vaz stated that she does have that on her raider [radar] and figuring out what to do.

Mr. Smith stated that the art of the process will be how the approach and the embankment interact with the building and still drive the pedestrian access from Rio Salado into Tempe Beach Park. One of the benefits from this deal is that the rehabilitation of the roadbed is going to be used from ingress and egress to and from Tempe Beach Park by the Public.

PLANNED AREA DEVELOPMENT OVERLAY FOR 250 RIO

A PORTION OF THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 1 NORTH, RANGE 4 EAST,
GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA

OWNER AUTHORIZATION

BY:_____ _____
SIGNATURE DATE

ACKNOWLEDGEMENT

ON THIS _____ DAY OF _____, 20___ BEFORE ME, THE UNDERSIGNED, PERSONALLY APPEARED _____, WHO ACKNOWLEDGED HIM/HERSELF TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE INTRUMENT WITHIN, AND WHO EXECUTED THE FOREGOING INSTRUMENT FOR THE PURPOSES THEREIN CONTAINED.
IN WITNESS WHEREOF; I HEREUNTO SET MY HAND AND OFFICIAL SEAL

BY:_____ _____
NOTARY PUBLIC MY COMISSION EXPIRES

LEGAL DESCRIPTION

LOT 1 AND LOT 2 OF "250 RIO", ACCORDING TO BOOK 1645, PAGE 14, RECORDS OF MARICOPA COUNTY, ARIZONA, LOCATED IN THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 1 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

SAID PARCEL CONTAINS 79,022 SQUARE FEET OR 1.814 ACRES, MORE OR LESS.

APPROVAL

APPROVED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF TEMPE ON THIS _____ DAY OF _____ 20_____.

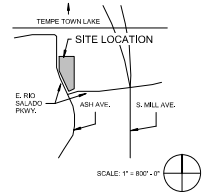
OWNER(S) / DEVELOPER:

Owner:
250 RIO OWNER LLC.
A Delaware Limited Liability Company
2375 E. Camelback Road, Suite 150 Phoenix, AZ 85016
Developer:
Hines
2375 E. Camelback Road, Suite 150 Phoenix, AZ 85016

PROJECT DATA

ZONING DISTRICT(S) AND OVERLAY(S) Table 5-611A	PAD PROVIDED
ZONING	CC, PAD, TOD (CORRIDOR), RSOD
GENERAL PLAN LAND USE	MIXED USE
GENERAL PLAN DENSITY	High Density Urban Core (more than 65 du/ac)
DENSITY	0 du/ac
SITE AREA	1.814 Acres (79,022 sf)
BUILDING HEIGHT	210' Max. (top-of-top)
BUILDING STEPBACK	NO
BUILDING LOT COVERAGE	70% max.
SITE LANDSCAPE COVERAGE	20% min.
BUILDING SETBACKS	
FRONT (RIO SALADO PARKWAY)	0' Min. / 50' Max.
SIDE (NORTH)	30' min
SIDE (EAST)	0' min.
VEHICLE PARKING QUANTITY	560 spaces
BICYCLE PARKING QUANTITY	36 spaces
USES	
OFFICE	210,500 SF
COMMERCIAL	4,000 SF
COMMERCIAL OUTDOOR	500 SF
GARAGE	225,000 SF
TOTAL USES	440,000 SF

SITE VICINITY MAP



PREVIOUS APPROVALS

CONDITIONS OF APPROVAL: PAD210008

REC21050
PAD210008
DS180711

RSP Architects
902 S. College Avenue
Suite 203
Tempe, Arizona 85281
480.889.2000
480.889.2099 fax
www.rsparch.com

Project For Hines
250 RIO
250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
Drawn By	BS
Checked By	MD

Revisions

No.	Date	Description
	2019-07-03	CoT PSP SUBMITTAL
	2021-04-19	CoT DPR SUBMITTAL
	2021-08-26	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-01-04	CoT DPR SUBMITTAL

PAD COVER PAGE

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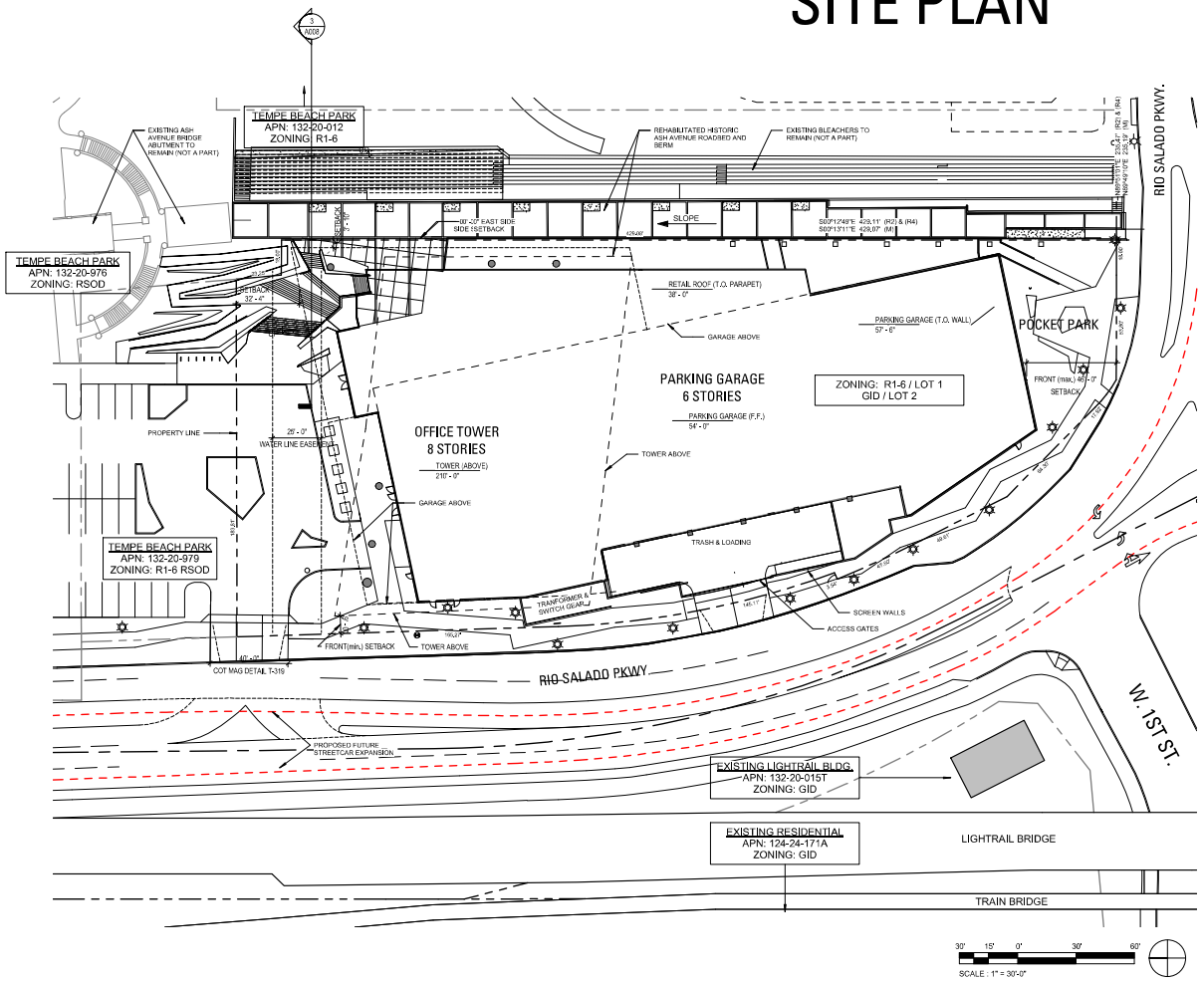
PLANNED AREA DEVELOPMENT OVERLAY
FOR 250 RIO
SITE PLAN



ZONING DISTRICT(S) AND OVERLAY(S) TABLE 5-611A	ZDC STANDARDS FOR UNDERLYING DISTRICT	PAD PROPOSED
ZONING	CC, TOD (CORRIDOR), RSOD	CC, PAD, TOD (CORRIDOR), RSOD
GENERAL PLAN LAND USE	MIXED USE / PUBLIC OPEN SPACE	MIXED USE*
GENERAL PLAN DENSITY	HIGH DENSITY URBAN CORE (more than 65 du/ac) / NO DENSITY	HIGH DENSITY URBAN CORE* (more than 65 du/ac)
DENSITY		0 du / ac
SITE AREA		1.814 Acres (79,022 sf)
BUILDING HEIGHT	50' MAX.	210' Max. (top of top)
BUILDING STEPBACK	YES	NO
BUILDING LOT COVERAGE	NS	70% max.
SITE LANDSCAPE COVERAGE	NS	20% min.
BUILDING SETBACKS		
FRONT (RIO SALADO PARKWAY)	0' min. / 0' max.	0' min. / 50' max.
SIDE (NORTH)	0' min.	30' min
SIDE (EAST)	0' min.	0' min.
VEHICLE PARKING QUANTITY		
OFFICE	(1 space / 500 sf, first 5,000 sf waived) 210,500sf / 500	411
COMMERCIAL	(1 space / 500 sf) 4000sf / 500	8
TOTAL VEHICLE PARKING REQUIRED		419
TOTAL VEHICLE PARKING PROVIDED		560 (in Garage)
BICYCLE PARKING QUANTITY		
OFFICE	(1 space / 8,000 sf) 210,500 / 8,000sf	26.3
COMMERCIAL	(1 space / 500 sf) 4,000sf / 500 sf	8
TOTAL REQUIRED		35
TOTAL PROVIDED		36
USES		
OFFICE		210,500 SF
COMMERCIAL		4,000 SF
COMMERCIAL OUTDOOR		500 SF
GARAGE		225,000 SF
TOTAL USES		440,000 SF

* GENERAL PLAN AMENDMENT REQUIRED FOR LOT 2 OF 250 RIO PLAT (BOOK 1645, PAGE 14, RECORDS OF MARICOPA COUNTY,ARIZONA) TO CHANGE LAND USE AND DENSITY DESIGNATIONS FROM PUBLIC OPEN SPACE AND NO RESIDENTIAL DENSITY TO MIXED-USE AND HIGH-DENSITY URBAN CORE.

DS180711 PAD210008 REC21050

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902 S. College Avenue
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Tempe, Arizona 85281
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REC21050
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Project For Hines
250 RIO
250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
Drawn By	MD AV
Checked By	AV

Revisions

No.	Date	Description
	2021-06-23	COT DPR SUBMITTAL
	2022-02-14	COT DPR SUBMITTAL
	2022-04-04	COT DPR SUBMITTAL

PAD SITE PLAN

G001

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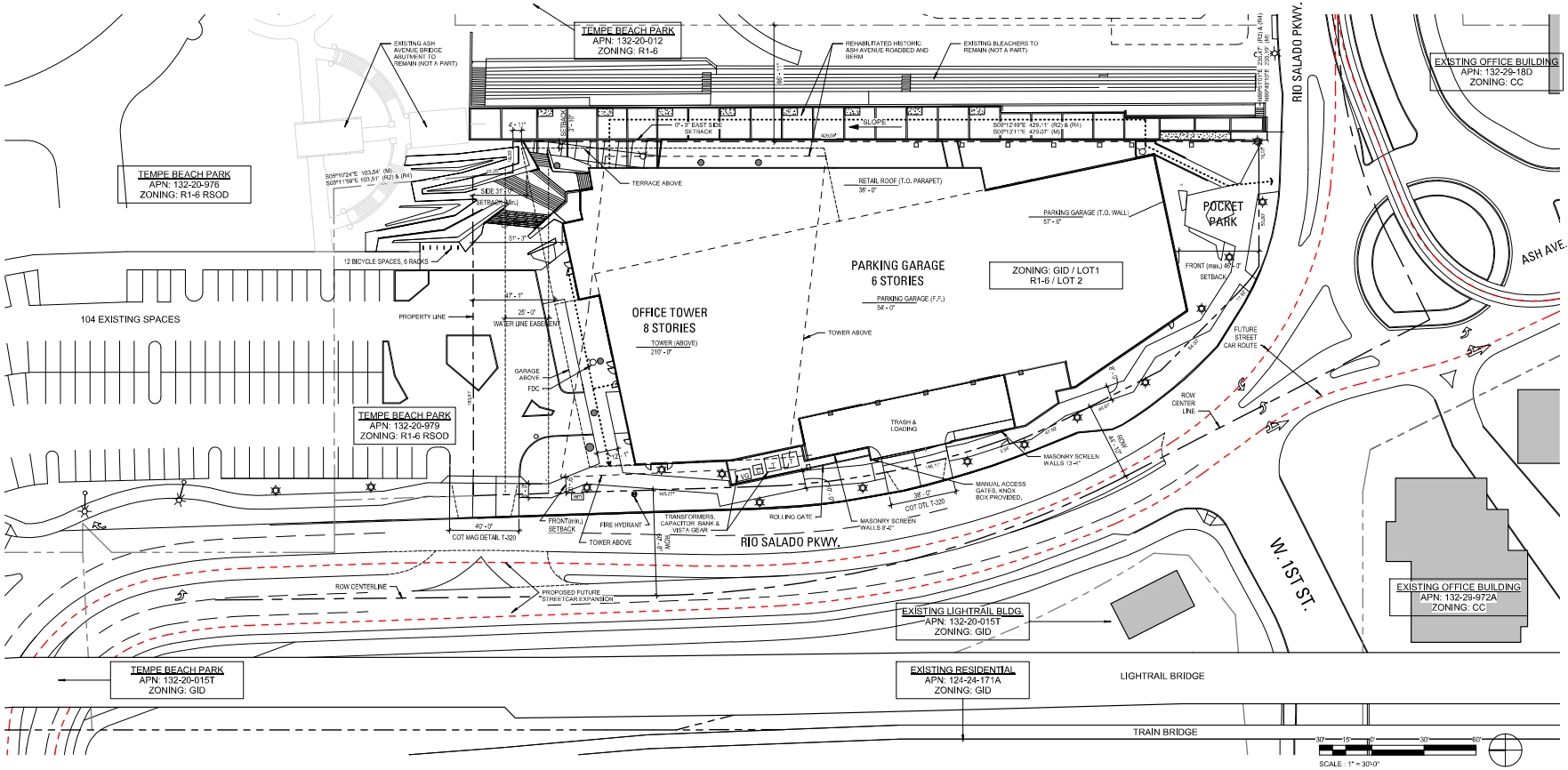


PROJECT TEAM

DEVELOPER: Hines
2375 E. Camelback Road, Suite 150
Phoenix, AZ 85016
Phone: 602 385 4000
Chris Anderson
Email: chris.anderson@hines.com

OWNER: 250 RIO OWNER LLC,
A Delaware Limited Liability Company
2375 E. Camelback Road, Suite 150
Phoenix, AZ 85016
Phone: 602 385 4000
Chris Anderson
Email: chris.anderson@hines.com

ARCHITECT:
RSP Architects, Ltd.
502 S. College Avenue, Suite 203
Tempe, AZ 85281
Phone: 480.889.2000
Mike Duffy
Phone: 480.889-2021
Email: mike.duffy@rsparch.com

LANDSCAPE ARCHITECT:
GREEY|PICKETT
7144 E. Stetson Drive, Suite 205
Scottsdale, AZ 85251

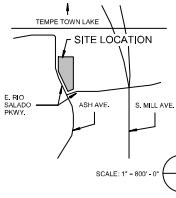
Phone: 480 609 0009
Russ Greey
Email: rgreey@greeypickett.com

CIVIL ENGINEERS:
Kimley-Horn
7740 N 16th Street, Suite 300
Phoenix, AZ 85020
Phone: 602.371.4533
Curtis Brown
Phone: 602.371.4533
Email: curtis.brown@kimley-horn.com

PROJECT NARRATIVE

A MIXED-USE PROJECT CONSISTING OF HIGHRISE OFFICE DEVELOPMENT WITH LOWER-LEVEL COMMERCIAL, AND A PODIUM PARKING STRUCTURE. THE PROJECT IS BEING DESIGNED TO INCORPORATE, PROMOTE AND STRENGTHEN THE UNIQUE ASPECTS OF THIS LOCATION. ORIENTATION OF THE OFFICE BUILDING AND THE GROUND FLOOR COMMERCIAL AREAS HAVE BEEN SHIFTED TOWARDS HISTORIC ASH AVENUE, ACTIVATING AND SHADING THE PEDESTRIAN EXPERIENCE ALONG THE CONNECTION BETWEEN RIO SALADO PARKWAY AND TEMPE TOWN LAKE. THE PROPOSED INTERACTION WITH HISTORIC ASH AVENUE WILL FURTHER ACTIVATE AND TRANSFORM THE HISTORIC ROADWAY ALIGNMENT AS A POINT OF INTEREST WITHIN THE LARGER RIO SALADO PARK.

SITE VICINITY MAP



PROJECT DATA

PROJECT NAME:
250 RIO

SITE ADDRESS:
250 W. Rio Salado Pkwy, Tempe, AZ 85281

PARCELS:
132-20-977 (Lot 1), 132-2E-978 (Lot 2)

ZONING:
EXISTING R1-6 (SINGLE-FAMILY)
GID (GENERAL INDUSTRIAL DISTRICT
GENERAL INDUSTRIAL OVERLAY DISTRICT
RIO SALADO OVERLAY DISTRICT
TRANSPORTATION OVERLAY DISTRICT (CORRIDOR)
PROPOSED CC (CITY CENTER)
RIO SALADO OVERLAY DISTRICT
TRANSPORTATION OVERLAY DISTRICT (CORRIDOR)

LOT SIZE:
NET 1,814 AC = 79,022 SF

BUILDING HEIGHT:
ALLOWED: 210' (Top of Top)
PROVIDED: 210' (Top of Top)

BUILDING STEPBACK: NO

LOT COVERAGE:
ALLOWED: 70% Max.
PROVIDED: 52,623 SF (BUILDING FOOTPRINT)
52,623 / 79,022 = 67%

SITE LANDSCAPE AREA:
REQUIRED > 20% Min.
PROVIDED ON SITE = 16,278 SF / 79,022 = 20.6%
ROW + 5,330 SF
TOTAL = 21,608 SF

BUILDING SETBACKS:

	REQD	PROVD
FRONT (RIO SALADO PKWY.):	50' MAX.	46'
	0' MIN.	9'
SIDE (NORTH):	30' MIN.	31'
SIDE (EAST):	0' MAX.	0'

VEHICLE PARKING:
REQUIRED: FIRST 5,000 SF OF OFFICE IS WAIVED AND THEN 1 SPACE / 500 SF AFTER
210,500SF / 500 = 411
4000SF / 500 = 8
419 PARKING SPACES
PROVIDED: 560 SPACES

NOTE:
GENERAL PLAN AMENDMENT REQUIRED FOR LOT 2 OF 250 RIO PLAT (BOOK 1645, PAGE 14, RECORDS OF MARICOPA COUNTY, ARIZONA) TO CHANGE LAND USE AND DENSITY DESIGNATIONS FROM PUBLIC OPEN SPACE AND NO RESIDENTIAL DENSITY TO MIXED-USE AND HIGH-DENSITY URBAN CORE.

GENERAL PLAN PROJECTED LAND USE (EXISTING): MIXED-USE / PUBLIC OPEN SPACE
GENERAL PLAN PROJECTED LAND USE (PROPOSED): MIXED-USE

GENERAL PLAN PROJECTED DENSITY (EXISTING): HIGH DENSITY URBAN CORE (MORE THAN 65 DU/AC) / NO DENSITY
GENERAL PLAN DENSITY (PROPOSED): HIGH DENSITY URBAN CORE (MORE THAN 65 DU/AC)

USES:

OFFICE* (OFFICE USE ONLY):	210,500 GSF
COMMERCIAL (OPEN TO PUBLIC):	4,000 GSF
COMMERCIAL OUTDOOR	500 SF
GARAGE:	225,000 GSF
TOTAL	440,000 GSF

(*Does not include 3,500 sf of Outdoor Office Patio)

OCCUPANCY CLASSIFICATION:
A-2, B, S-2

FULLY SPRINKLERED

TYPE OF CONSTRUCTION:
TYPE 1A

BICYCLE PARKING:
REQUIRED: 1 SPACE / 8,000SF OFFICE
210,500 sf / 8,000 sf = 26.3

1 SPACE / 500 SF COMMERCIAL
4,000 / 500 SF = 8

TOTAL 35 SPACES
PROVIDED: 36 SPACES (12 Outdoor, 24 in Garage)

LEGAL DESCRIPTION

LOT 1 AND LOT 2 OF "250 RIO", ACCORDING TO BOOK 1645, PAGE 14, RECORDS OF MARICOPA COUNTY, ARIZONA, LOCATED IN THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 1 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

SAID PARCEL CONTAINS 79,022 SQUARE FEET OR 1.814 ACRES, MORE OR LESS.

NOTE:
ADJOINING SITE AND LANDSCAPE IMPROVEMENTS ON MARICOPA COUNTY ASSESSOR PARCEL NOS. 132-29-976 AND 132-20-976 ARE PART OF DPR210056, SEPARATE MINOR DPR APPLICATION TO BE PROCESSED FOR OFFSITE IMPROVEMENT AREA DEPICTED ON SHEET A003 (OFFSITE IMPROVEMENTS EXHIBIT) INCLUDED IN PLANS SET FOR DPR210056.

LEGEND

- PROPERTY LINE
- ROAD CENTERLINE
- EXISTING SIDEWALK AND CURB
- NEW SIDEWALK AND CURB
- ACCESSIBLE ROUTE
- FIRE HYDRANT
- FDC - FINAL LOCATION TO BE ON APPROVED FIRE SPRINKLER PLANS
- ELEVATION CALL OUT 0'-0"
- EXISTING LIGHTPOLE
- RELOCATED LIGHTPOLE with 16' CLEARANCE
- EXISTING STREET LAMP

ABBREVIATIONS

T	TRANSFORMER
C	CAPACITOR BANK
VG	VISTA SWITCH GEAR
EXIST.	EXISTING
N.I.C.	NOT IN CONTRACT
N.S.	NO STANDARD
GSF	GROSS SQUARE FOOTAGE
NSF	NET SQUARE FOOTAGE
AC	ACRE
SW	SIDEWALK
SF	SQUARE FEET

LINE TABLE

L1	S89°51'01"W	84.69' (R2) & (R4)
	S88°48'10"W	84.85' (M)
L2	N27°25'18"W	112.72' (R2) & (R4)
	N27°22'28"W	112.71' (M)
L3	N02°05'54"W	245.33' (R4)
	N02°03'49"W	245.31' (M)
L4	N89°38'04"E	179.56' (R4)
	N89°39'41"E	179.40' (M)

CURVE TABLE

	RADIUS	DELTA	LENGTH	CHORD	
C1 (R4)	455.00'	18°19'23"	145.11'		
C1 (M)	455.00'	18°19'22"	145.11'	S11°14'47"E	144.49'
C2 (R4)	562.00'	04°59'51"	47.47'		
C2 (M)	562.00'	04°59'34"	47.50'	S24°57'26"E	47.49'

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

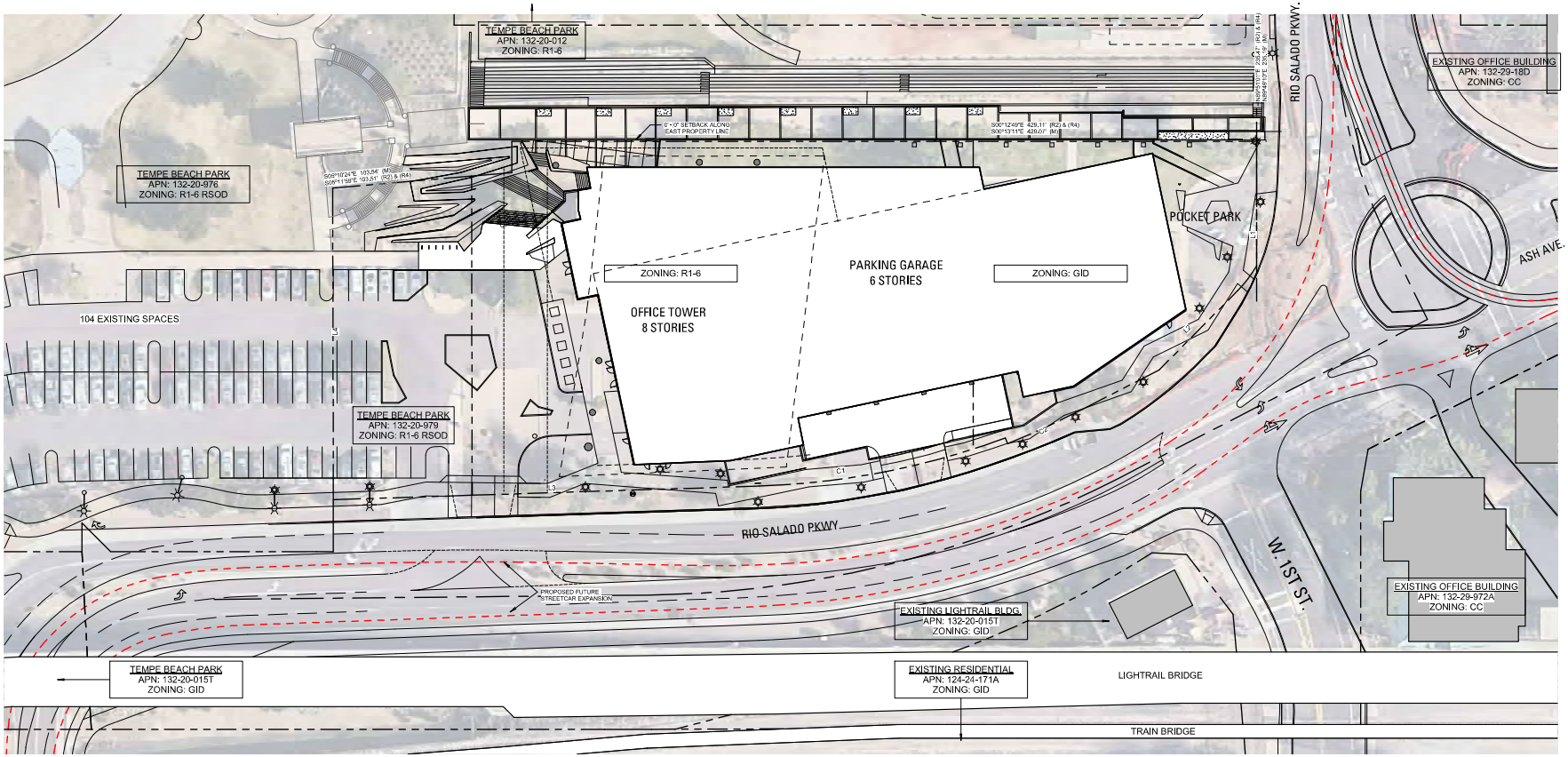
Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

No.	Date	Description
	2020-06-22	CoT PSP SUBMITTAL
	2021-04-19	CoT DPR SUBMITTAL
	2021-08-20	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

DPR SITE PLAN

A001



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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

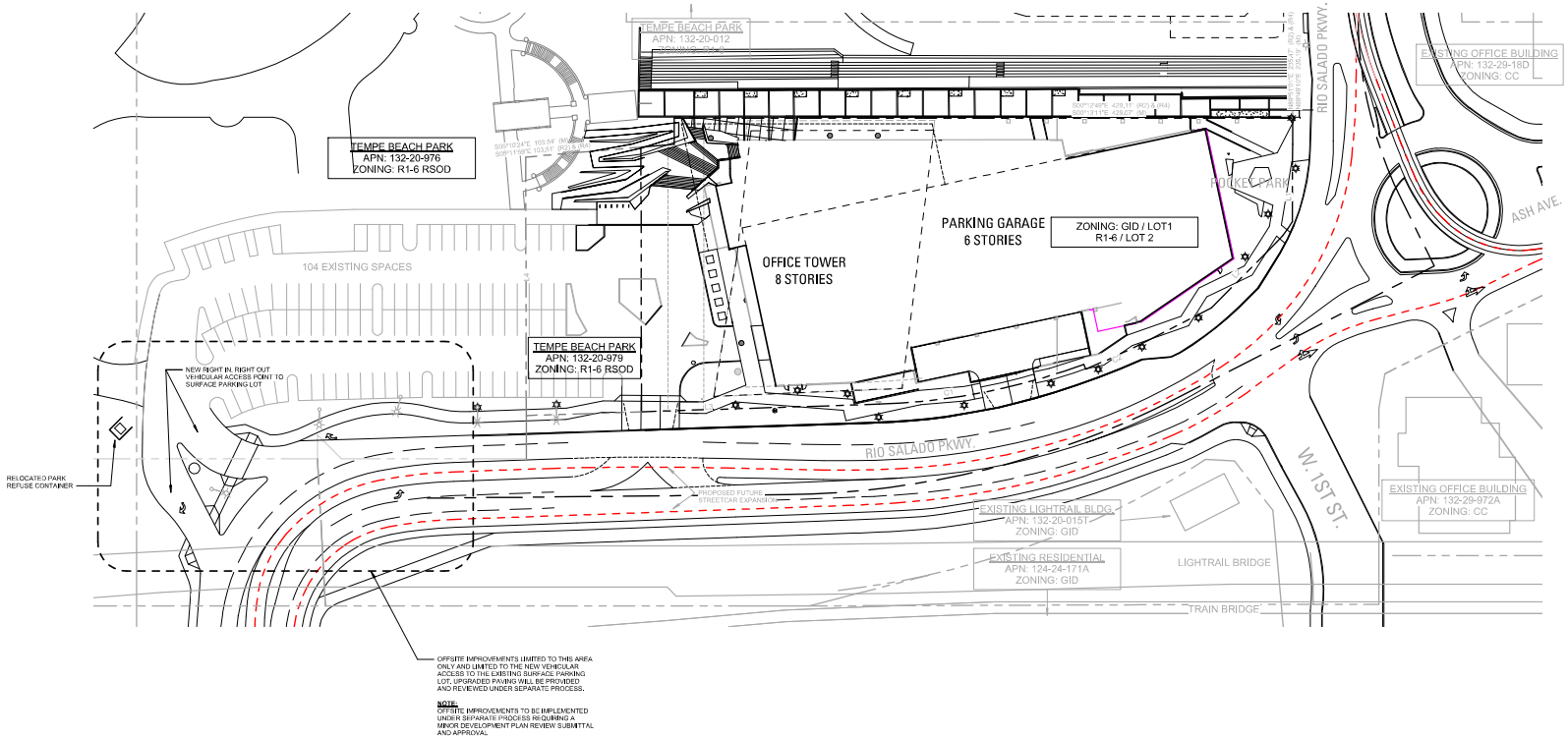
Project No.	1281.035.01
Drawn By	MD
Checked By	MD

Revisions

No.	Date	Description
	2021-01-13	CoT DPR SUBMITTAL
	2021-06-09	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

CONTEXTUAL AERIAL MAP

A002



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250 W. Rio Salado Pkwy,
Tempe, AZ 85281

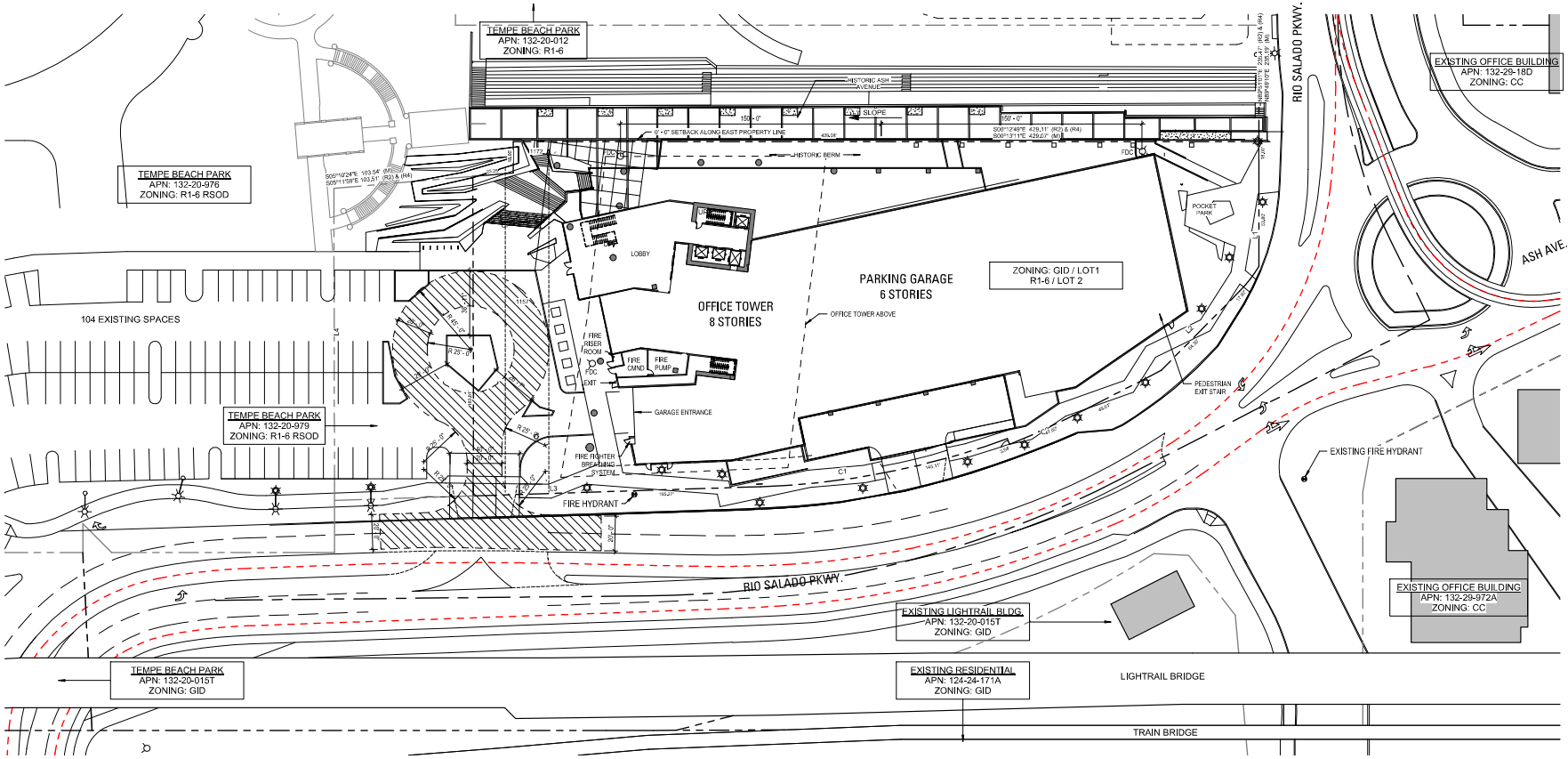
Project No.	1281.035.01
Drawn By	MD
Checked By	MD

Revisions

No.	Date	Description
	2021-06-23	1st DPR SUBMITTAL
	2022-02-14	2nd DPR SUBMITTAL

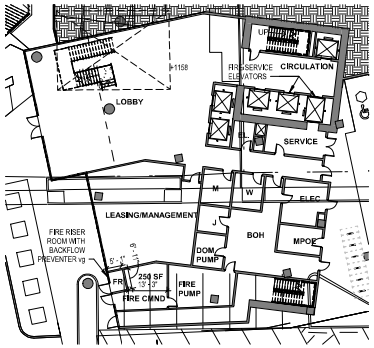
OFFSITE IMPROVEMENTS EXHIBIT

A003

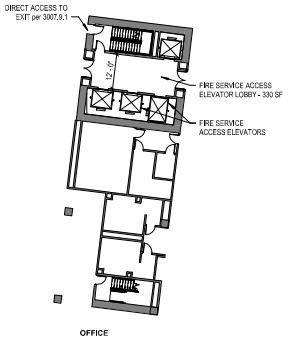


1 SITE PLAN AT GRADE
1" = 30'-0"

30' 15' 0' 30' 60'
SCALE : 1" = 30'-0"



2 Level 1 ENLARGED FIRE ACCESS PLAN
1" = 20'-0"



3 TYPICAL FLOOR CORE PLAN 7-14
1" = 20'-0"

FIRE ACCESS NOTES
FIRE SPRINKLER SYSTEM? YES
STANDPIPE SYSTEM? YES

FIRE ACCESS LEGEND
FIRETRUCK ACCESS ROUTE
FIRE HYDRANT
FIRE DEPARTMENT CONNECTION

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Project For Hines
250 RIO
250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
Drawn By	AV
Checked By	MD

Revisions

No.	Date	Description
	2021-06-23	CUP SUBMITTAL
	2022-01-14	CUP SUBMITTAL

FIRE ACCESS PLAN

A005

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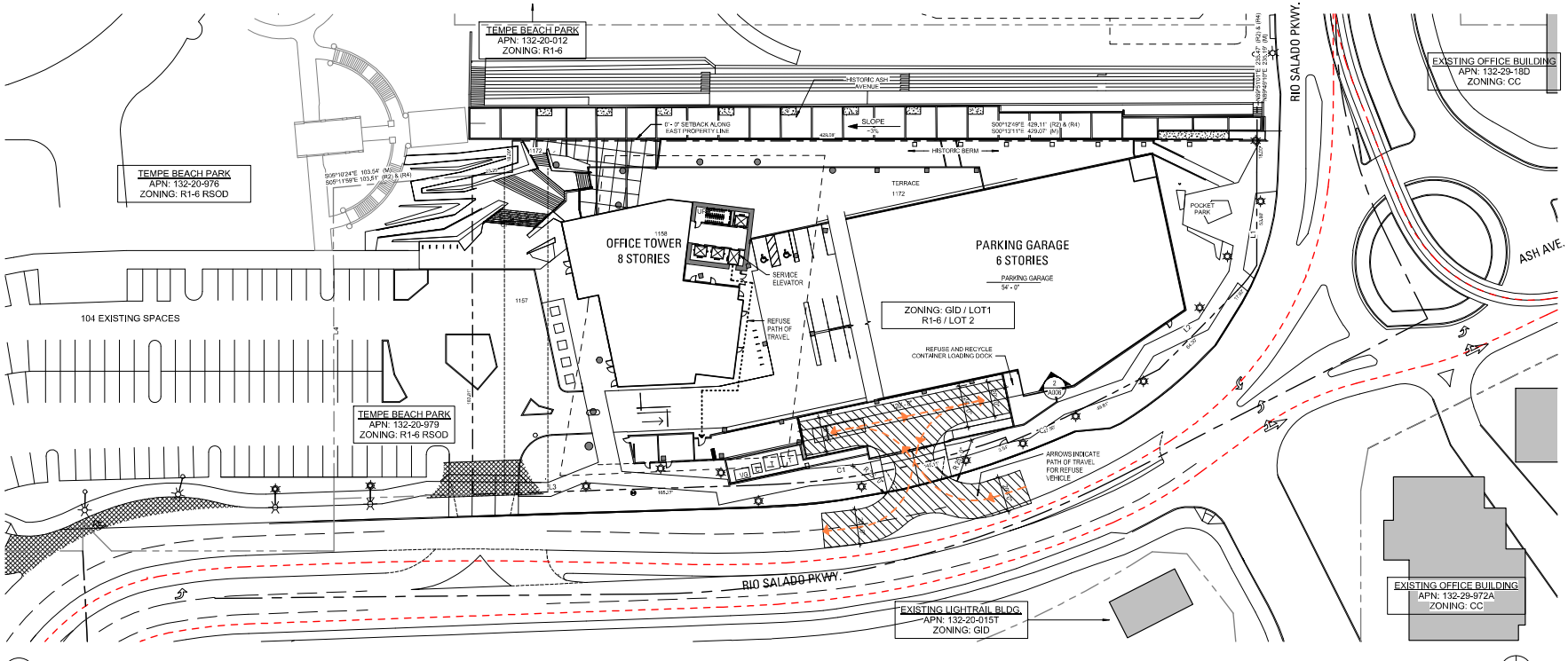
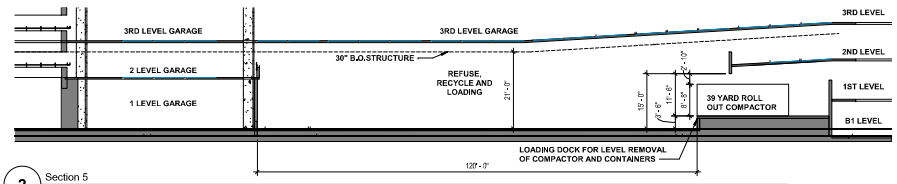
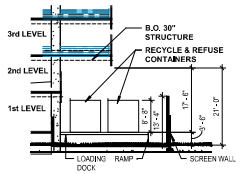


1 SITE PLAN AT GRADE
1" = 30'-0"



2 Section 5
1/16" = 1'-0"

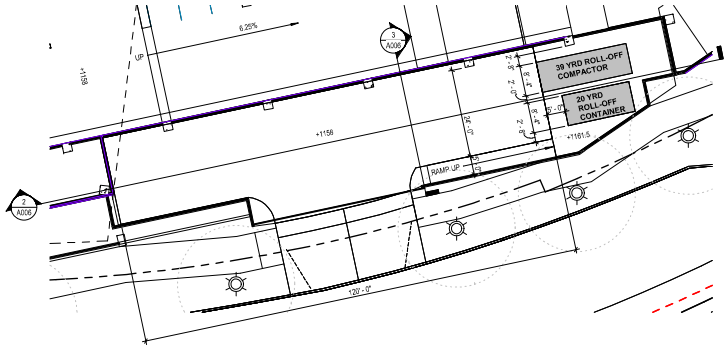


3 Section 7
1/16" = 1'-0"

REFUSE CALCULATIONS

REQUIRED
215,000 GSF OFFICE @ 1cu.yrd./5,000 SF 43 cu.yrd.

PROVIDED
39 YARD COMPACTOR @ 4:1 RATIO 156 cu.yrds.
20 YARD CONTAINER 20 cu.yrds.
TOTAL 176 cu.yrds.



4 ENLARGED REFUSE LOADING AREA
1/16" = 1'-0"

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250 RIO

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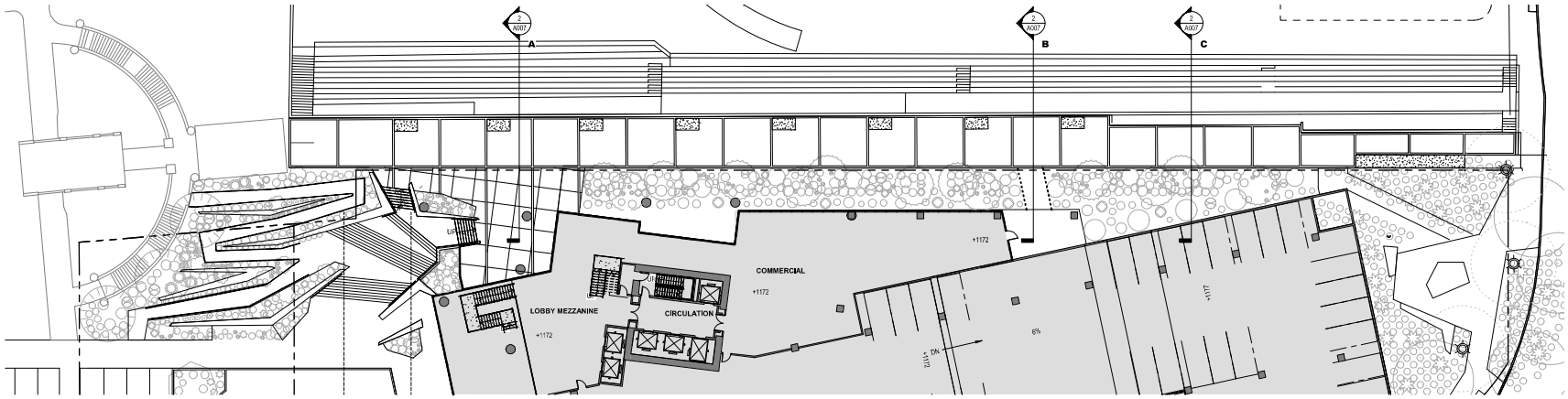
Project No.	1281.035.01
Drawn By	AV
Checked By	MD

Revisions

No.	Date	Description
	2021-06-23	DR1 SUBMITTAL
	2022-02-14	DR1 SUBMITTAL
	2022-04-04	DR1 SUBMITTAL

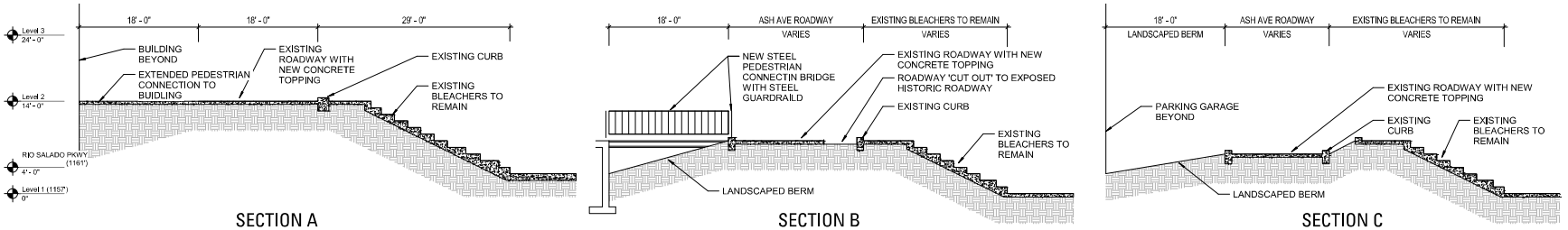
SOLID WASTE PLAN

A006



1 ASH AVE PLAN
1" = 20'-0"

SCALE : 1" = 20'-0"



2 ASH AVENUE SECTIONS
1/8" = 1'-0"

SCALE : 1/8" = 1'-0"

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Project No.	1281.035.01
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Checked By	MD

Revisions

No.	Date	Description
	2022-03-14	CUP SUBMITTAL
	2022-03-04	CUP SUBMITTAL

HISTORIC ASH AVE

A007

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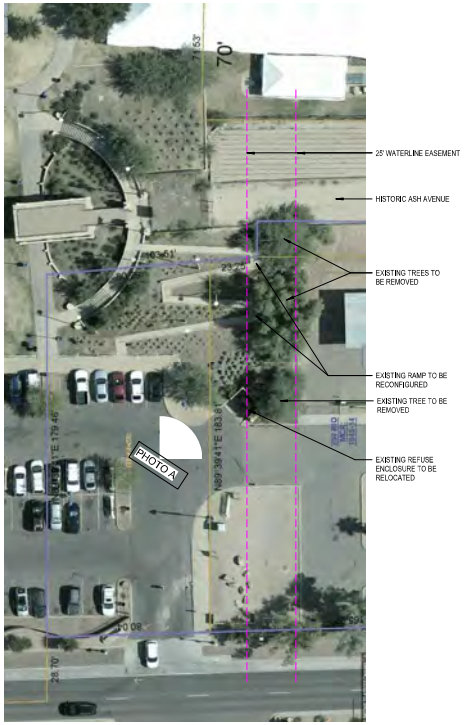
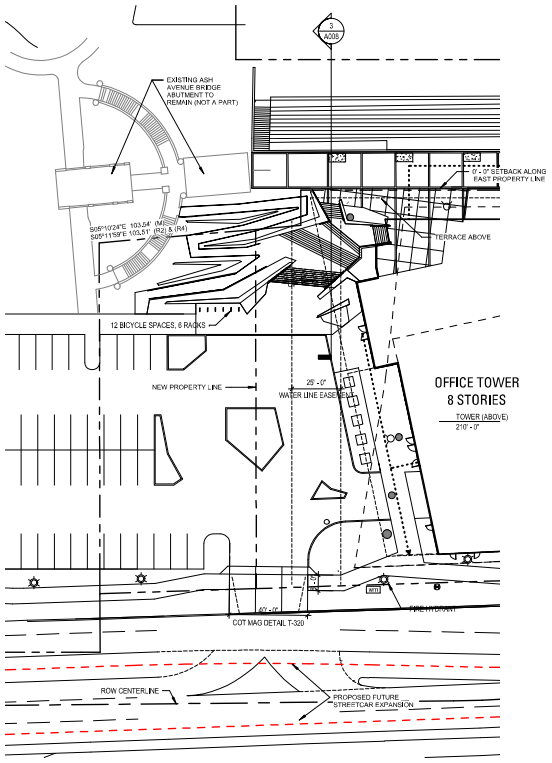
PHOTO A OF EXISTING CONDITIONS



2 EXISITING CONDITIONS AERIAL
1" = 30'-0"



1 PROPOSED SITE PLAN
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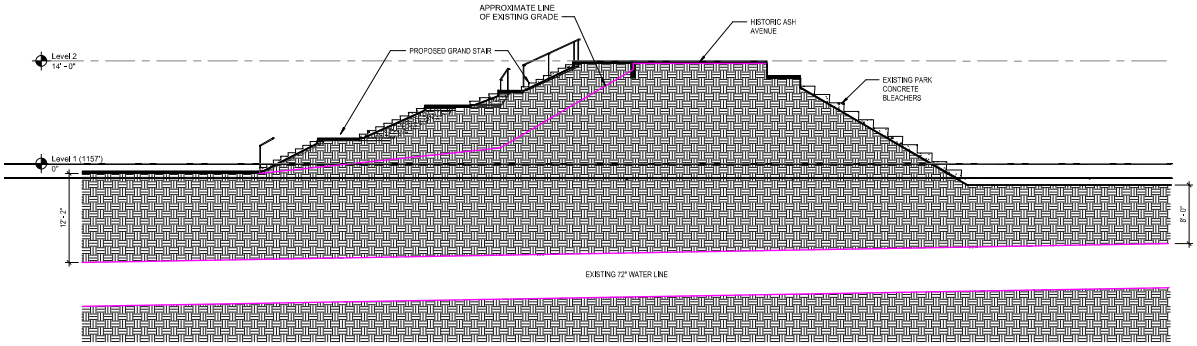

3 Section 8
1/8" = 1'-0"

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Certification

PRELIMINARY NOT FOR CONSTRUCTION

Consultants

Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

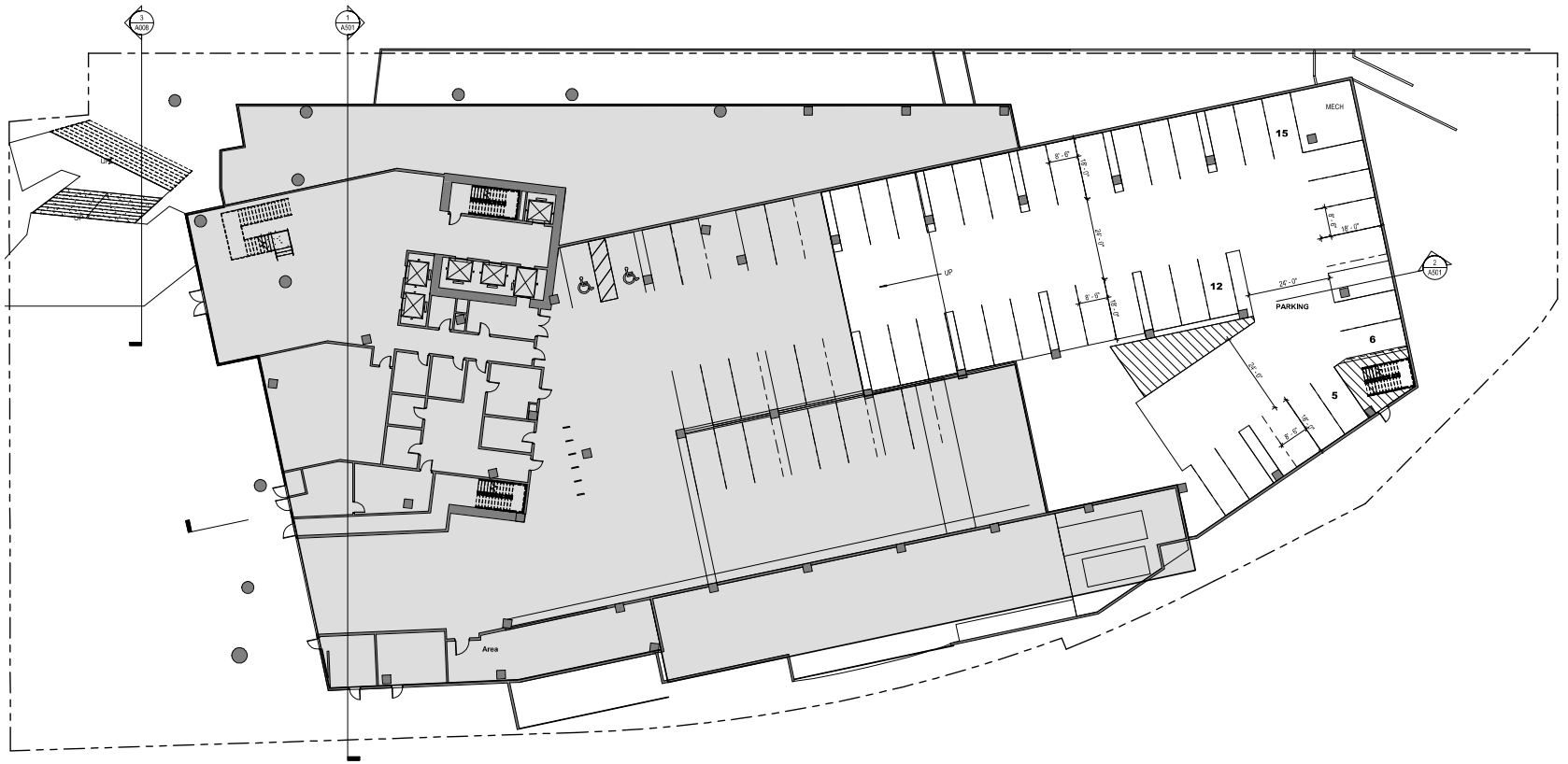
Project No.	1281.035.01
Drawn By	AV
Checked By	AV

Revisions

No.	Date	Description
	2022-01-04	CoT DR SUBMITTAL

WATERLINE EXHIBIT

A008



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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Project For Hines

250 RIO

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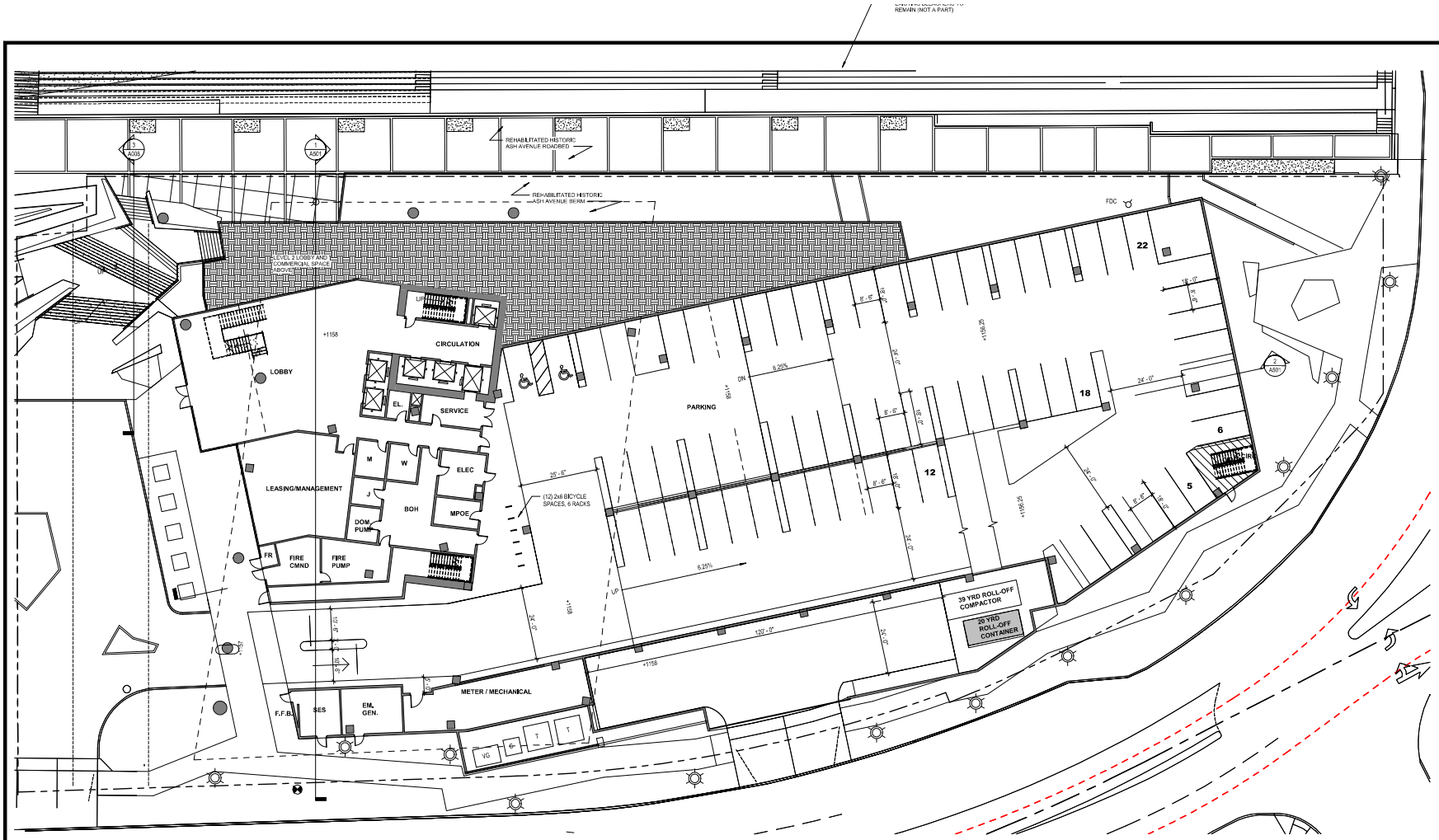
Project No.	1281.035.01
Drawn By	AV
Checked By	MD

Revisions

No.	Date	Description
	2022-02-14	CD1 DPR SUBMITTAL
	2022-04-04	CD1 DPR SUBMITTAL

LEVEL B1 FLOOR PLAN

A100



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Project No.	1281.035.01
Drawn By	BSS, KP, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-01-13	CoT DPR SUBMITTAL
	2021-06-29	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

LEVEL 1 FLOOR PLAN

A101

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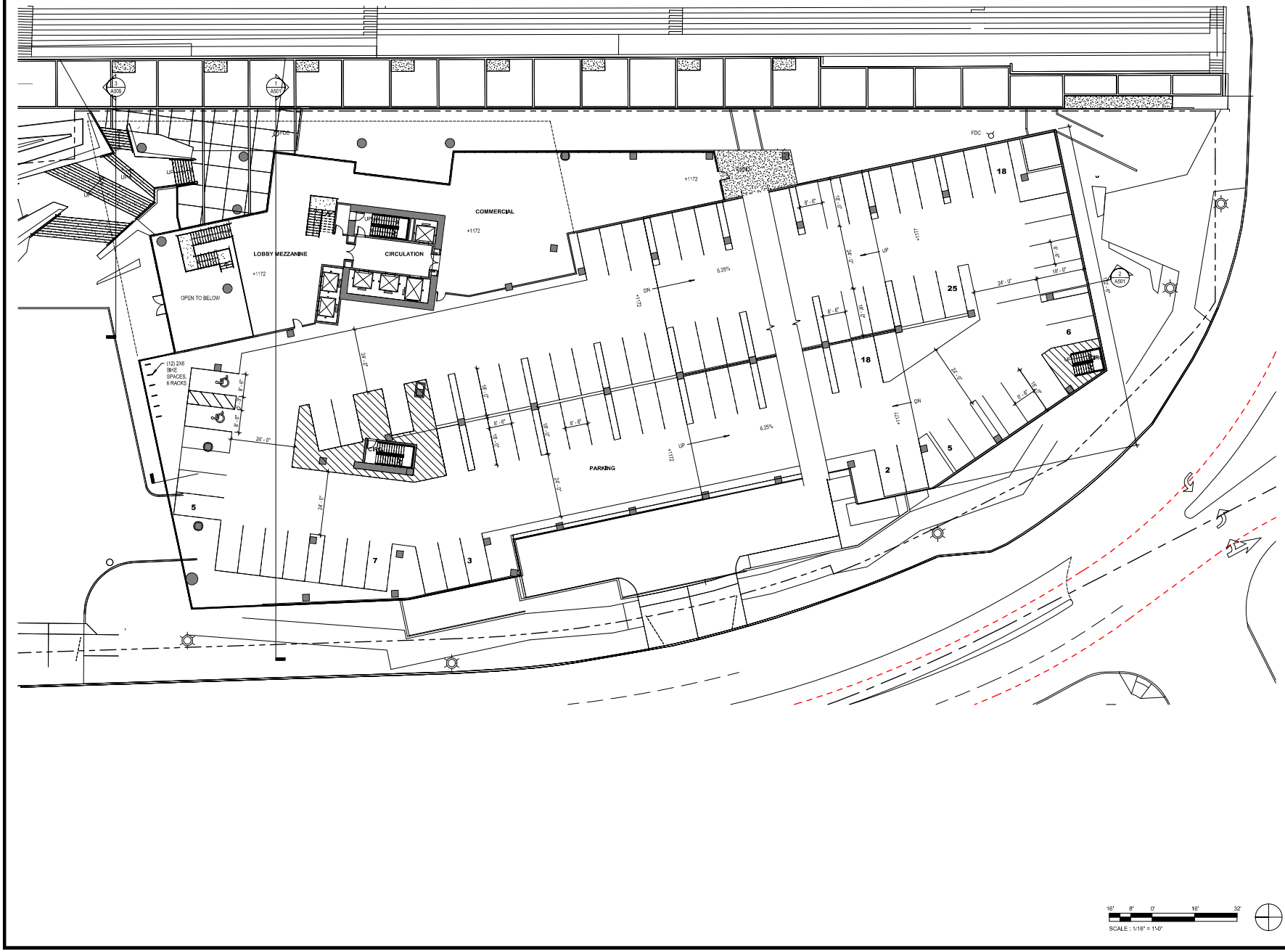

SCALE : 1/16" = 1'-0"

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Project For Hines

250 RIO

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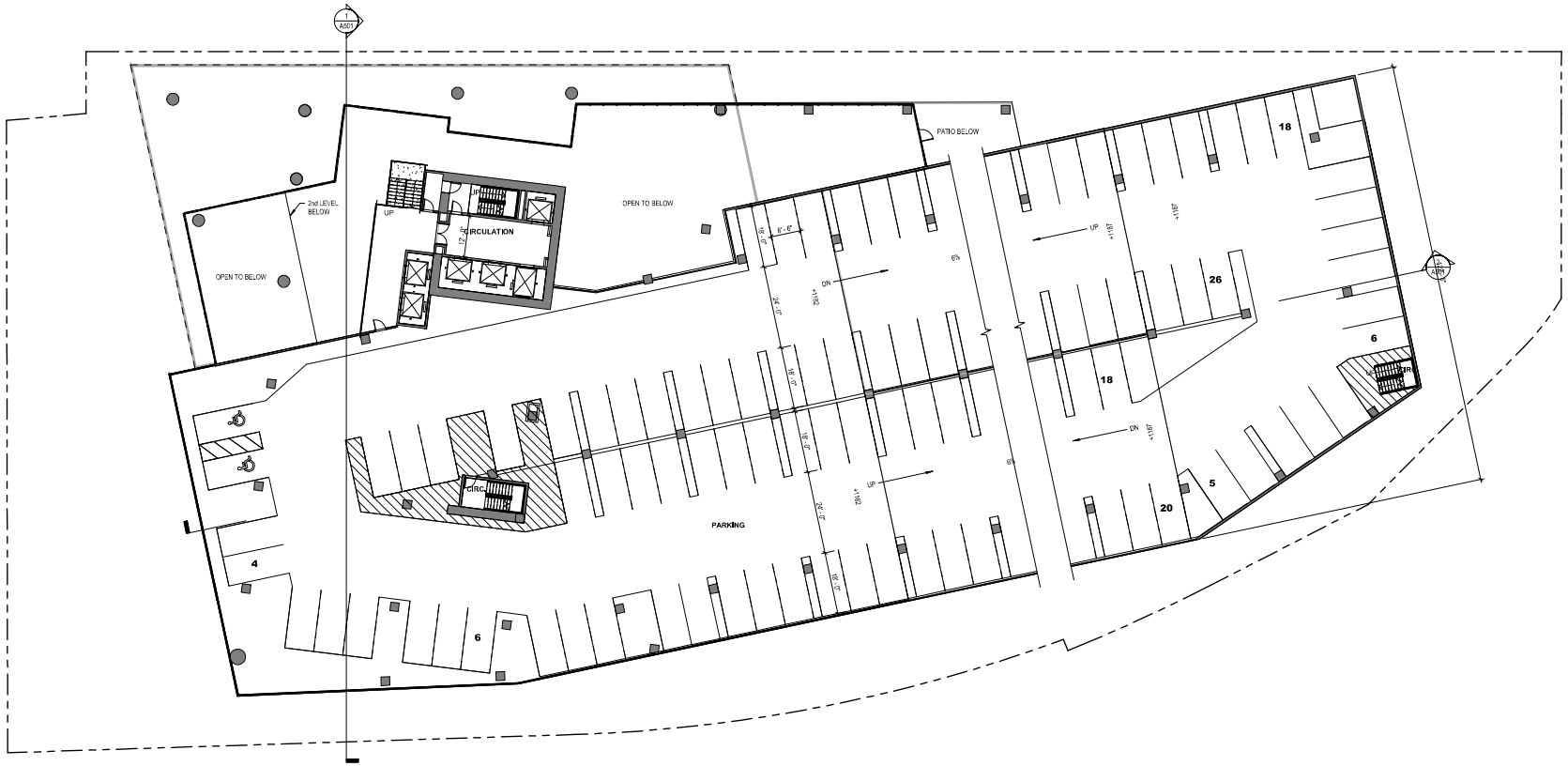
Project No.	1281.035.01
Drawn By	BSS, KP, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-10-13	DR1 BPR SUBMITTAL
	2021-12-29	DR1 BPR SUBMITTAL
	2022-02-14	DR1 BPR SUBMITTAL
	2022-04-04	DR1 BPR SUBMITTAL

LEVEL 2 FLOOR PLAN

A102



SCALE : 1/16" = 1'-0"

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Project For Hines

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Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-10-13	CoT DPR SUBMITTAL
	2021-12-29	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

LEVEL 3 FLOOR PLAN

A103

SCALE : 1/16" = 1'-0"

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Project For Hines

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Project No.	1281.035.01
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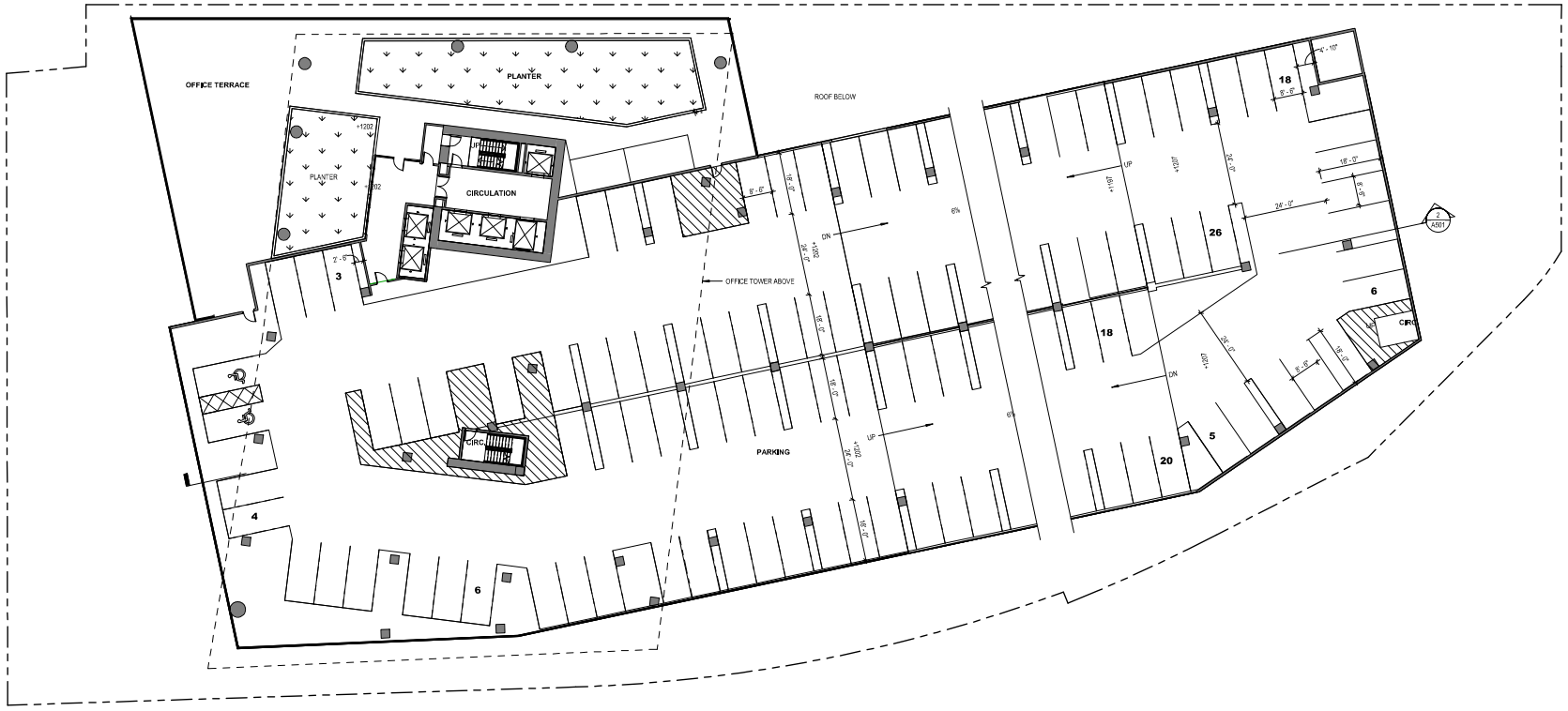
Checked By	MD

Revisions

No.	Date	Description
	2021-10-13	CoT DPR SUBMITTAL
	2021-12-29	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

LEVEL 4 FLOOR PLAN

A104



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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Project For Hines

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Tempe, AZ 85281

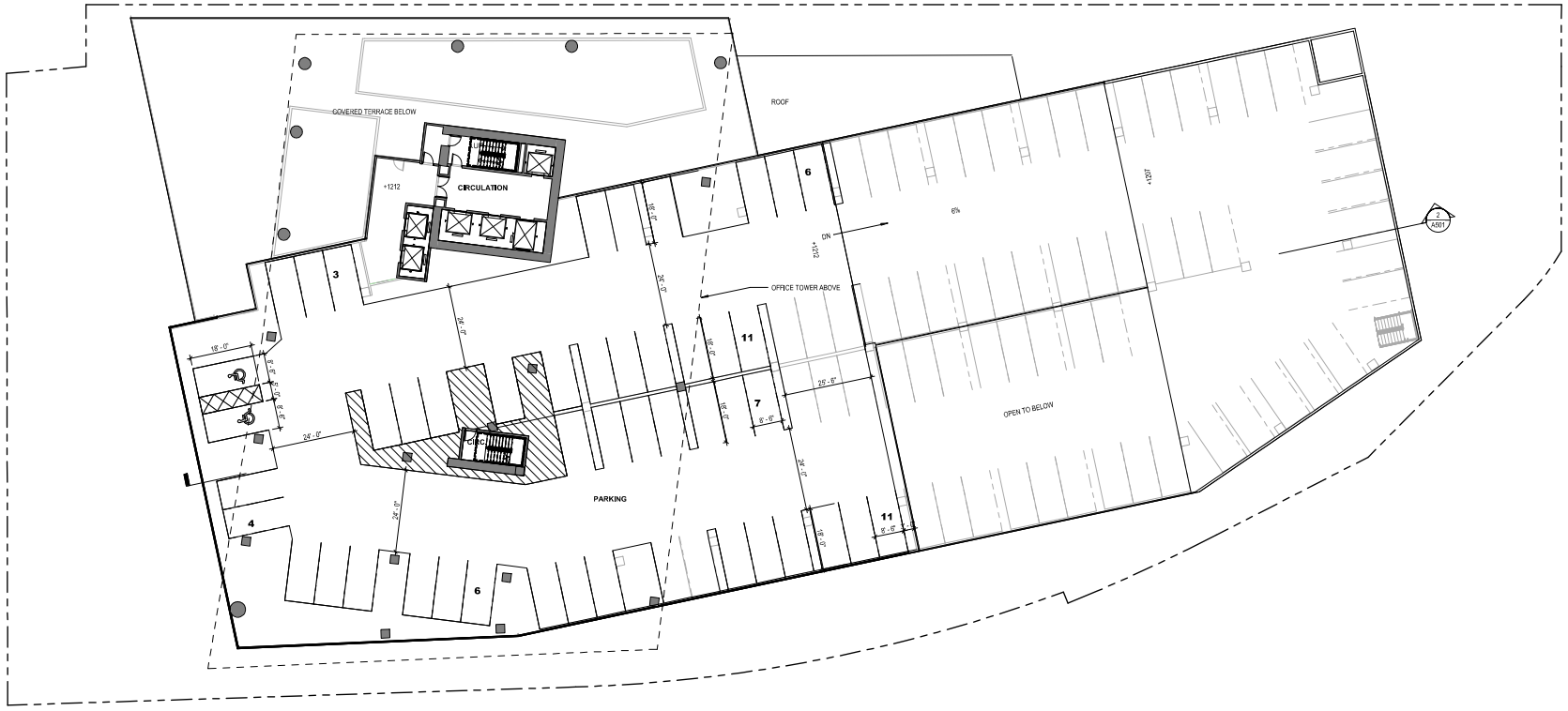
Project No.	1281.035.01
Drawn By	BSS, KP, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-01-13	CoT DPR SUBMITTAL
	2021-06-29	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

LEVEL 5 FLOOR PLAN

A105



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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Checked By	MD

Revisions

No.	Date	Description
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	2021-06-29	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

LEVEL 6 FLOOR PLAN

A106

BIM 360://Hines - 250 Rio/Hines Rio Salado_R19.rvt
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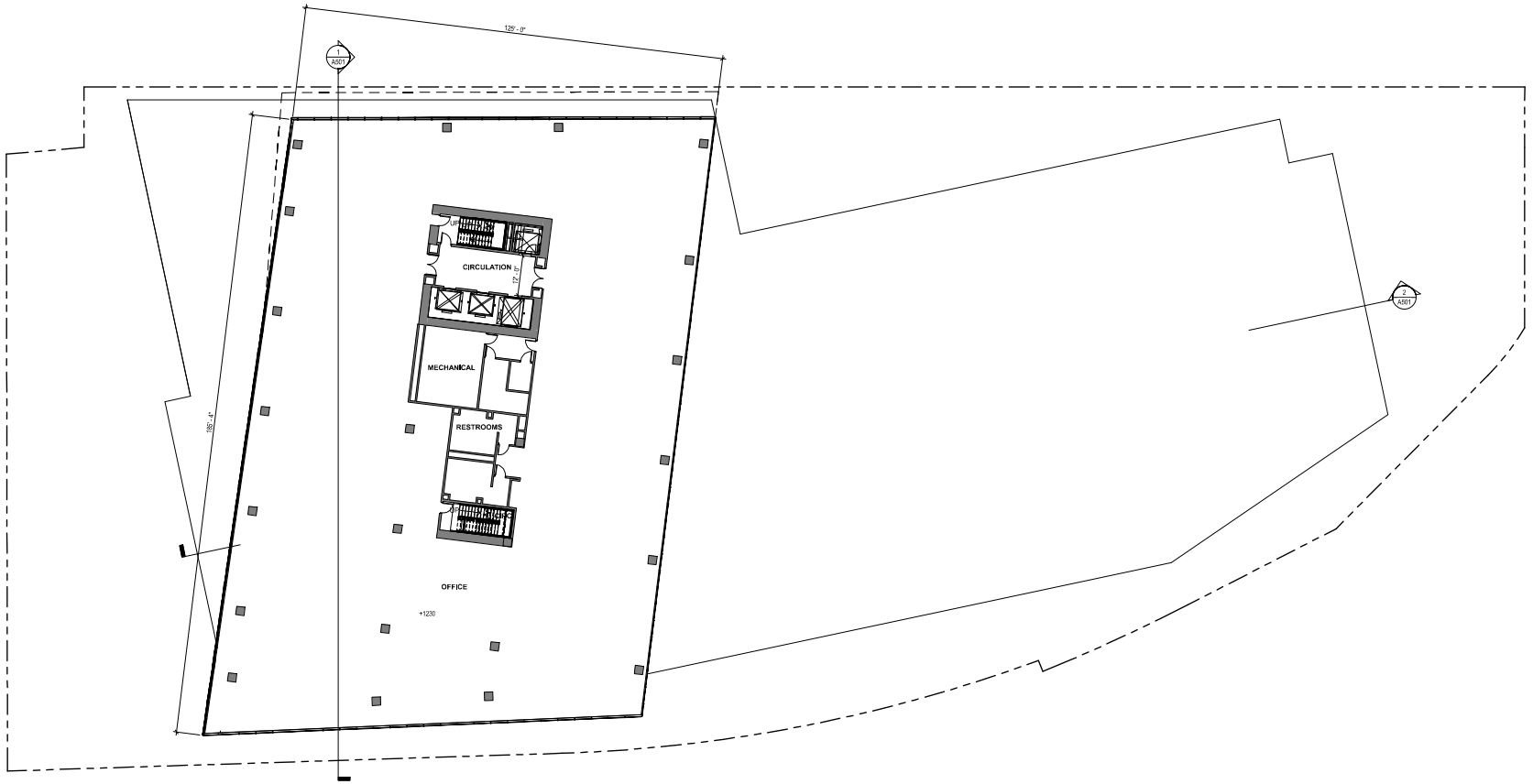

16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

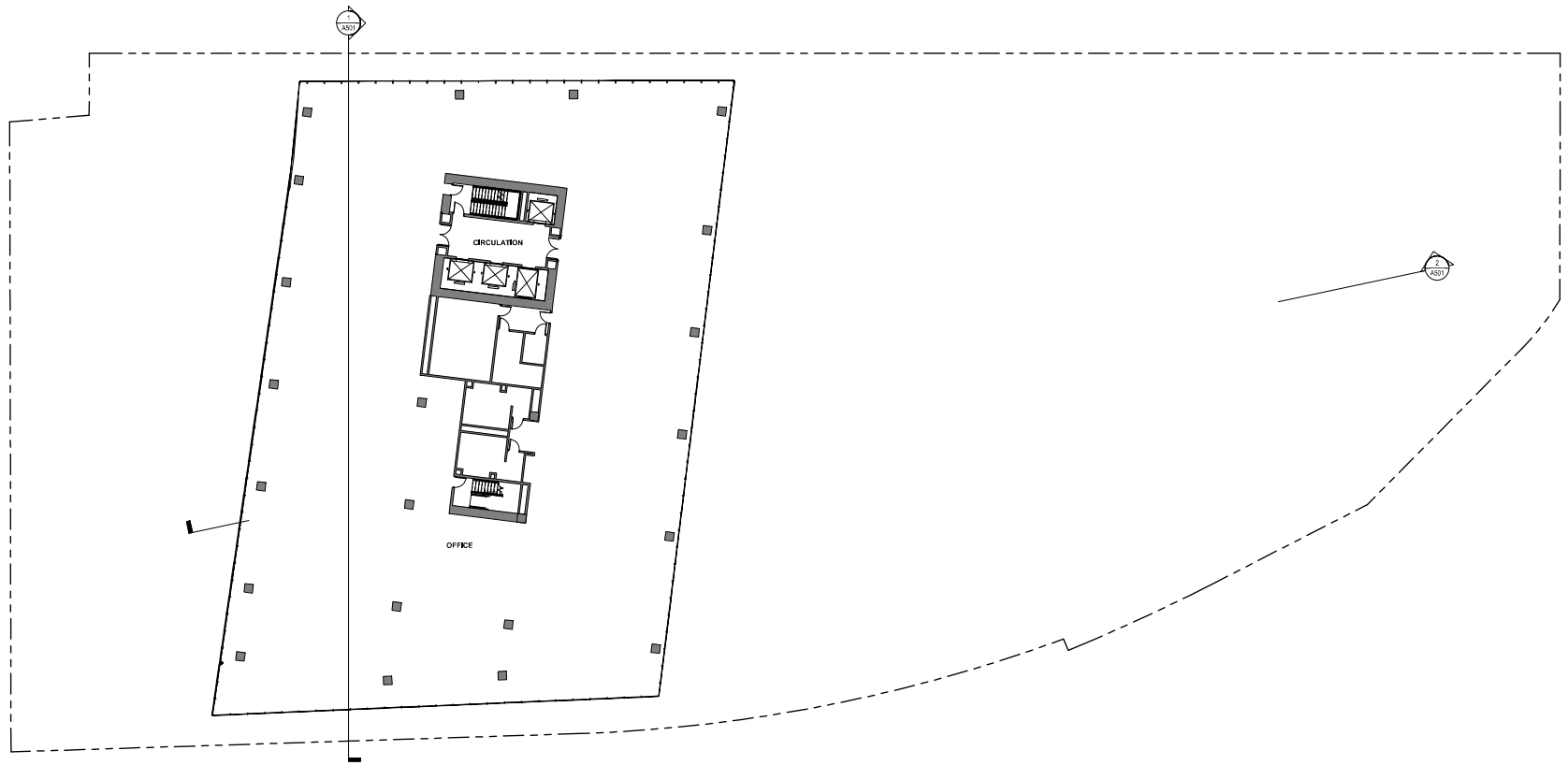
Project No.	1281.035.01
Drawn By	BSS, KP, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-01-13	CoT DPR SUBMITTAL
	2021-06-29	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

LEVEL 7 FLOOR PLAN

A107



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

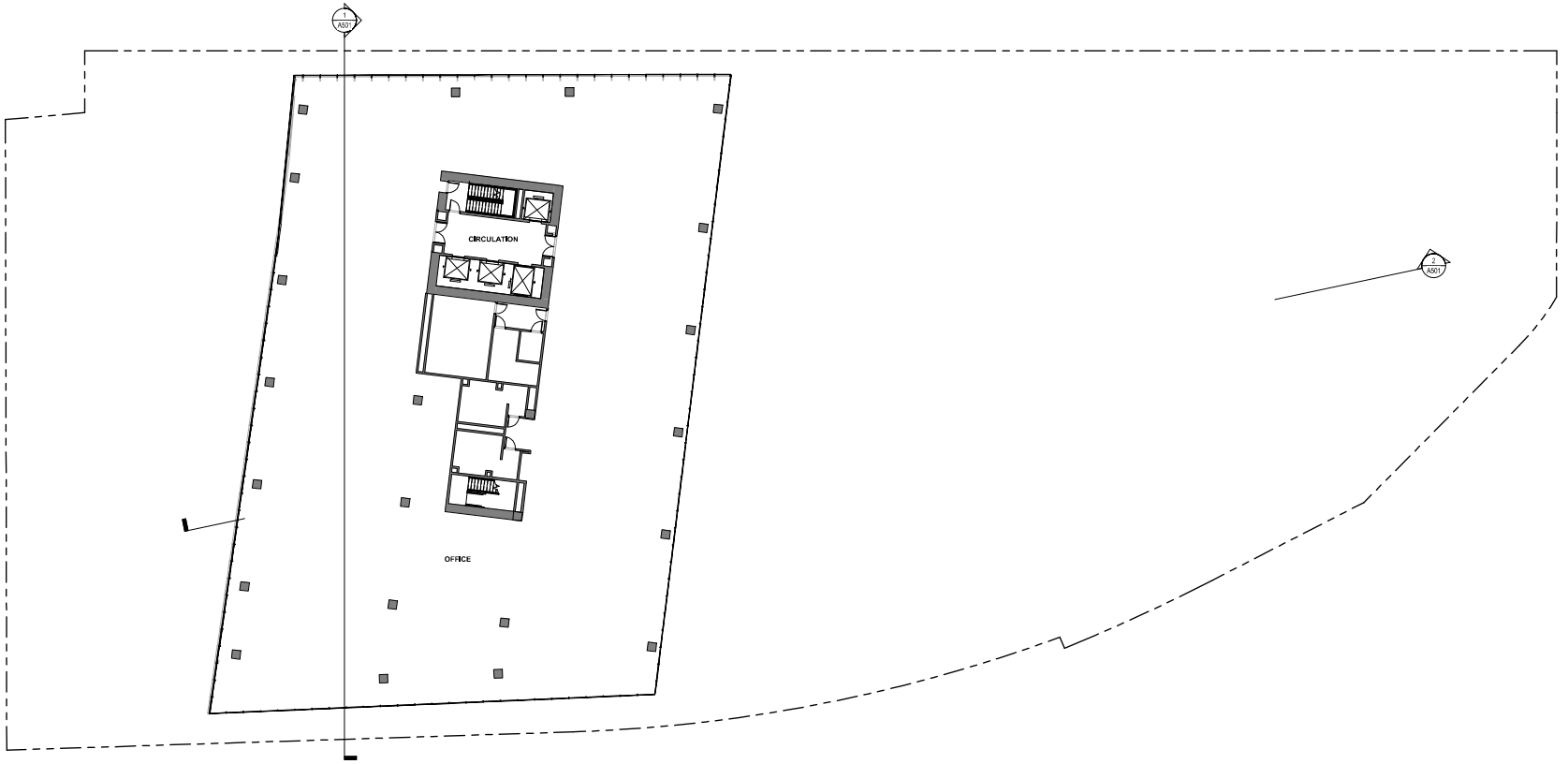
Project No.	1281.035.01
Drawn By	AV
Checked By	AV

Revisions

No.	Date	Description
	2022-02-14	CD / DPR SUBMITTAL
	2022-04-04	CD / DPR SUBMITTAL

LEVEL 8 FLOOR PLAN

A108



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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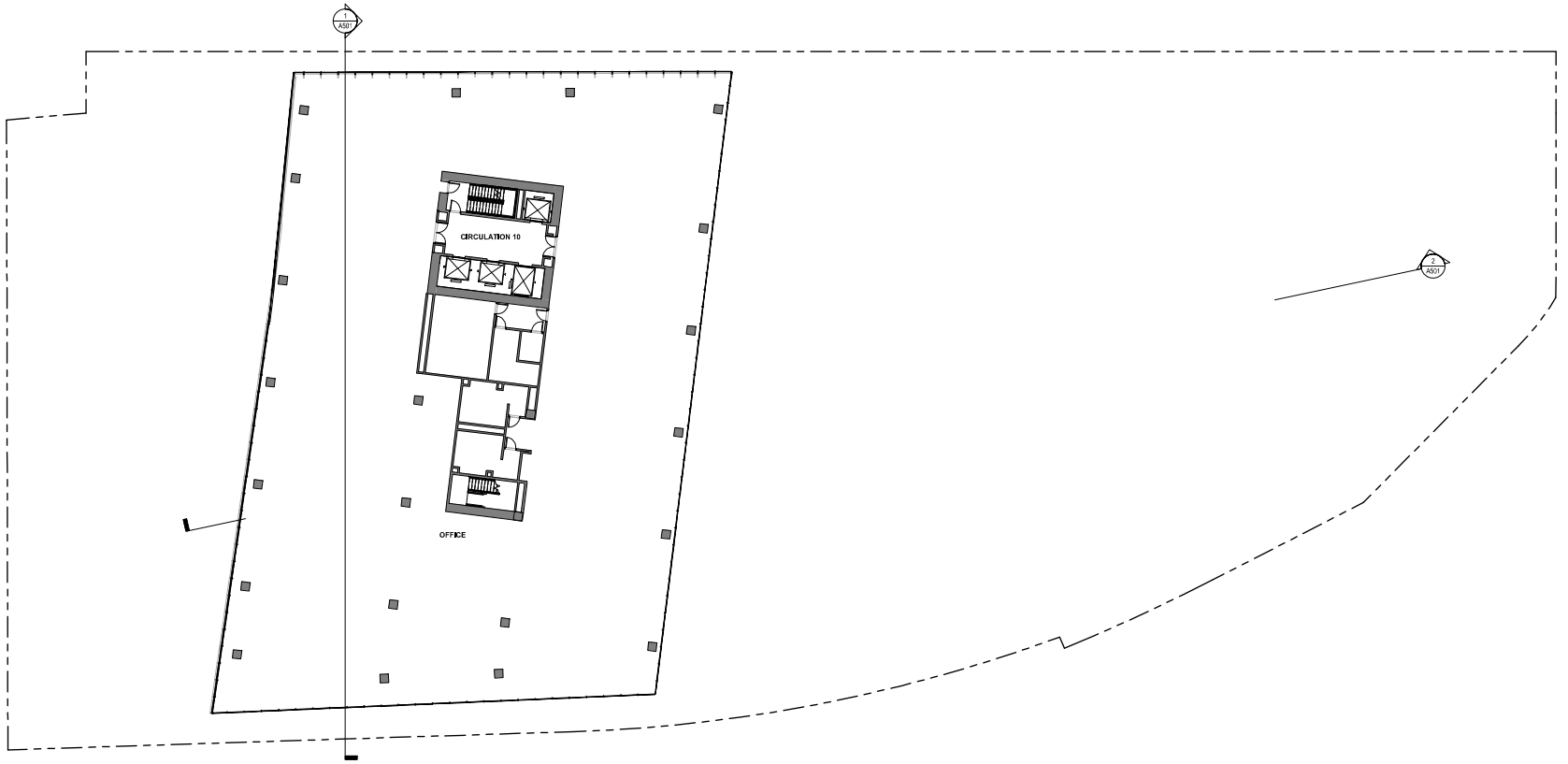
Project No.	1281.035.01
Drawn By	AV
Checked By	AV

Revisions

No.	Date	Description
	2022-02-14	CD / DPR SUBMITTAL
	2022-03-04	CD / DPR SUBMITTAL

LEVEL 9 FLOOR PLAN

A109



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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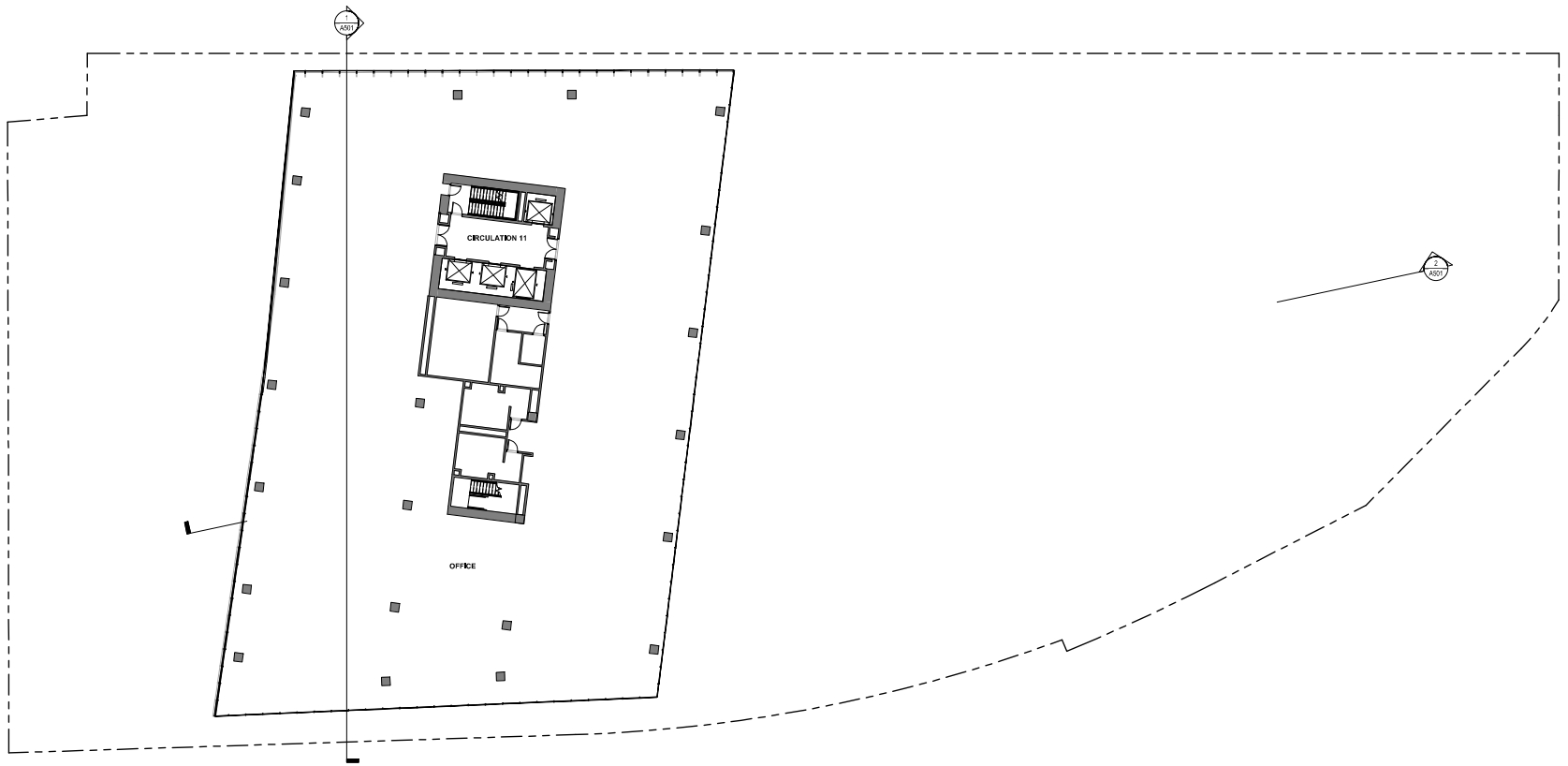
Project No.	1281.035.01
Drawn By	AV
Checked By	AV

Revisions

No.	Date	Description
	2022-02-14	CUT DPR SUBMITTAL
	2022-03-04	CUT DPR SUBMITTAL

LEVEL 10 FLOOR PLAN

A110



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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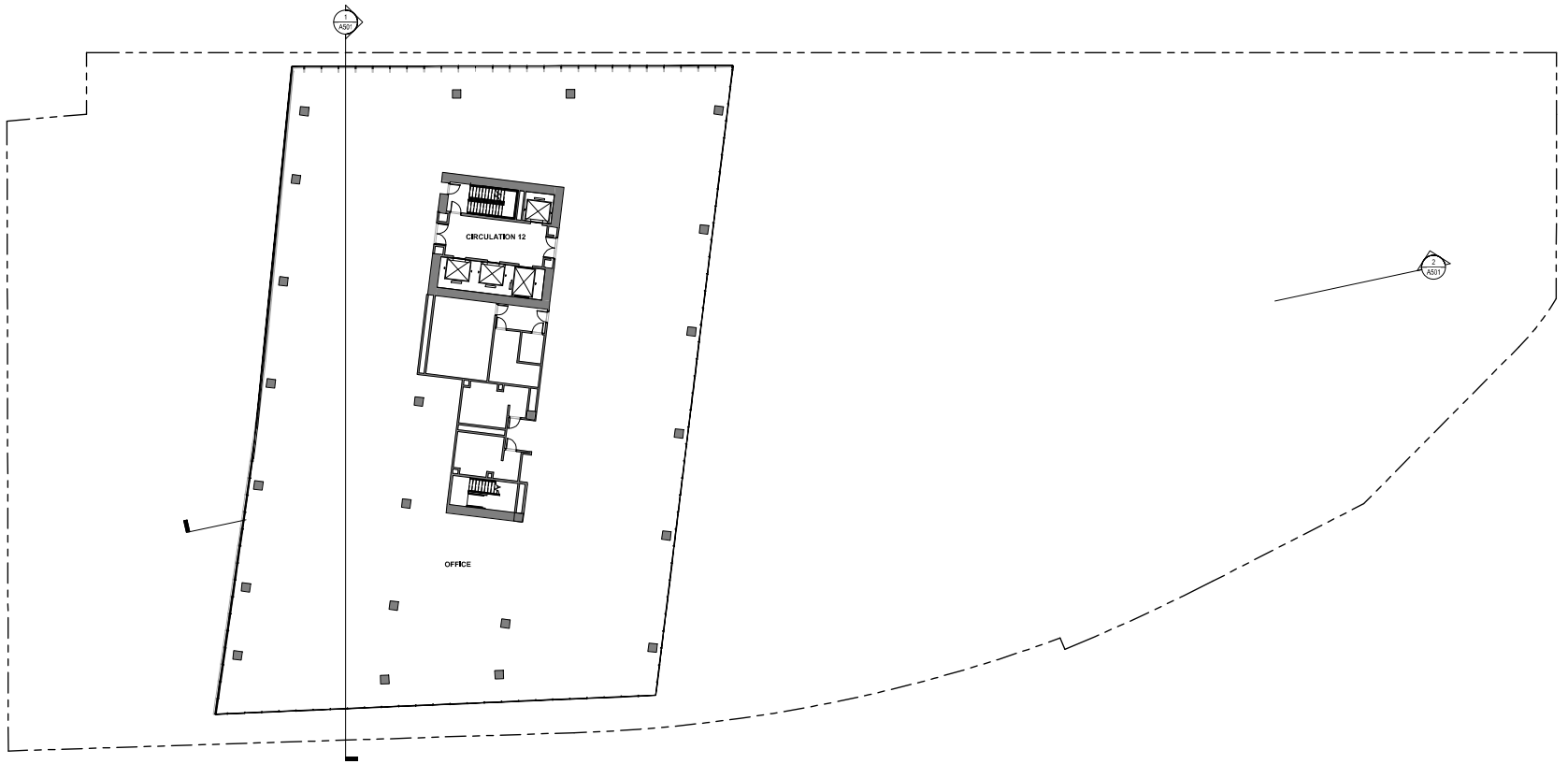
Project No.	1281.035.01
Drawn By	AV
Checked By	MD

Revisions

No.	Date	Description
	2022-02-14	CUP SUBMITTAL
	2022-04-04	CUP SUBMITTAL

LEVEL 11 FLOOR PLAN

A111



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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Project No.	1281.035.01
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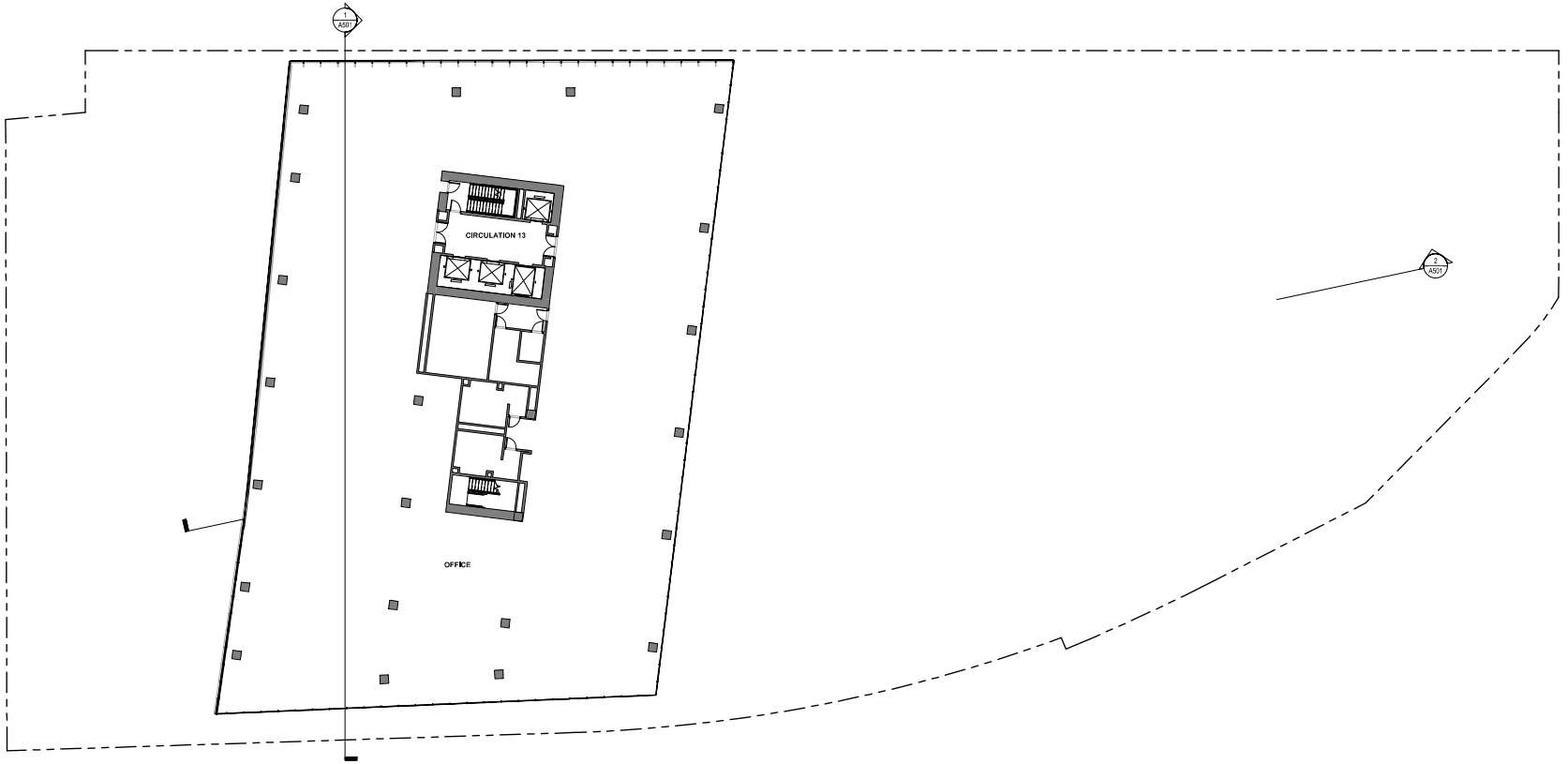
Checked By	MD

Revisions

No.	Date	Description
	2022-02-14	CUP SUBMITTAL
	2022-03-04	CUP SUBMITTAL

LEVEL 12 FLOOR PLAN

A112



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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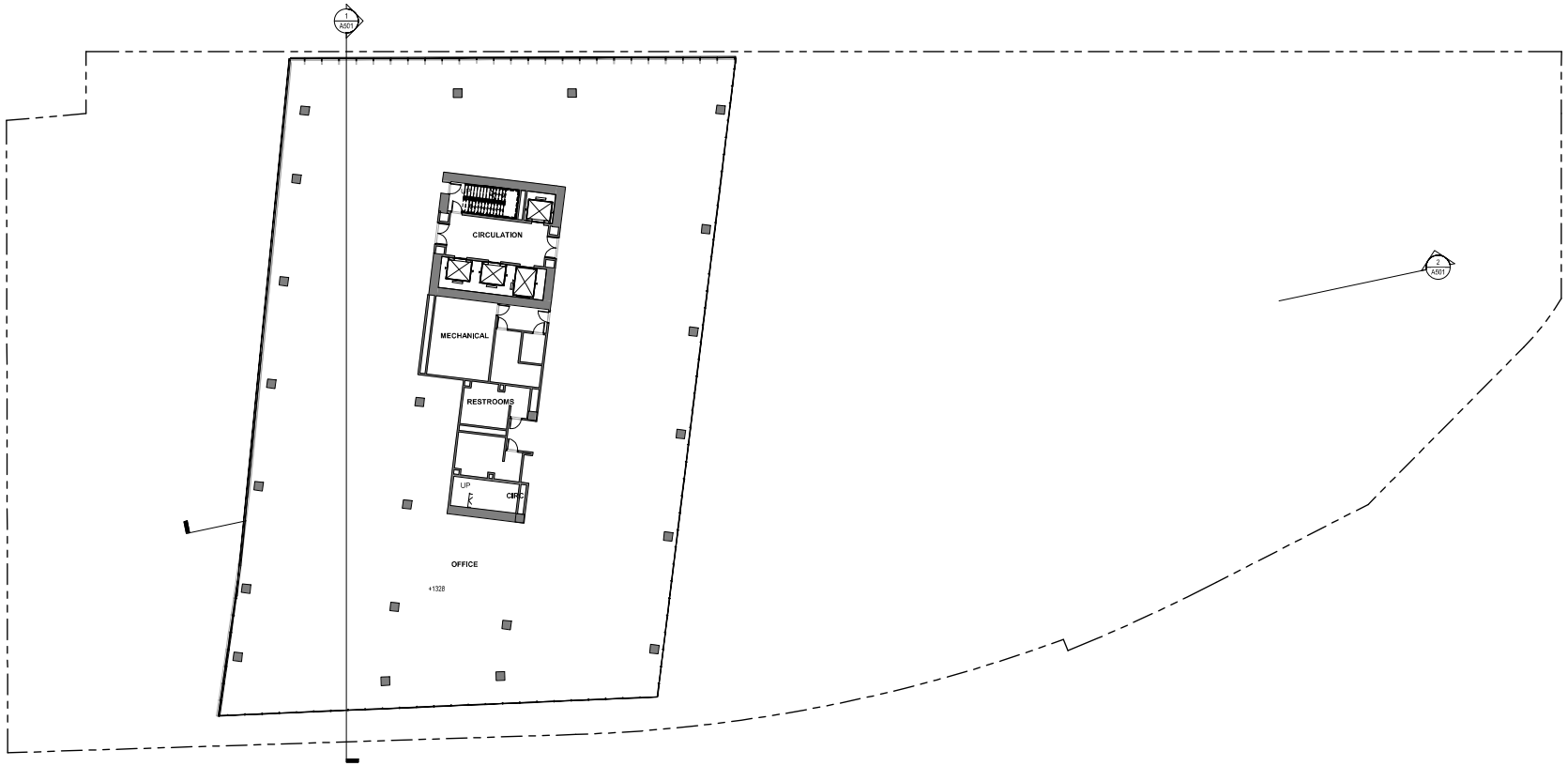
Project No.	1281.035.01
Drawn By	AV
Checked By	MD

Revisions

No.	Date	Description
	2022-02-14	CD / DPR SUBMITTAL
	2022-03-04	CD / DPR SUBMITTAL

LEVEL 13 FLOOR PLAN

A113



16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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Project For Hines

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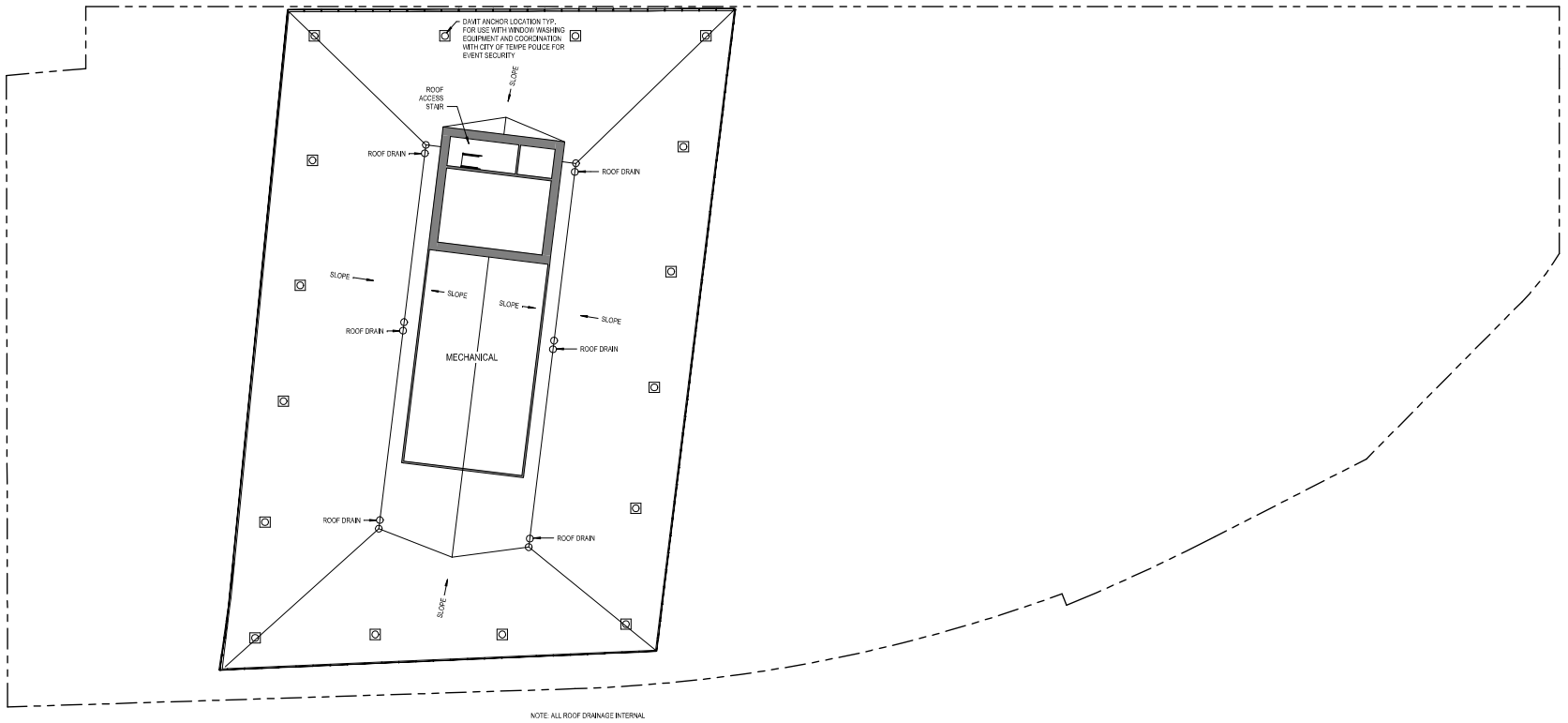
Project No.	1281.035.01
Drawn By	BSS, KP, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-01-13	CoT DPR SUBMITTAL
	2021-06-29	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

LEVEL 14 FLOOR PLAN

A114



NOTE: ALL ROOF DRAINAGE INTERNAL

16' 8' 0' 16' 32'

SCALE : 1/16" = 1'-0"

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Project No.	1281.035.01
Drawn By	MD
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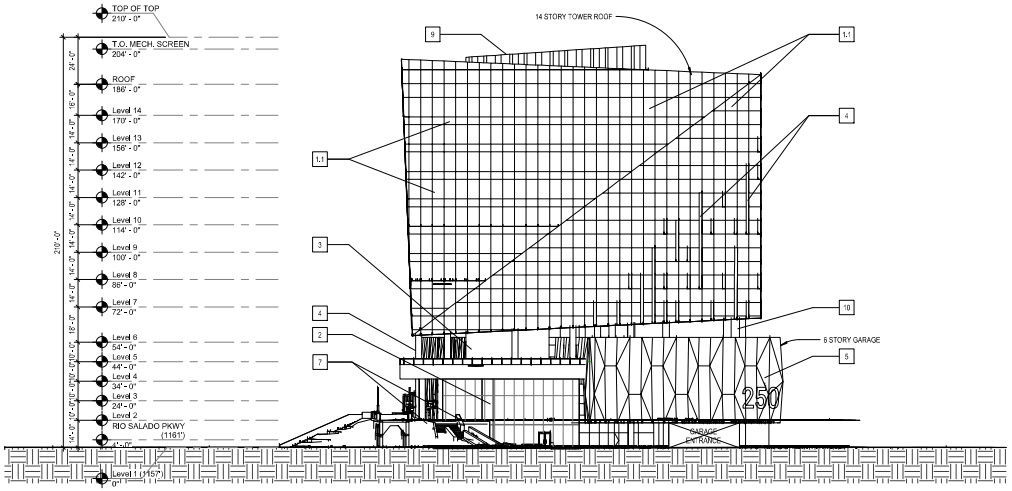
Revisions

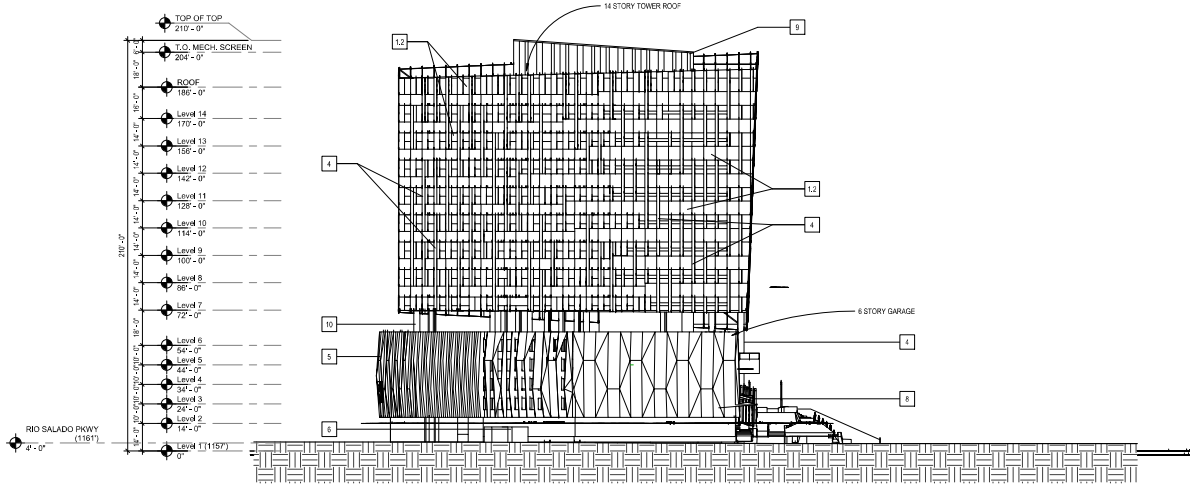
No.	Date	Description
	2022-02-14	CUP SUBMITTAL
	2022-04-04	CUP SUBMITTAL

ROOF PLAN

A115



1 NORTH ELEVATION
1" = 30'-0"



2 SOUTH ELEVATION
1" = 30'-0"

KEYNOTES - EXTERIOR ELEVATION

NO.	DESCRIPTION
1.1	CURTAIN WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
1.2	WINDOW WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
2	STOREFRONT GLAZING (COMMERCIAL) SOLARBAN 60 SOLARGRAY + CLEAR IGU
3	M3 BACKPAINTED GLASS FACADE PANELS COLOR GUACAMOLE
4	METAL PANEL CLADDING METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS COLORS: OCEAN BLUE, CHARCOAL, ASH GREY
5	GARAGE FACADE SCREENING - SHADE CANOPY FABRIC WEATHERMAX 80 - MIST
6	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
7	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
8	METAL SHADING FIN METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS - ASH GREY
9	MECHANICAL SCREENING METAL SALES CORRUGATED IC72-PANEL COLOR - OCEAN BLUE
10	EXPOSED CONCRETE DAVIS COLORS LIGHT GRAY 8084
11	GROUND FACE CMU TRENDSTONE SOUTHWEST GOLD

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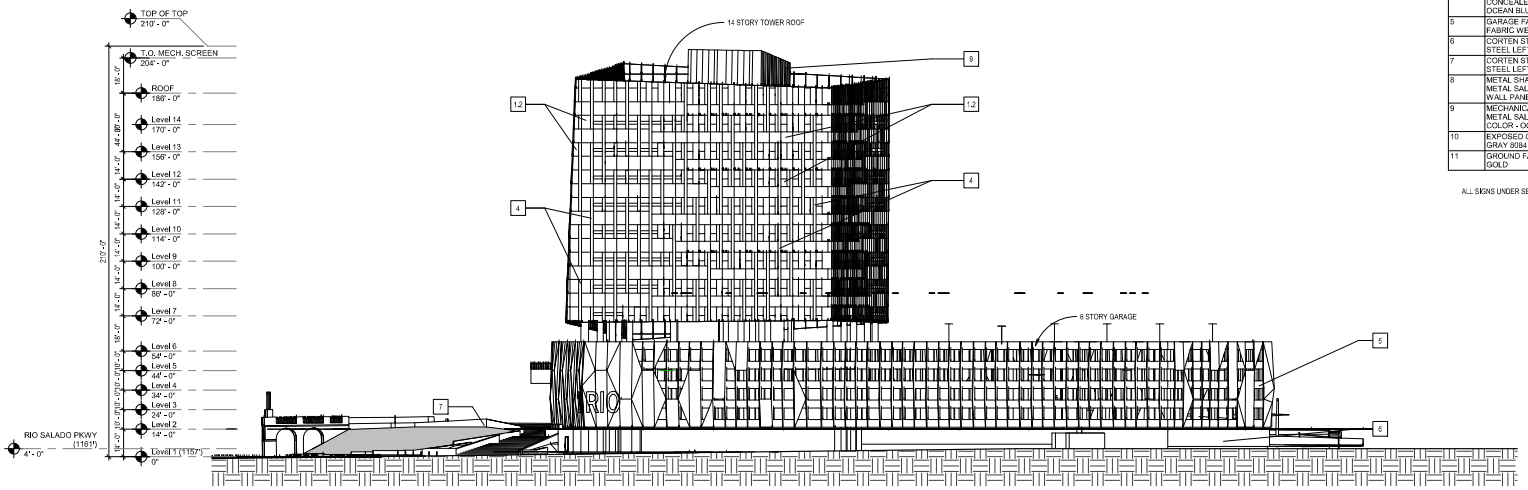
Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

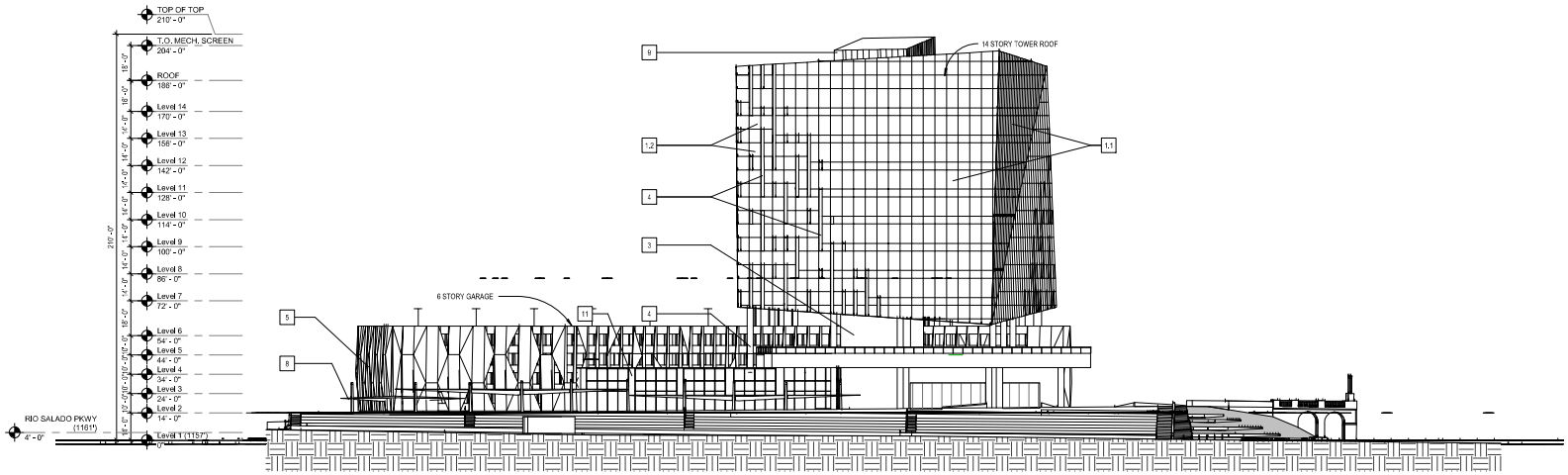
No.	Date	Description
	2020-06-22	CoT PSP SUBMITTAL
	2021-04-19	CoT DPR SUBMITTAL
	2021-08-26	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

NORTH AND SOUTH ELEVATIONS

A401



1 WEST ELEVATION
1" = 30'-0"



2 EAST ELEVATION
1" = 30'-0"

KEYNOTES - EXTERIOR ELEVATION	
NO.	DESCRIPTION
1.1	CURTAIN WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
1.2	WINDOW WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
2	STOREFRONT GLAZING (COMMERCIAL) SOLARBAN 60 SOLARGRAY + CLEAR IGU
3	M3 BACKPAINTED GLASS FACADE PANELS COLOR GUACAMOLE
4	METAL PANEL CLADDING METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS COLORS: OCEAN BLUE, CHARCOAL, ASH GREY
5	GARAGE FACADE SCREENING - SHADE CANOPY FABRIC WEATHERMAX 80 - MIST
6	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
7	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
8	METAL SHADING FIN METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS - ASH GREY
9	MECHANICAL SCREENING METAL SALES CORRUGATED IC72-PANEL COLOR - OCEAN BLUE
10	EXPOSED CONCRETE DAVIS COLORS LIGHT GRAY 9084
11	GROUND FACE CMU TRENDSTONE SOUTHWEST GOLD

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Project For Hines

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250 W. Rio Salado Pkwy,
Tempe, AZ 85281

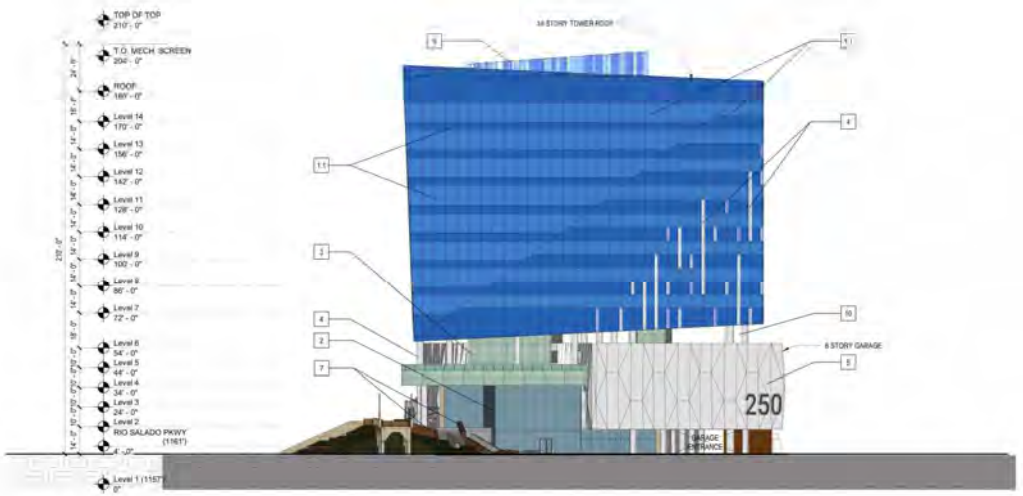
Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

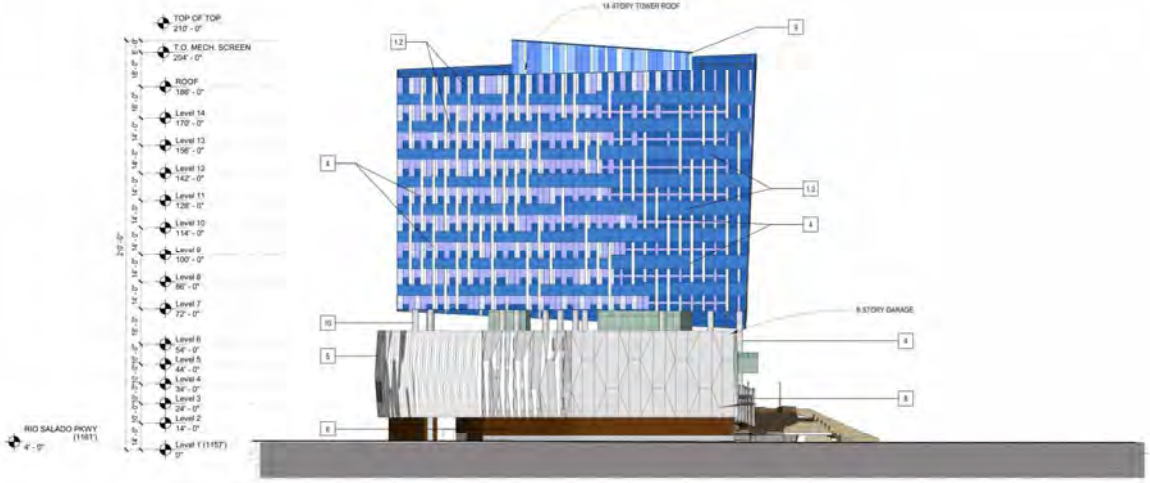
No.	Date	Description
	2020-06-22	CoT DSP SUBMITTAL
	2021-04-19	CoT DPR SUBMITTAL
	2021-08-26	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

EAST AND WEST ELEVATIONS

A402



1 NORTH ELEVATION
1" = 30'-0"



2 SOUTH ELEVATION
1" = 30'-0"

KEYNOTES / EXTERIOR ELEVATION

NO.	DESCRIPTION
1.1	CURTAIN WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
1.2	WINDOW WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
2	STOREFRONT GLAZING (COMMERCIAL) SOLARBAN 60 SOLARGRAY + CLEAR IGU
3	M3 BACKPAINTED GLASS FACADE PANELS COLOR GUACAMOLE
4	METAL PANEL CLADDING METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS COLORS: OCEAN BLUE, CHARCOAL, ASH GREY
5	GARAGE FACADE SCREENING - SHADE CANOPY FABRIC WEATHERMAX 80 - MIST
6	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
7	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
8	METAL SHADING FIN METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS - ASH GREY
9	MECHANICAL SCREENING METAL SALES CORRUGATED IC72-PANEL COLOR - OCEAN BLUE
10	EXPOSED CONCRETE DAVIS COLORS LIGHT GRAY 8084
11	GROUND FACE CMU TRENDSTONE SOUTHWEST GOLD

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ARIZONA REGISTERED ARCHITECT
87234
JASON PLOSZAJ
CERTIFICATE NO.

Project for Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

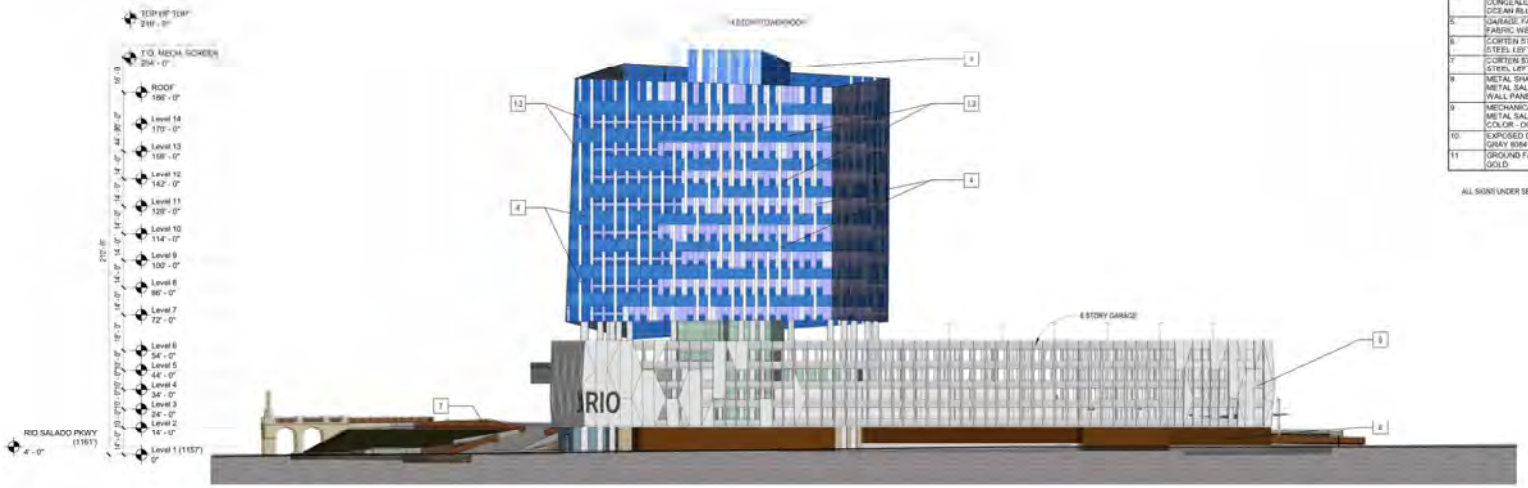
Project No.	1781.005.01
Drawn By	RS, KR, MD
Checked By	MD

Revisions

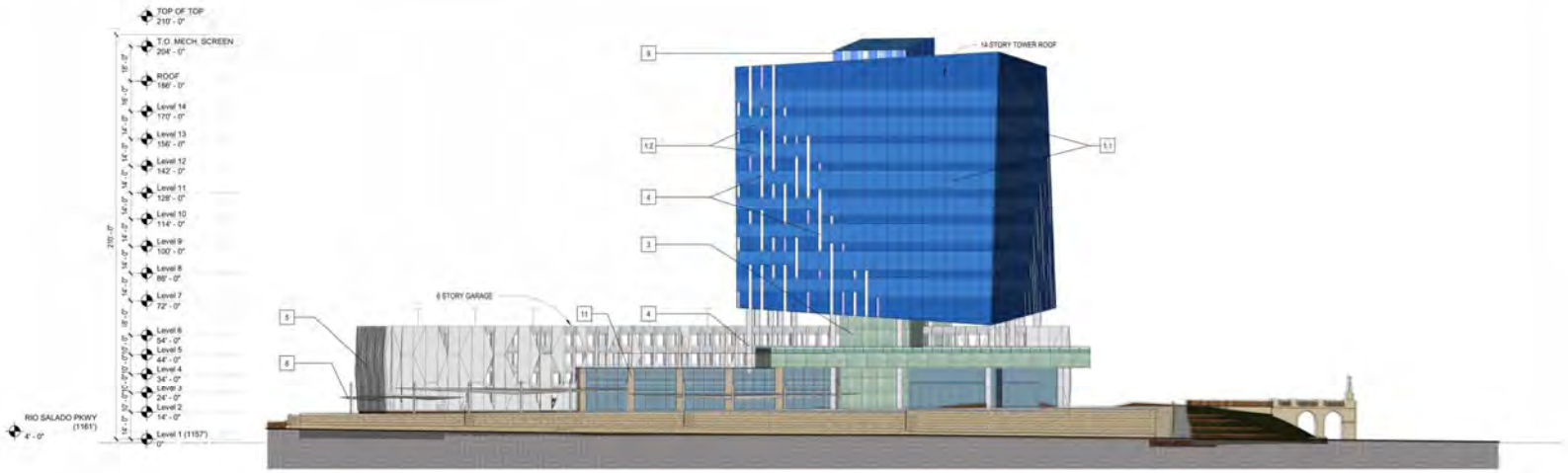
No.	Date	Description
	2020-08-07	CUP PSP SUBMITTAL
	2021-06-15	CUP DPR SUBMITTAL
	2021-08-30	CUP DPR SUBMITTAL
	2022-02-14	CUP DPR SUBMITTAL
	2022-04-08	CUP DPR SUBMITTAL

NORTH AND SOUTH ELEVATIONS

A403



1 WEST ELEVATION
1" = 30'-0"



2 EAST ELEVATION
1" = 30'-0"

KEYNOTES - EXTERIOR ELEVATION

NO.	DESCRIPTION
1, 1'	CURTAIN WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
1.2	WINDOW WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
2	STOREFRONT GLAZING (COMMERCIAL) SOLARBAN60 SOLARBAY + CLEAR IGU
3	M3 BACKPAINTED GLASS FACADE PANELS COLOR GUACAMOLE
4	METAL PANEL CLADDING METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS COLORS: OCEAN BLUE, CHANCOAL, ASH GREY
5	GARAGE FACADE SCREENING + SHADE CANOPY FABRIC WEATHERMAX 60 - MIST
6	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
7	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
8	METAL SHADING FIN METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS - ASH GREY
9	MECHANICAL SCREENING METAL SALES CORRUGATED IC72-PANEL COLOR - OCEAN BLUE
10	EXPOSED CONCRETE DAVIS COLORS LIGHT GRAY 9084
11	GROUND FACE CMU TRENDSTONE SOUTHWEST GOLD

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JASON PLOSZAJ
87234
REGISTERED ARCHITECT
ARIZONA U.S.A.

Project for Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1781.005.01
Drawn By	RS, KR, MD
Checked By	MD

Revisions

No.	Date	Description
	2020-08-07	CUP PSP SUBMITTAL
	2021-04-15	DR SPR SUBMITTAL
	2021-06-29	DR SPR SUBMITTAL
	2022-02-14	DR SPR SUBMITTAL
	2022-04-04	DR SPR SUBMITTAL

EAST AND WEST ELEVATIONS

A404

KEYNOTES - EXTERIOR ELEVATION	
NO.	DESCRIPTION
1.1	CURTAIN WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
1.2	WINDOW WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
2	STOREFRONT GLAZING (COMMERCIAL) SOLARBAN 60 SOLARGRAY + CLEAR IGU
3	MG BACKPAINTED GLASS FACADE PANELS COLOR GUACAMOLE
4	METAL PANEL CLADDING METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS COLORS: OCEAN BLUE, CHARCOAL, ASH GREY
5	GARAGE FACADE SCREENING - SHADE CANOPY FABRIC WEATHERMAX 80 - MIST
6	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
7	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
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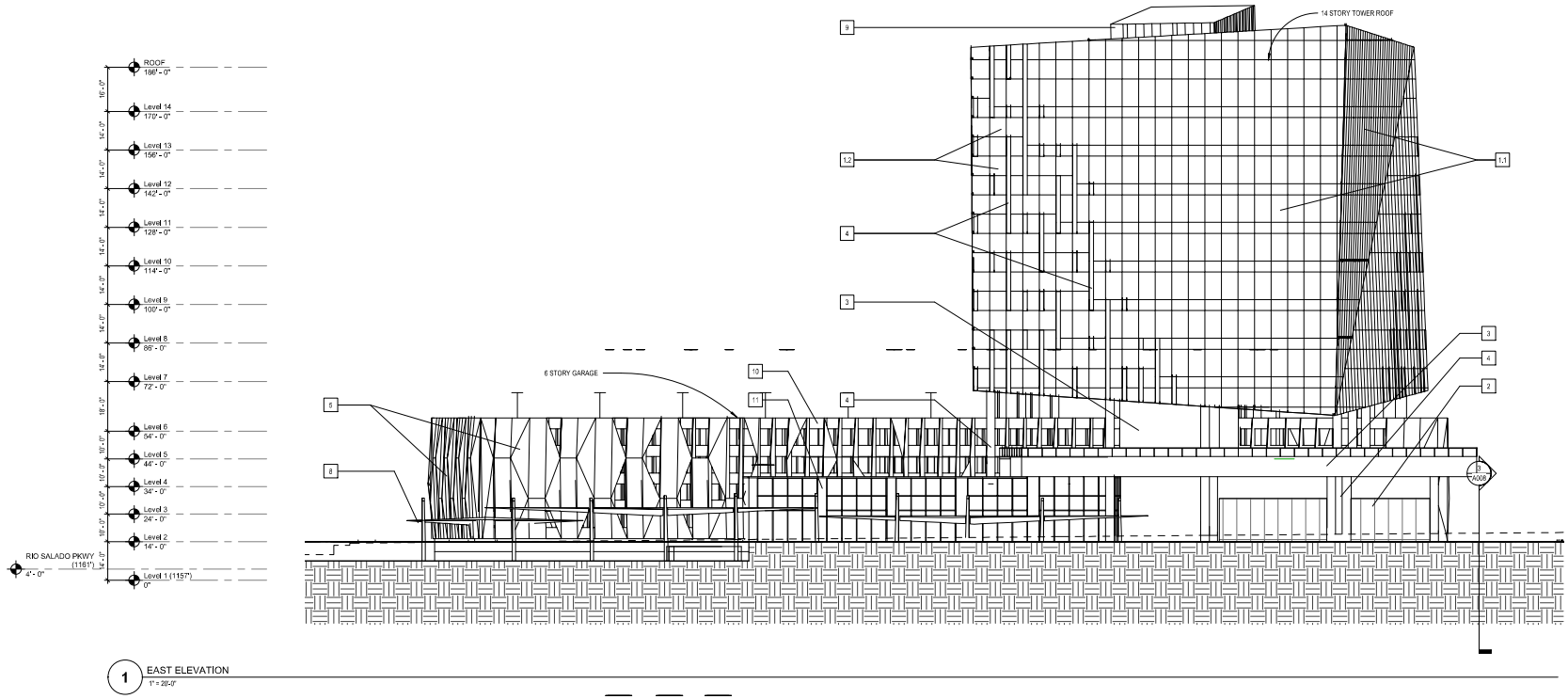
11	GROUND FACE CMU TRENDSTONE SOUTHWEST GOLD



1 EAST ELEVATION
1" = 20'-0"

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Project No.	1281.035.01
Drawn By	AV
Checked By	MD

Revisions

No.	Date	Description
	2022-02-14	CUT DPR SUBMITTAL
	2022-03-04	CUT DPR SUBMITTAL

ENLARGED EAST ELEVATION

A405

KEYNOTES - EXTERIOR ELEVATION	
NO.	DESCRIPTION
1.1	CURTAIN WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
1.2	WINDOW WALL GLAZING (TOWER) SOLARBAN 60 PACIFICA + CLEAR IGU
2	STOREFRONT GLAZING (COMMERCIAL) SOLARBAN 60 SOLARGRAY + CLEAR IGU
3	M3 BACKPAINTED GLASS FACADE PANELS COLOR GUACAMOLE
4	METAL PANEL CLADDING METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS COLORS: OCEAN BLUE, CHARCOAL, ASH GREY
5	GARAGE FACADE SCREENING - SHADE CANOPY FABRIC WEATHERMAX 80 - MIST
6	CORTEN STEEL PANEL WALL UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER
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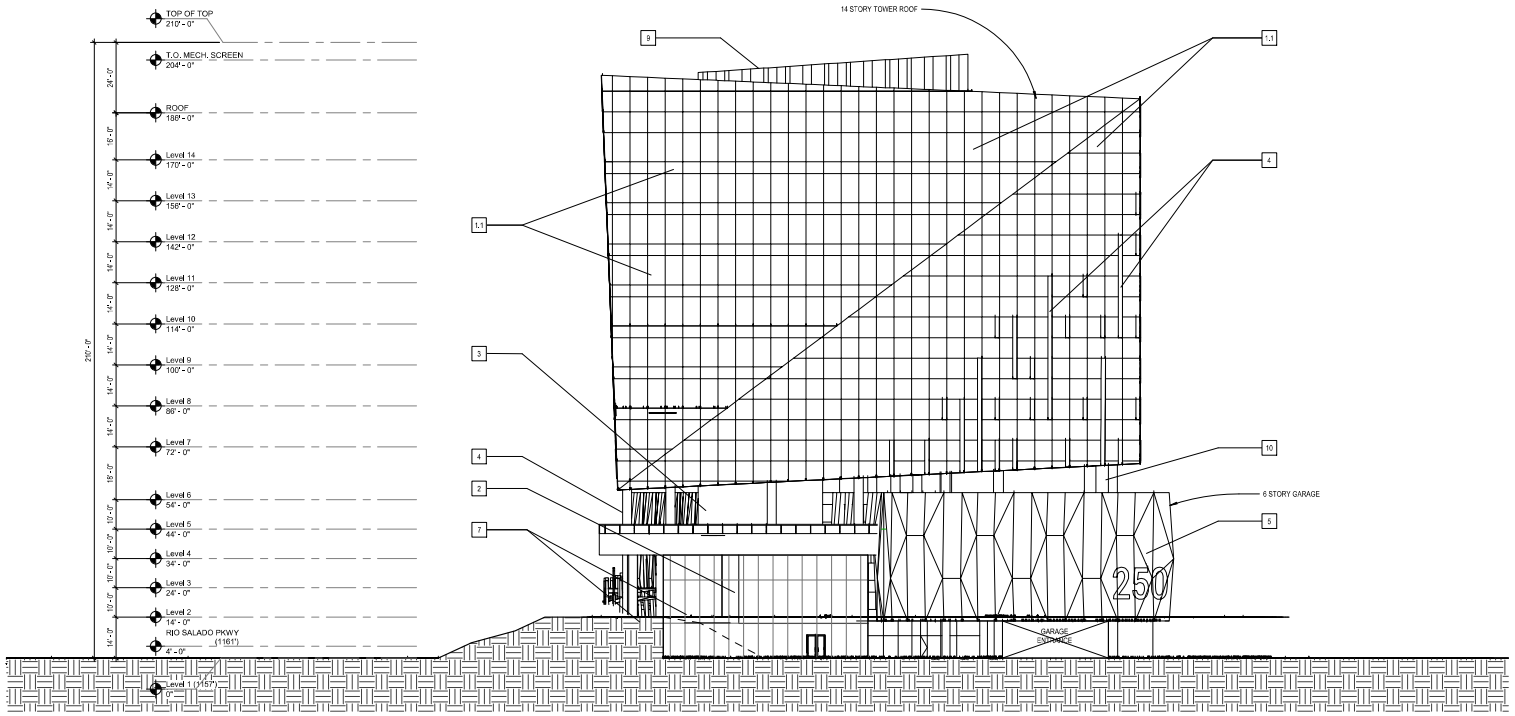
11	GROUND FACE CMU TRENDSTONE SOUTHWEST GOLD



1 NORTH ELEVATION
1" = 20'-0"

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Project No.	1281.035.01
Drawn By	MD
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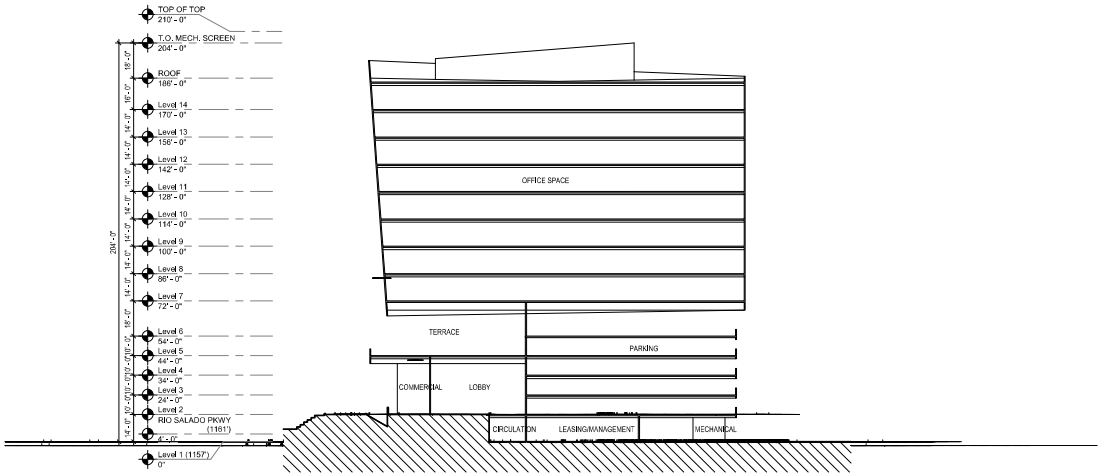
Revisions

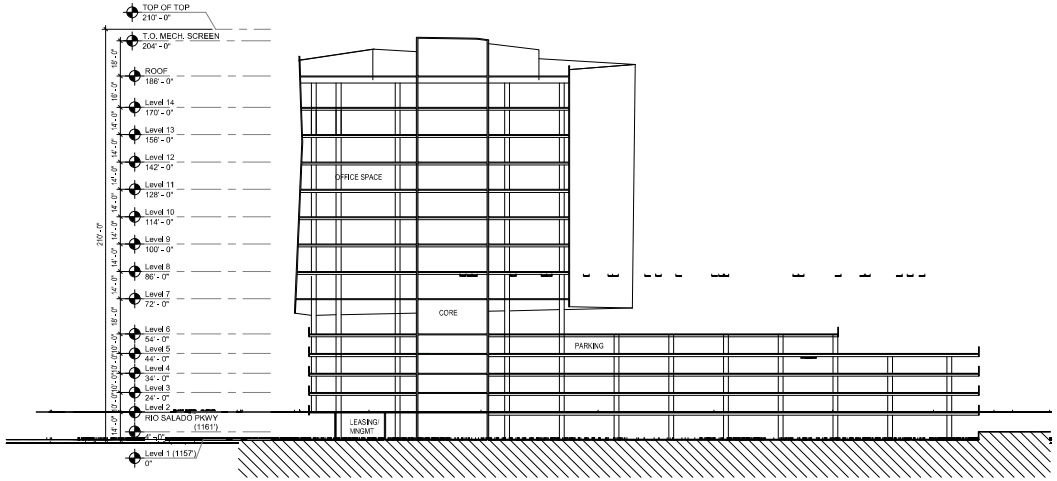
No.	Date	Description
	2022-02-14	CUT BPR SUBMITTAL
	2022-03-04	CUT BPR SUBMITTAL

ENLARGED NORTH ELEVATION

A406



1 TRANSVERSE SECTION
1" = 30'-0"



2 LONGITUDINAL SECTION
1" = 30'-0"

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902 S. College Avenue
Suite 203
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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
Drawn By	BSS, KP, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-01-13	CoT DPR SUBMITTAL
	2021-06-09	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

BUILDING SECTION

A501

VIEW FROM THE PARK - NORTHEAST

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Project For Hines

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Tempe, AZ 85281

Project No.	1281.035.01
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Revisions

No.	Date	Description
	2021-01-13	CoT DPR SUBMITTAL
	2021-06-29	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

EXTERIOR RENDERINGS

A531

VIEW FROM ASH AVENUE - SOUTHEAST

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-04-15	CoT DPR SUBMITTAL
	2021-08-26	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

EXTERIOR RENDERINGS

A532

VIEW FROM SOUTHWEST

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-04-15	CoT DPR SUBMITTAL
	2021-06-28	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

EXTERIOR RENDERINGS

A533

MAIN ENTRANCE - NORTHEAST

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-04-15	CoT DPR SUBMITTAL
	2021-08-26	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

EXTERIOR RENDERINGS

A534

MAIN ENTRANCE - VIEW FROM THE NORTH

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

No.	Date	Description
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	2021-08-26	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

EXTERIOR RENDERINGS

A535

VIEW FROM ASH AVENUE

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
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Checked By	MD

Revisions

No.	Date	Description
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	2021-08-26	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

EXTERIOR RENDERINGS

A536

VIEW FROM ACROSS THE LAKE - NORTHEAST

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

Project No.	1281.035.01
Drawn By	BSS, KP, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-04-15	CoT DPR SUBMITTAL
	2021-08-26	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

EXTERIOR RENDERINGS

A537

VIEW FROM ACROSS THE LAKE - NORTHWEST

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

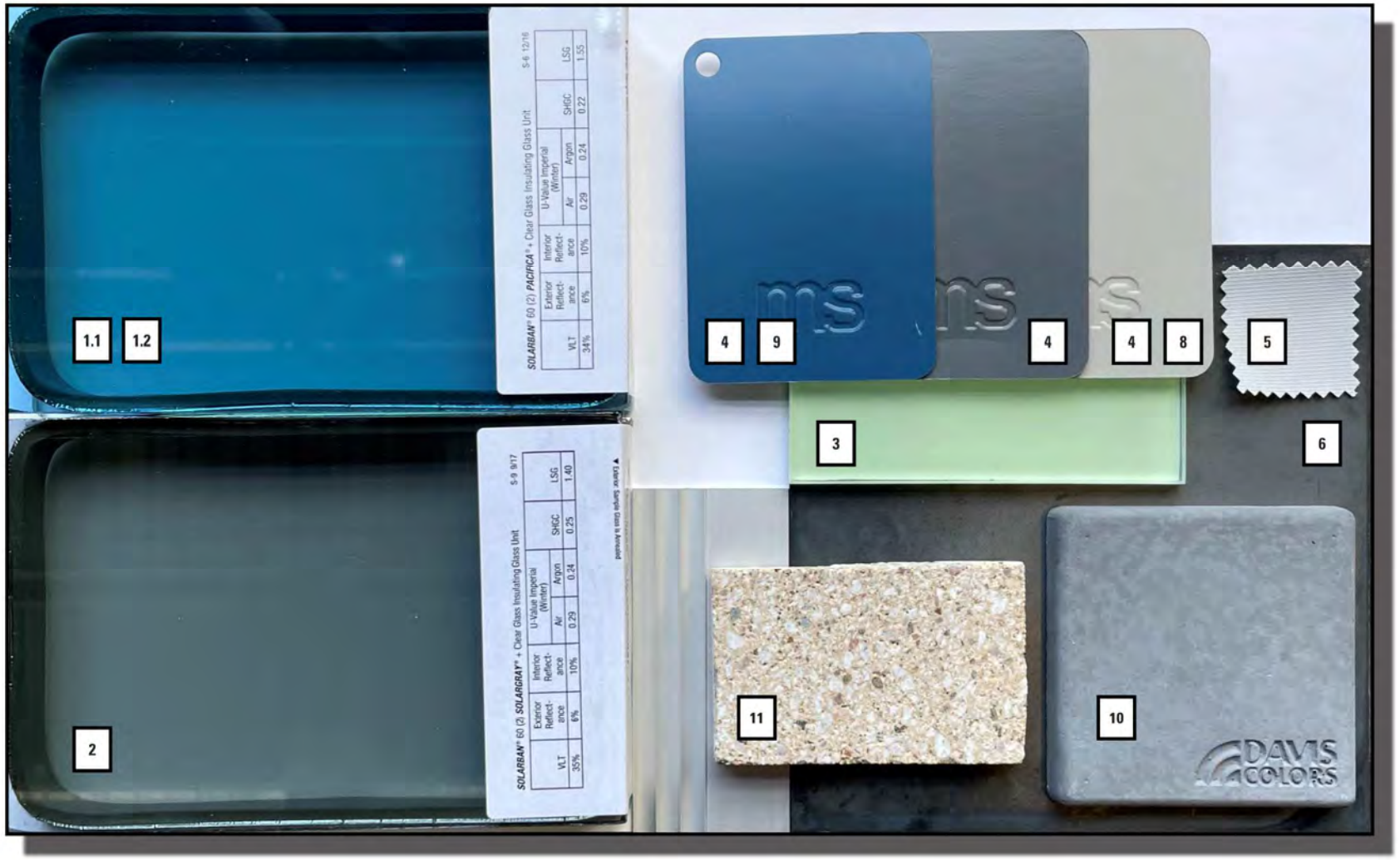
Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-04-15	CoT DPR SUBMITTAL
	2021-08-26	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

EXTERIOR RENDERINGS

A538



1.1 - CURTAIN WALL GLAZING (TOWER)
SOLARBAN 60 PACIFICA + CLEAR IGU

1.2 - WINDOW WALL GLAZING (TOWER)
SOLARBAN 60 PACIFICA + CLEAR IGU

2 - STOREFRONT GLAZING
SOLARBAN 60 SOLARGRAY + CLEAR IGU

3 - M3 BACKPAINTED GLASS FACADE
PANELS COLOR GUACAMOLE

4 - METAL PANEL CLADDING
METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS
COLORS: OCEAN BLUE, CHARCOAL, ASH GREY

5 - SHADE CANOPY SCREENING
WEATHERMAX 80 - MIST

6 - RAW STEEL CLADDING
UNFINISHED RAW STEEL LEFT TO RUST AND WEATHER

8 - METAL SHADING FIN
METAL SALES TLC-1 CONCEALED FASTENER WALL PANELS - ASH GREY

9 - MECHANICAL SCREENING
METAL SALES CORRUGATED IC72-PANEL COLOR - OCEAN BLUE

10 - EXPOSED CONCRETE
DAVIS COLORS LIGHT GRAY 8084

11 - GROUND FACE CMU
TRENDSTONE SOUTHWEST GOLD

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

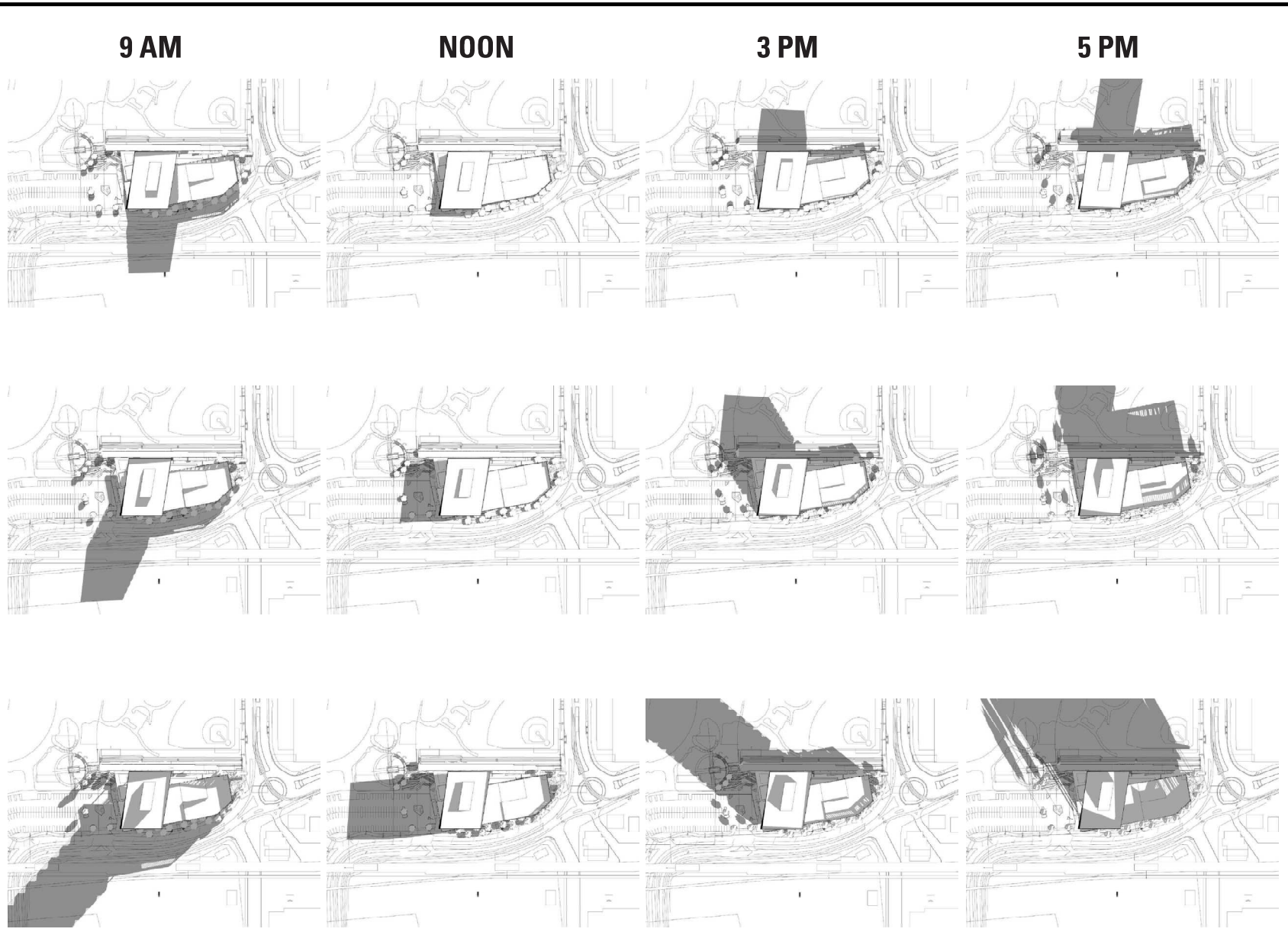
Project No.	1281.035.01
Drawn By	BSS, KR, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-06-15	CoT DPR SUBMITTAL
	2021-06-28	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

MATERIAL BOARD

A539



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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

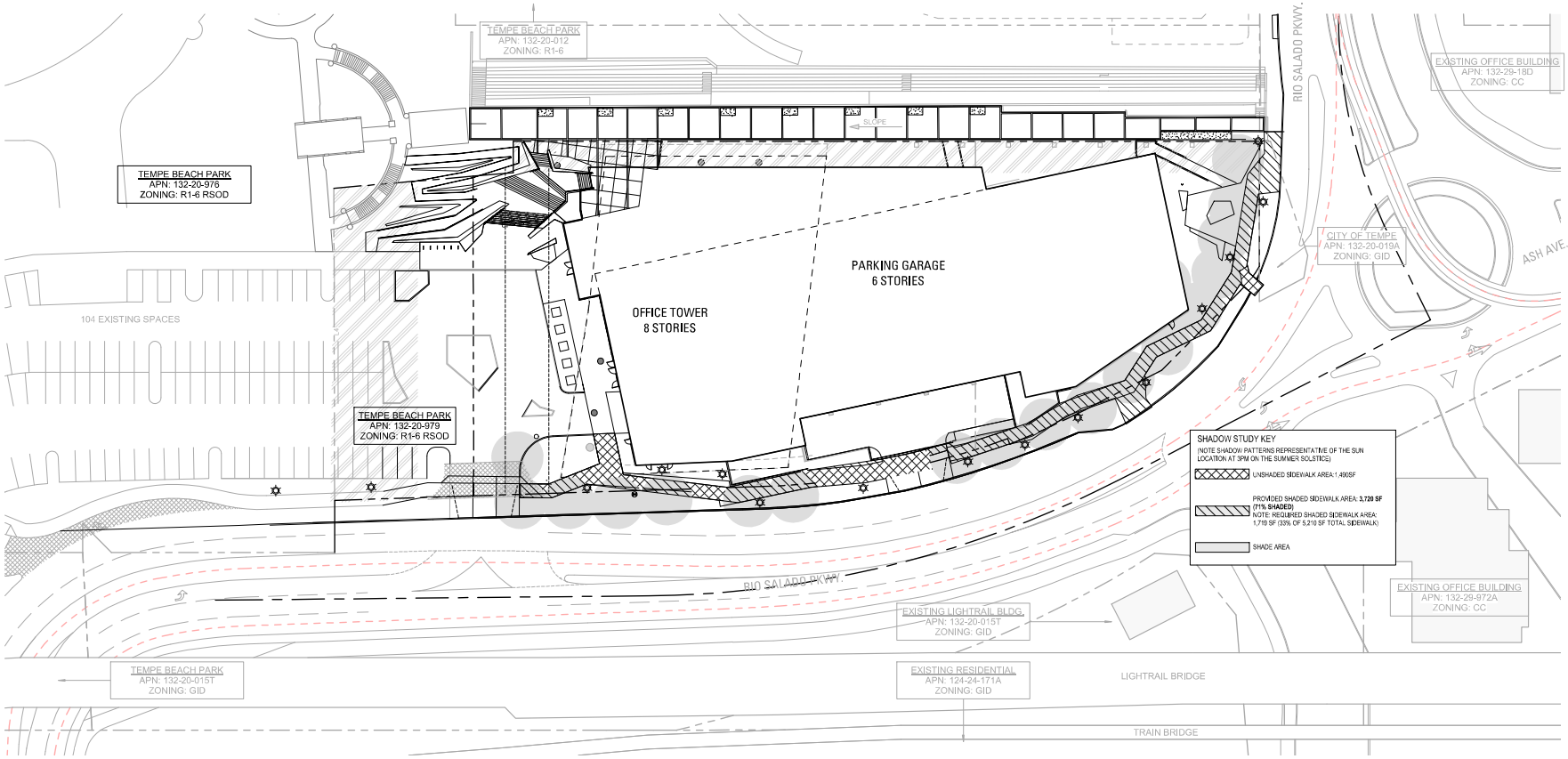
Project No.	1281.035.01
Drawn By	BSS, KP, MD
Checked By	MD

Revisions

No.	Date	Description
	2021-04-15	CoT DPR SUBMITTAL
	2021-06-28	CoT DPR SUBMITTAL
	2022-02-14	CoT DPR SUBMITTAL
	2022-04-04	CoT DPR SUBMITTAL

SOLAR STUDY

A540



1 SITE PLAN AT GRADE
1" = 30'-0"

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480.889.2000
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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

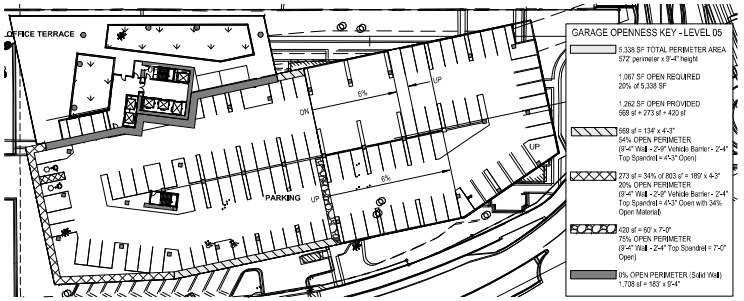
Project No.	1281.035.01
Drawn By	AV
Checked By	MD

Revisions

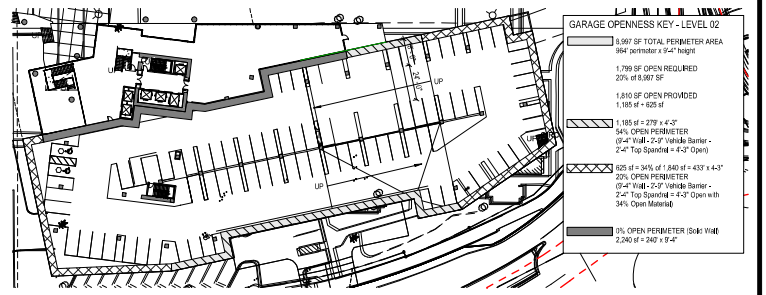
No.	Date	Description
	2021-06-23	CUP SUBMITTAL
	2022-02-14	CUP SUBMITTAL
	2022-04-04	CUP SUBMITTAL

SHADOW STUDY

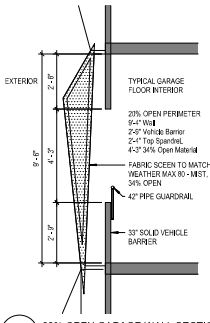
A541



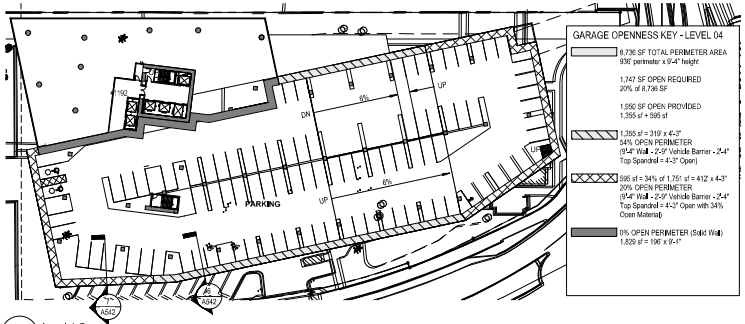
5 Level 5 Openness
1" = 40'-0"



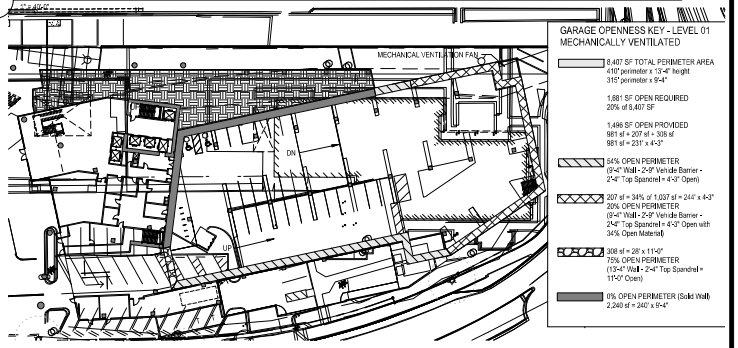
2 Level 2 Openness
1" = 40'-0"



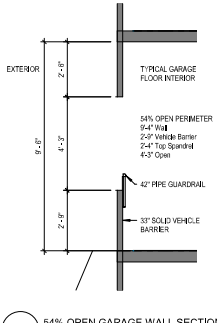
7 20% OPEN GARAGE WALL SECTION
3/8" = 1'-0"



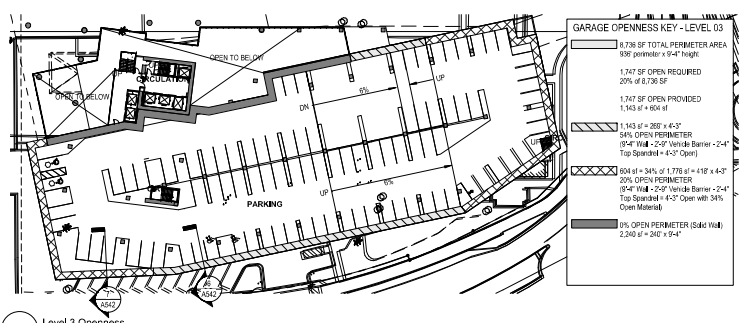
4 Level 4 Openness
1" = 40'-0"



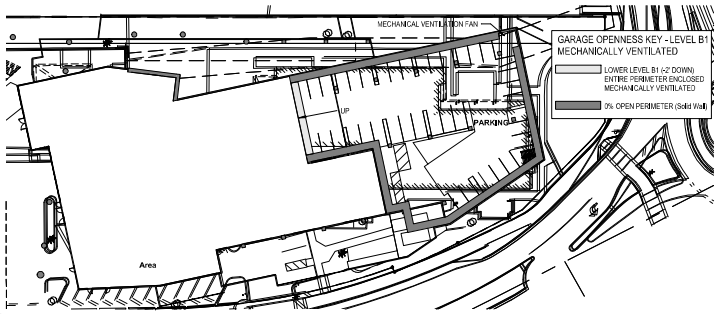
1 Level 1 Openness
1" = 40'-0"



6 54% OPEN GARAGE WALL SECTION
3/8" = 1'-0"



3 Level 3 Openness
1" = 40'-0"



B1 Level B1 Openness
1" = 40'-0"

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

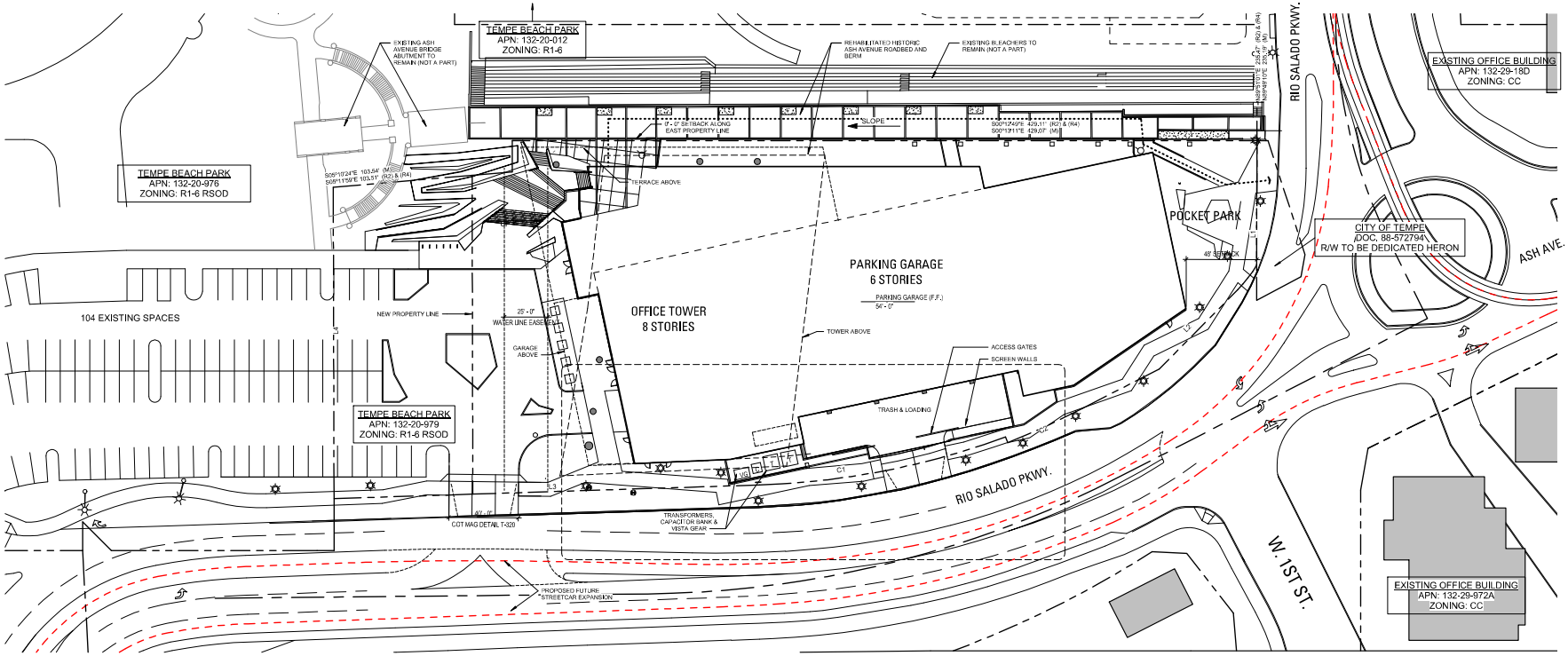
Project No.	1281.035.01
Drawn By	AV
Checked By	MD

Revisions

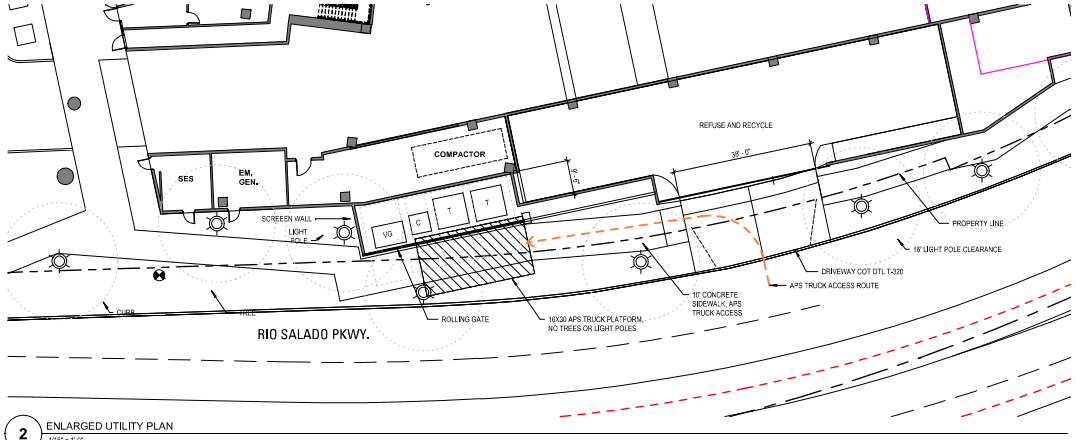
No.	Date	Description
	2022-03-14	CUP/ DPR SUBMITTAL
	2022-04-04	CUP/ DPR SUBMITTAL

GARAGE OPENNESS STUDY

A542



1 ARCHITECTURAL UTILITY PLAN
1" = 30'-0"



2 ENLARGED UTILITY PLAN
1/16" = 1'-0"

BIM 360://Hines - 250 Rio/Hines Rio Salado_R19.rvt
4/13/2022 2:22:20 PM

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
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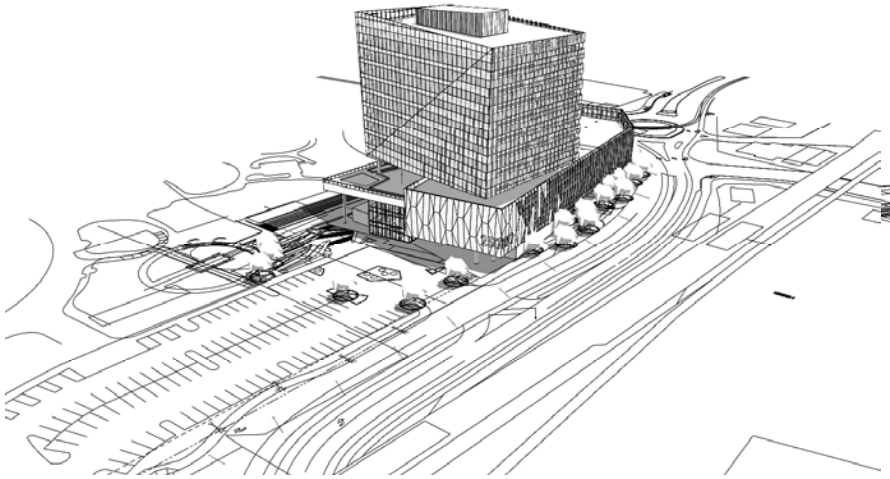
Project No.	1281.035.01
Drawn By	AV
Checked By	AV

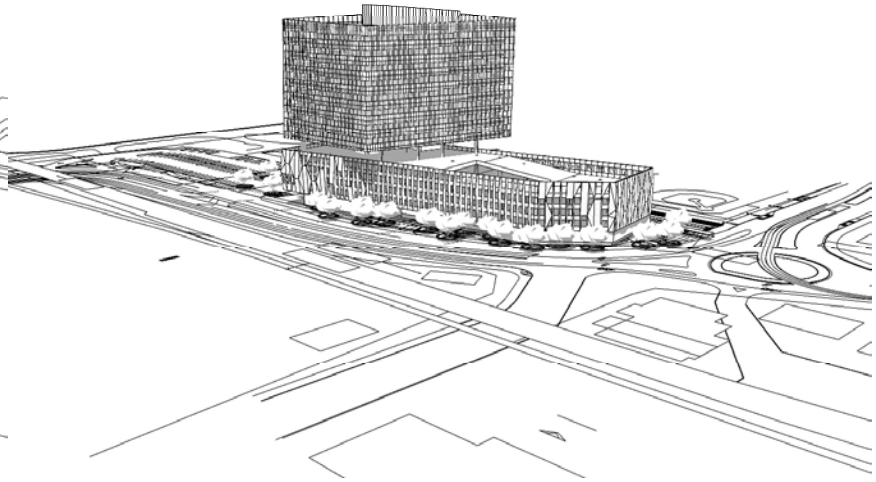
Revisions

No.	Date	Description
	2022-02-14	COT BPR SUBMITTAL
	2022-03-04	COT BPR SUBMITTAL

ARCHITECTURAL UTILITY PLAN

A543





BIM 360://Hines - 250 Rio/Hines Rio Salado_R19.rvt
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RSP

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Project For Hines

250 RIO

250 W. Rio Salado Pkwy,
Tempe, AZ 85281

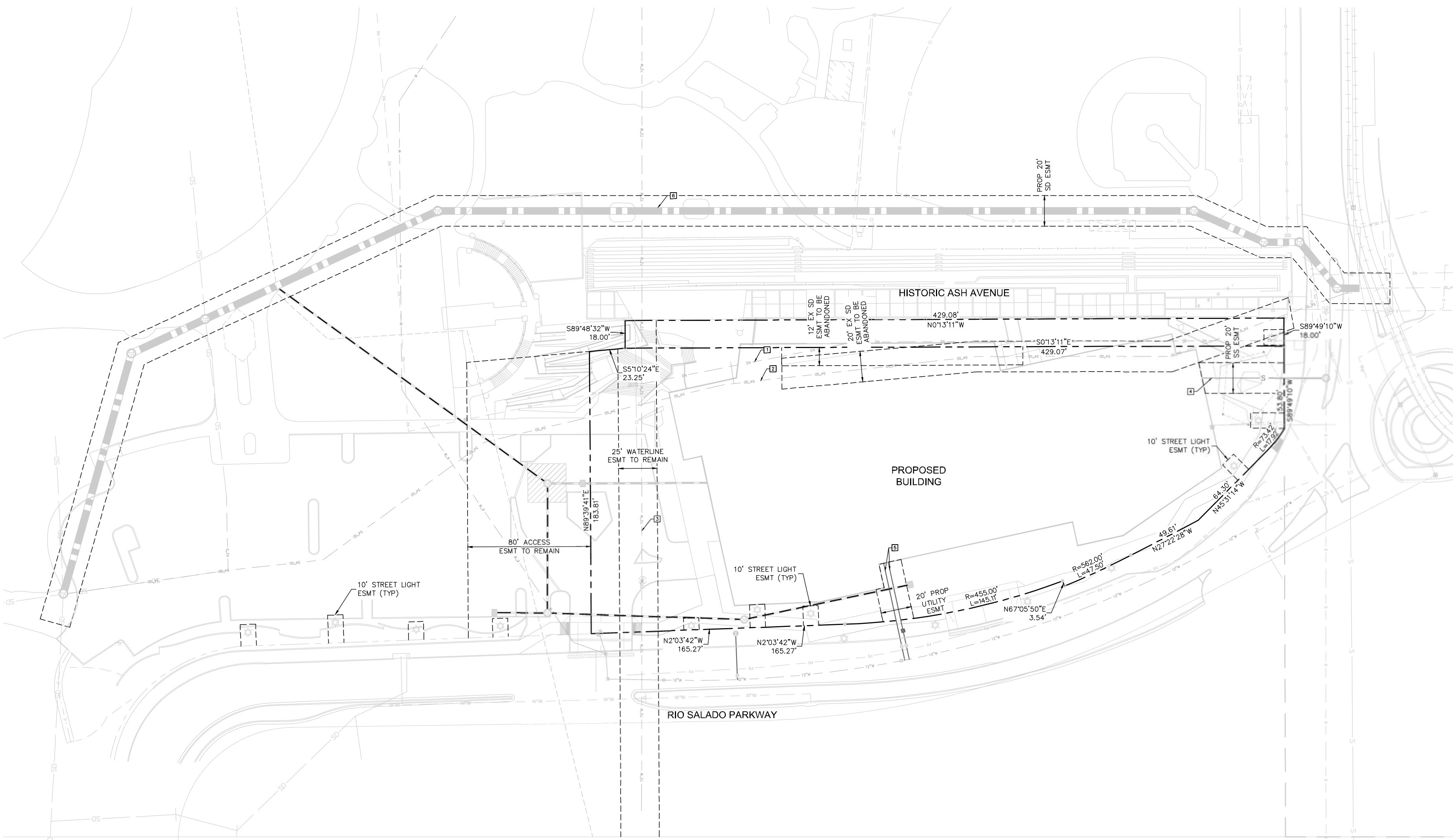
Project No.	1281.035.01
Drawn By	BS
Checked By	MD

Revisions

No.	Date	Description
	2022-03-14	CD / DPR SUBMITTAL
	2022-04-04	CD / DPR SUBMITTAL

3D MODEL VIEWS

A550



CONSTRUCTION NOTES

1. EXISTING 6" NITROGEN GAS LINE TO BE CUT AND CAPPED. DETAILS PER UTILITY PROVIDER.
2. EXISTING 54" STORM DRAIN TO BE RELOCATED.
3. EXISTING 72" WATERLINE TO REMAIN.
4. PROPOSED 8" SANITARY SEWER LINE.
5. PROPOSED 3" DOMESTIC WATER LINE.
6. PROPOSED 54" RELOCATED STORM DRAIN.

GRAPHIC SCALE IN FEET
0 15 30 60

NORTH

NO.	REVISION	DATE	BY	APPR.

Kimley»Horn
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7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

SCALE (H): 1"=20'
SCALE (V): NONE
DESIGNED BY: JRT
DRAWN BY: KER
CHECKED BY: CLB
DATE: 4/4/2022

250 RIO
250 W. RIO SALADO PARKWAY
EASEMENT EXHIBIT
TEMPE, AZ

62557
JAYME
THOMA
ARIZONA U.S.A.

PROJECT NO.
291102013

DRAWING NAME
ESMT-291102013

1 OF 1

DRAINAGE STATEMENT

THIS SITE HAS ONE UNDERGROUND RETENTION BASIN/VAULT TO RETAIN THE 2-YEAR, 1-HOUR STORM EVENT GENERATED ON-SITE ACCORDING TO THE CITY OF TEMPE ALTERNATIVE RETENTION CRITERIA AREA POLICY. THE BASIN WILL DISCHARGE INTO AN ON-SITE DRYWELL AND DRAIN WITHIN 36 HOURS. STORM EVENTS THAT EXCEED THE DESIGN EVENT WILL OVERFLOW FROM THE UNDERGROUND VAULT AND SHEET FLOW TO THE NORTH TO CONFORM TO EXISTING DRAINAGE PATTERNS.

NO OFF-SITE FLOWS ARE ANTICIPATED TO IMPACT THE SITE.

ALL RIGHT OF WAY RUNOFF IS CAPTURED BY EXISTING STORM DRAIN INFRASTRUCTURE AND WAS NOT ACCOUNTED FOR ON THIS PLAN.

RETENTION REQUIRED

BASIN A CLASSIFICATION	AREA	C-VALUE	VOLUME REQUIRED
BUILDING/PAVEMENT	86,626 SF	0.95	6,172 CF

1. ALL RETENTION CALCULATIONS ARE BASED ON A 2-YEAR, 1-HOUR RAINFALL RUNOFF OF 0.9 INCHES FROM CITY OF TEMPE DRAINAGE MANUAL FOR ALTERNATIVE RETENTION CRITERIA AREA.
2. RETENTION CALCULATIONS DO NOT INCLUDE RUNOFF FROM ADJACENT HALF-STREET RIGHT OF WAY DUE TO EXISTING PUBLIC STORM DRAINS IN THE STREET.

RETENTION PROVIDED

	VOLUME REQUIRED	VAULT DEPTH	VAULT AREA	VOLUME PROVIDED
BASIN A (CONCRETE VAULT)	6,172 CF	10'	25'x25'	6,250 CF

DISPOSAL CALCULATIONS

DISPOSAL VOLUME	DISPOSAL RATE	DISPOSAL TIME
6,250 CF	0.1 CFS	17.4 HRS

FLOOD PLAIN

THE SUBJECT PROPERTY LIES WITHIN ZONE "X" AS DESIGNATED ON THE FEMA FLOOD INSURANCE RATE MAP, MAP NUMBER 04013C2240L, DATED OCTOBER 16, 2013. ZONE "X" IS DESIGNATED AS BEING AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY UNDER THAT CIRCUMSTANCE.

BENCHMARK

COTTON PICKER SPINDLE IN ASPHALT DRIVEWAY AT SOUTHWEST CORNER OF PROPERTY:
N: 883970.850
E: 692131.148
ELEV: 1161.31 (NAVD88)

BASIS OF BEARING

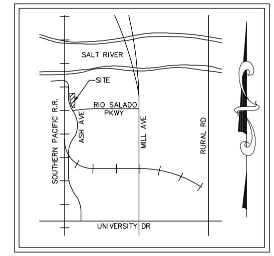
GRID NORTH, NAD 83 STATE PLANE, ARIZONA CENTRAL ZONE AS ESTABLISHED BY GPS.

NOTES

1. ADD 1100' TO ALL 2 DIGIT ELEVATIONS.
2. ALL SPOT ELEVATIONS ARE FINISHED GRADE PAVEMENT (P), GUTTER/GRATE (G), TOP OF CURB (TC), OR SIDEWALK (SW) ELEVATIONS UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL USE SPOT ELEVATIONS, PROPOSED CONTOURS, AND SLOPES TO ESTABLISH GRADES.
4. SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% AND LONGITUDINAL SLOPE SHALL NOT EXCEED 5%.
5. SEE EASEMENT PLAN FOR ALL EASEMENT INFORMATION

GRADING LEGEND

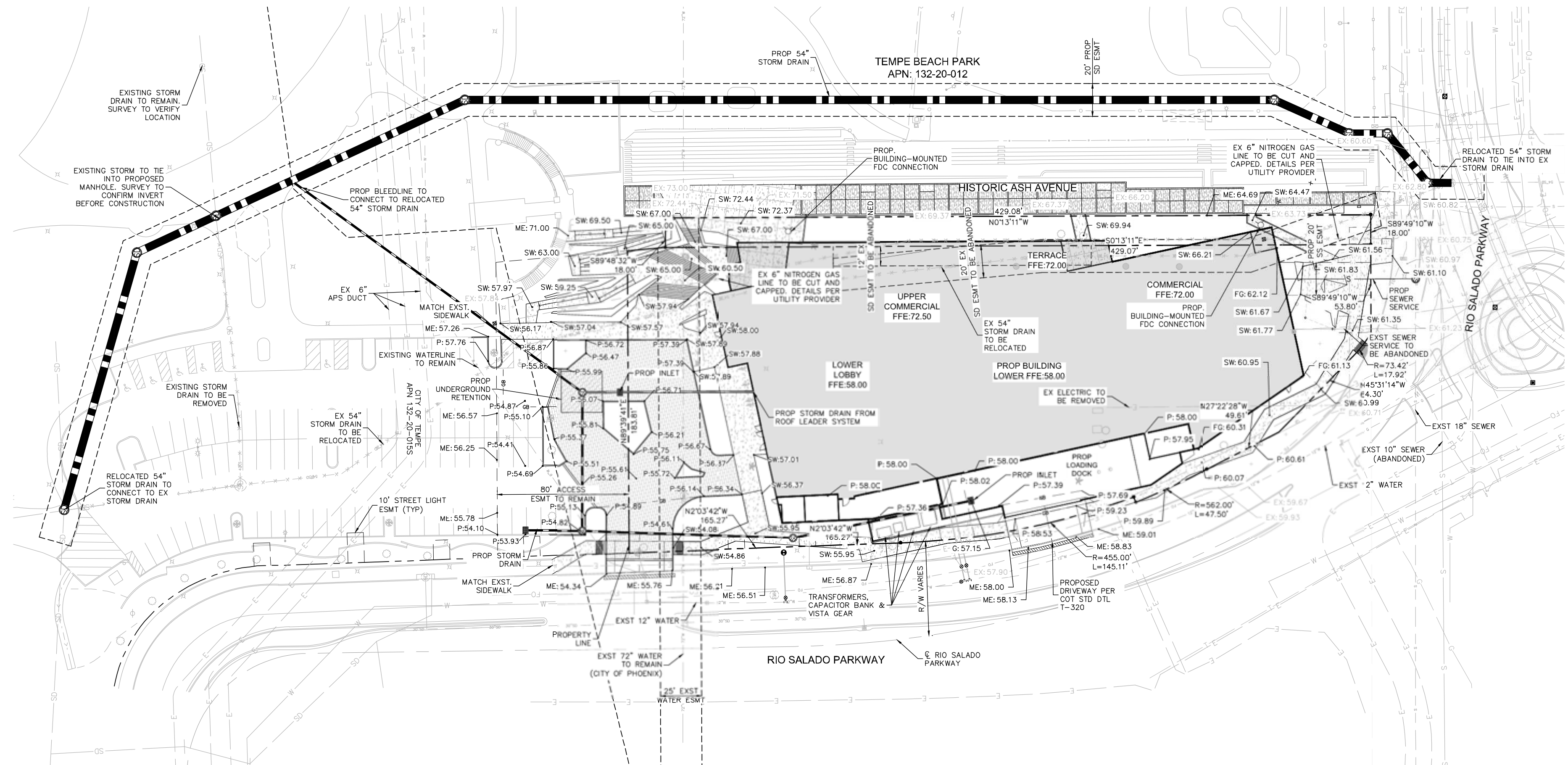
SYMBOL	DESCRIPTION
	PROPERTY LINE
	EASEMENT LINE
—GB—	PROPOSED GRADE BREAK
	PROPOSED STORM DRAIN PIPE
	PROPOSED MAXWELL PLUS DRYWELL
SW: 61.56	PROPOSED SPOT ELEVATION
EX: 60.75	EXISTING SPOT ELEVATION
ME	MATCH EXISTING
P	PAVEMENT
EX	EXISTING
SW	SIDEWALK
FG	FINISHED GRADE
+	PROP. TREE
	PROPOSED CONCRETE SIDEWALK
	PROPOSED PAVERS.



VICINITY MAP
N.T.S.

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60



TEMPE BEACH PARK
APN: 132-20-012
PROP 54" STORM DRAIN
20' PROP SD ESMT
EXISTING STORM DRAIN TO REMAIN. SURVEY TO VERIFY LOCATION
EXISTING STORM TO TIE INTO PROPOSED MANHOLE. SURVEY TO CONFIRM INVERT BEFORE CONSTRUCTION
PROP BLEEDLINE TO CONNECT TO RELOCATED 54" STORM DRAIN
PROP. BUILDING-MOUNTED FDC CONNECTION
HISTORIC ASH AVENUE
EX 6" NITROGEN GAS LINE TO BE CUT AND CAPPED. DETAILS PER UTILITY PROVIDER
RELOCATED 54" STORM DRAIN TO TIE INTO EX STORM DRAIN
TERRACE FFE:72.00
UPPER COMMERCIAL FFE:72.50
COMMERCIAL FFE:72.00
PROP. BUILDING-MOUNTED FDC CONNECTION
EX 54" STORM DRAIN TO BE RELOCATED
LOWER LOBBY FFE:58.00
PROP BUILDING LOWER FFE:58.00
EX ELECTRIC TO BE REMOVED
PROP STORM DRAIN FROM ROOF LEADER SYSTEM
PROP INLET
PROP LOADING DOCK
PROP SEWER SERVICE
EXST SEWER SERVICE TO BE ABANDONED
EXST 18" SEWER
EXST 10" SEWER (ABANDONED)
EXST 2" WATER
RIO SALADO PARKWAY
EX 6" APS DUCT
MATCH EXST. SIDEWALK
EXISTING WATERLINE TO REMAIN
PROP UNDERGROUND RETENTION
EXISTING STORM DRAIN TO BE REMOVED
EX 54" STORM DRAIN TO BE RELOCATED
CITY OF TEMPE APN 132-20-015S
RELOCATED 54" STORM DRAIN TO CONNECT TO EX STORM DRAIN
10' STREET LIGHT ESMT (TYP)
80' ACCESS ESMT TO REMAIN
PROP STORM DRAIN
MATCH EXST. SIDEWALK
PROPERTY LINE
EXST 12" WATER
EXST 72" WATER TO REMAIN (CITY OF PHOENIX)
25' EXST WATER ESMT
TRANSFORMERS, CAPACITOR BANK & VISTA GEAR
R/W VARIES
℄ RIO SALADO PARKWAY
PROPOSED DRIVEWAY PER COT STD DTL T-320
12' SD ESMT TO BE ABANDONED
20' EX SD ESMT TO BE ABANDONED
PROP 20' SS ESMT
429.08'
N0°13'11"W
S0°13'11"E 429.07'
S89°48'32"W 18.00'
S89°49'10"W 18.00'
S89°49'10"W 53.80'
N89°49'10"W
N2°03'42"W 165.27'
N27°22'28"W 49.61'
R=73.42' L=17.92'
N45°31'14"W 4.30'
R=562.00' L=47.50'
R=455.00' L=145.11'
SW: 69.50
SW: 65.00
SW: 67.00
SW: 72.44
SW: 72.37
SW: 67.00
SW: 69.94
SW: 66.21
SW: 64.47
ME: 64.69
SW: 61.56
SW: 61.83
SW: 61.10
FG: 62.12
SW: 61.67
SW: 61.77
SW: 61.35
SW: 60.95
FG: 61.13
SW: 60.99
ME: 71.00
SW: 63.00
SW: 65.00
SW: 60.50
SW: 59.25
SW: 57.97
SW: 57.94
SW: 57.57
SW: 56.17
SW: 57.04
ME: 57.26
P: 57.76
SW: 57.88
SW: 57.89
SW: 58.00
P: 56.87
P: 56.47
P: 56.72
P: 57.39
P: 55.86
P: 55.99
P: 55.07
P: 56.71
P: 54.87
ME: 56.57
P: 55.10
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P: 55.77
ME: 56.25
P: 54.41
P: 54.69
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P: 56.67
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P: 58.53
ME: 58.83
G: 57.15

Kimley»Horn
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7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

NO.	REVISION	DATE	BY	APPR.

SCALE (H): 1"=30'
SCALE (V): NONE
DESIGNED BY: JRT
DRAWN BY: KER
CHECKED BY: CLB
DATE: 4/4/2022

250 RIO
250 W. RIO SALADO PARKWAY
PRELIMINARY GRADING PLAN
TEMPE, AZ

62557
JAYME
THOMA
ARIZONA U.S.A.

PROJECT NO.
291102013

DRAWING NAME
GD-291102013.dwg

1 OF 1

K:\PHX_Civil\291102013 - 250 Rio\CADD\PAD Zoning\GD-291102013.dwg Apr 04, 2022 Jayme.Thoma

WATER CONSTRUCTION NOTES

1. CONNECT TO BUILDING DOMESTIC WATER SYSTEM, REF PLUMBING PLANS FOR CONTINUATION.
2. INSTALL 3" DOMESTIC WATER LINE, LENGTH PER PLAN.
4. INSTALL 3" BACKFLOW ASSEMBLY PER COT STD DTL T-214.
5. CONNECT TO BUILDING FIRE SYSTEM, REF PLUMBING PLANS FOR CONTINUATION.
6. INSTALL 12" X 8" CUT IN TEE WITH THRUST BLOCKS PER MAG STD DET 380.
8. INSTALL 12" GATE VALVE, BOX, AND COVER PER MAG STD DTL 391-1, TYPCE C.
9. INSTALL 8" GATE VALVE, BOX, AND COVER PER MAG STD DTL 391-1, TYPE C.
10. RELOCATE EXISTING FIRE HYDRANT TO LOCATION SHOWN.

SEWER CONSTRUCTION NOTES

1. CONNECT TO BUILDING SEWER SYSTEM. REF PLUMBING PLANS FOR CONTINUATION.
2. INSTALL 6" SEWER BUILDING CONNECTION PER MAG STD 440-1, TYPE A.
3. INSTALL 6" SDR 35 SEWER PIPE, BEDDING AND BACKFILL PER COT STD DTL T-450. LENGTH PER PLAN.

DRY UTILITY CONSTRUCTION NOTES

1. UTILITY CROSSING, MAINTAIN 2' VERTICAL SEPERATION BETWEEN WET AND DRY UTILITIES. VERTICALLY REALIGN WATER LINE AS NECESSARY TO MAINTAIN CLEARANCE.

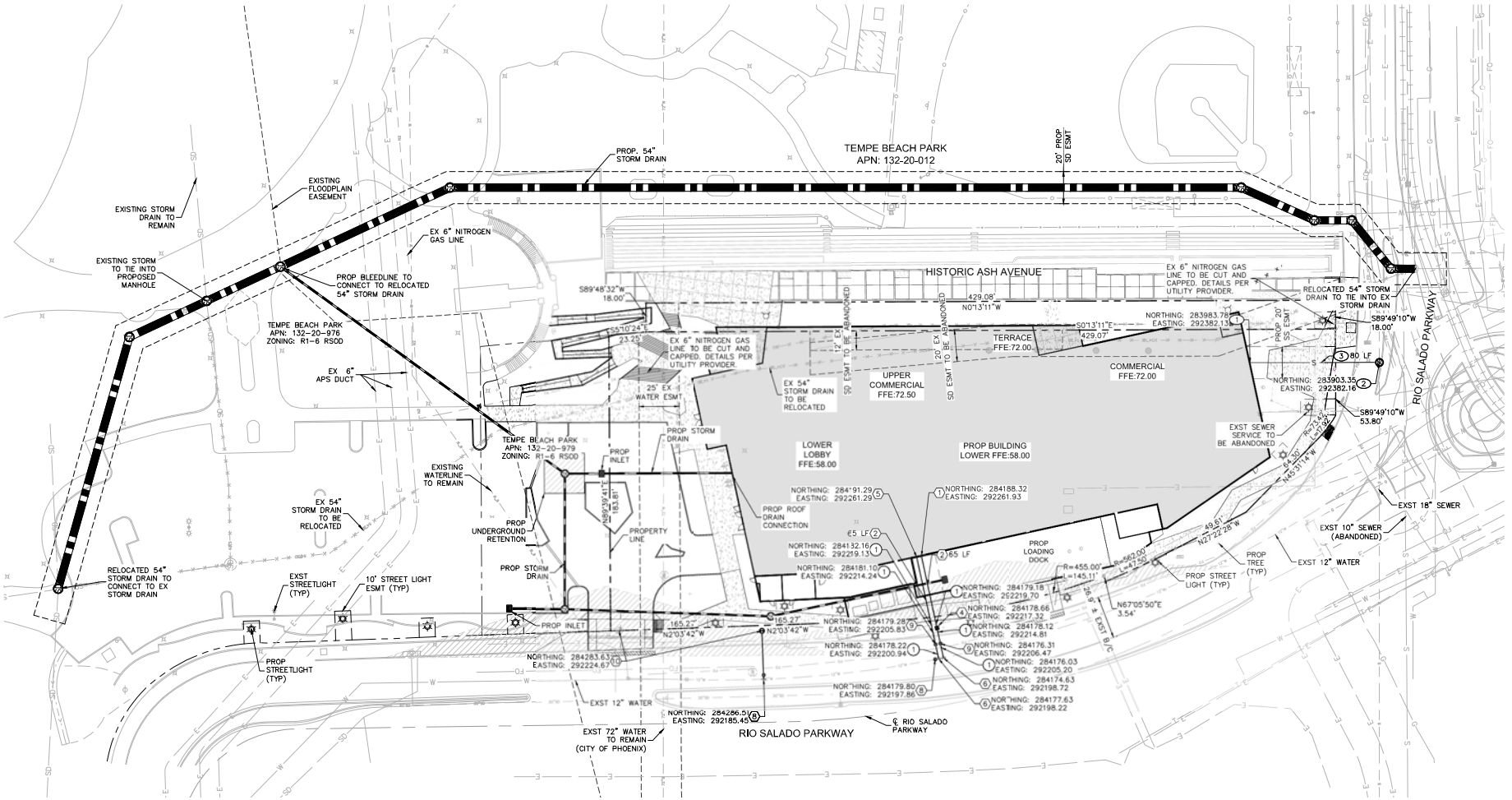
LEGEND

- PROPERTY LINE/TRACT LINE
- RIGHT OF WAY LINE
- STREET CENTERLINE
- EASEMENT LINE
- PROPOSED BUILDING PAD
- EXISTING OVERHEAD ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING SANITARY SEWER MAIN
- EXISTING PUBLIC WATER MAIN
- EXISTING CABLE TV LINE
- EXISTING ELECTRIC LINE
- PROPOSED PUBLIC WATER MAIN
- PROPOSED PUBLIC SEWER MAIN
- PROPOSED CONTOUR
- EXISTING CONTOURS
- PROPOSED SIGHT VISIBILITY TRIANGLE
- PROPOSED STORM DRAIN
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- TOP OF CURB ELEVATION (4" CURB)
- GRADE BREAK
- SCARP/SLOPE
- EXISTING SIGN
- EXISTING STREET LIGHT
- EXISTING GATE VALVE
- EXISTING POWER PIPE
- EXISTING SURVEY MONUMENT
- PROP. TREE
- EXISTING TELECOM MANHOLE
- EXISTING ELECTRIC MANHOLE
- EXISTING GUY WIRE
- PROPOSED SURVEY MONUMENT
- PROPOSED REDUCER
- PROPOSED WATER METER
- PROPOSED GATE VALVE
- AIR RELEASE VALVE PER COS STD DET 2348 (PLAN)
- PROPOSED AIR RELEASE VALVE (PROFILE)
- PROPOSED PAVERS.
- PROPOSED SIDEWALK

NOTE: SEE EASEMENT PLAN FOR ALL EASEMENT INFORMATION

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60



NO.	REVISION	BY	DATE	APPR.

Kimley»Horn

7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

SCALE (H):1"=30'
SCALE (V):NONE
DESIGNED BY:JRT
DRAWN BY:KER
CHECKED BY:CLB
DATE: 4/12/2022

250 RIO
250 W. RIO SALADO PARKWAY
PRELIMINARY UNDERGROUND UTILITY & LIGHTING PLAN
TEMPE, AZ

62580 JAYME THOMA — REGISTERED PROFESSIONAL ENGINEER — ARIZONA U.S.A. — EXPIRES 9/30/2023

PROJECT NO. 291102013

DRAWING NAME: UT-291102013.dwg

1 OF 1

KEY NOTES

1.10 NATURAL GRAY CONCRETE SIDEWALK. SEE CIVIL ENGINEERING PLANS.

1.11 CONCRETE PAVERS IN VEHICULAR APPLICATION. BELGARD MODULINE SERIES - 50% GRAPHITE COLOR AND 50% FOUNDRY COLOR. SEE CIVIL ENGINEERING PLANS.

1.60 CONCRETE STEPS - NATURAL GRAY COLOR. 6" RISER; 12" TREAD.

1.61 ADA RAMP PER CIVIL ENGINEERING PLANS.

1.62 EXISTING STAIRS TO REMAIN; PROTECT IN PLACE.

2.10 FOLDED CONCRETE ACCENT WALL

2.11 FOLDED CONCRETE SEAT WALL.

2.12 FOLDED CONCRETE RETAINING WALL.

2.51 LIGHTED HANDRAIL. SEE LIGHTING PLAN.

3.10 MULTI-LAYER TENSILE SHADE STRUCTURE.

5.10 AT GRADE LANDSCAPE PLANTING AREA.

5.11 PLANTER POT - SET ON CONCRETE PAD.

5.12 SURFACE SELECT BOULDERS. SEE BOULDER LEGEND FOR SIZING. CONTRACTOR TO COORDINATE PLACEMENT WITH LANDSCAPE ARCHITECT.

5.13 LANDSCAPE BERM TO REMAIN. SEE CIVIL ENGINEERING PLANS

5.14 TREE GRATE.

6.10 BIKE RACKS. (6) TOTAL. SPEC: SPEC: MAGLIN SITE FURNITURE. 500 SERIES -500 BICYCLE RACK; DIRECT BURIAL - SILVER 14 POWDERCOAT FINISH.

8.10 EXISTING CITY OF TEMPE POST LIGHTS - RELOCATED, TYPICAL.

9.10 CONCRETE CURB AND GUTTER PER CIVIL ENGINEERING PLANS.

9.11 ELECTRICAL EQUIPMENT PER CIVIL ENGINEERING PLANS.

9.12 ACCESS BRIDGE PER ARCHITECTURAL PLANS.

BOULDER LEGEND

Sym.	Size	Qty.
	1 ton	1
	2 ton	5
	3 ton	1
	4 ton	1
	6 ton	1

BOULDER NOTES:

BOULDER SYMBOLS ARE SHOWN FOR REFERENCE ONLY. SIZE BOULDERS BASED ON TONAGE ONLY, BUT INCLUDE A VARIETY OF SHAPES AND SIZES

0' 20' 40' 60'
Scale: 1" = 20'-0"

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scottsdale, arizona 85251
480.609.0099 p 480.609.0644

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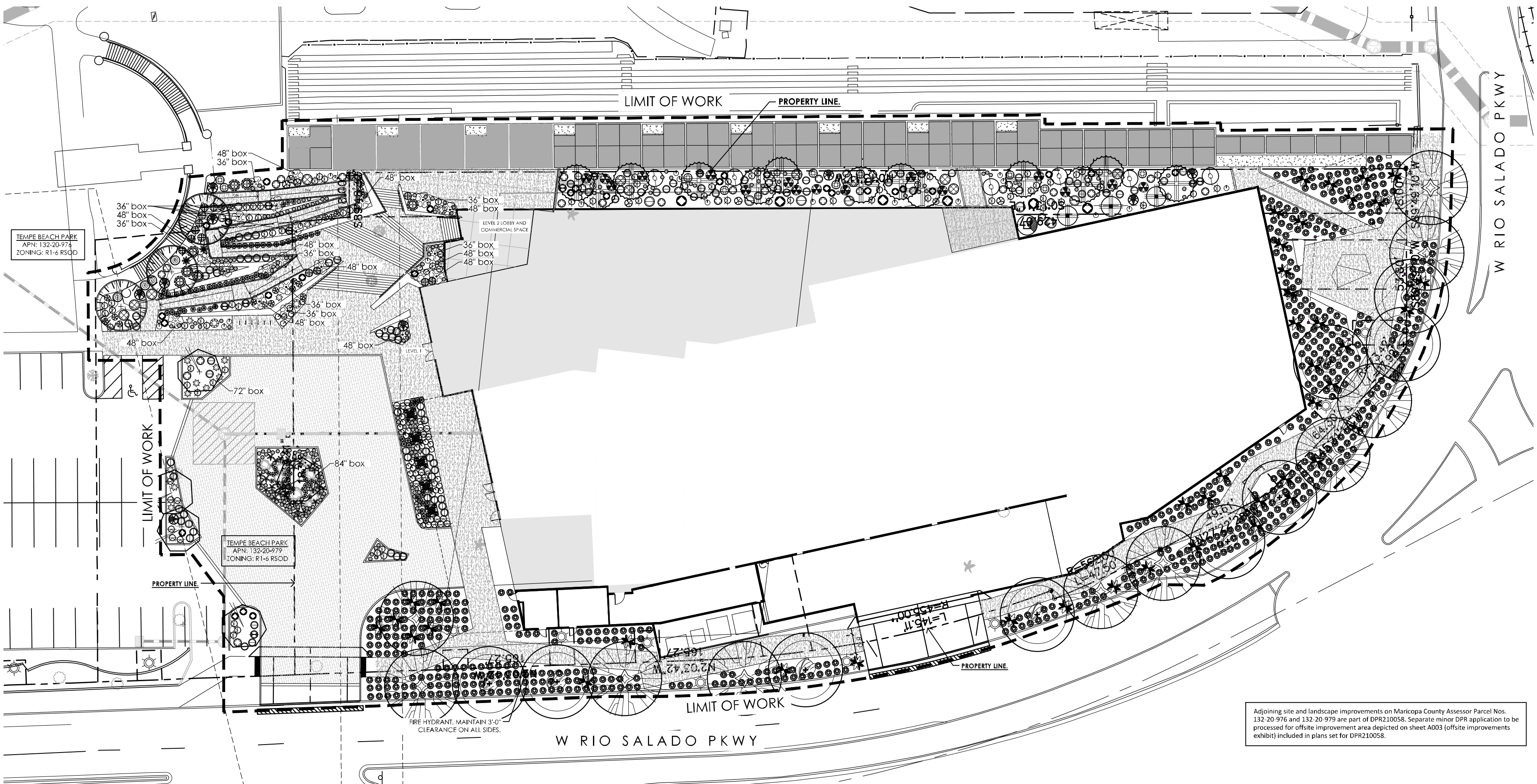
Tempe, Arizona 85281

revisions:

project #:
scale: 1" = 20'-0"
issued for: REVIEW
drawn by: TEAM
date: 4/12/2022

drawing: Layout Plan
L2.1
of



Adjoining site and landscape improvements on Maricopa County Assessor Parcel Nos. 132-20-976 and 132-20-979 are part of DPR210058. Separate minor DPR application to be processed for offsite improvement area depicted on sheet A003 (offsite improvements exhibit) included in plans set for DPR210058.

PLANTING LEGEND

Trees

Sym.	Plant Name	Size	Qty	Remarks
	Acacia willardiana Palo Blanco	24" box 24 box, 5.0'-8.0' High, 2.5'-3.5' Wide, 1.0-1.5 Caliper	13	ADWR
	Olney tesota Ironwood	60" box UNLESS OTHERWISE NOTED. 60" box, 10'-12.0' High, 9.0'-11.0' Wide 72" box, 12'-14.0' High, 11.0'-13.0' Wide 84" box, 14'-16.0' High, 13.0'-15.0' Wide	5	ADWR
	Pistacia chinensis Chinese Pistache	36" box 36 box, 12.0'-14.0' High, 6.0'-8.0' Wide, 3.9-4.0 Caliper	9	ADWR
	Prosopis X Phoenix Thornless Mesquite	48" box 48 box, 10'-14.0' High, 9'-11.0' Wide, 2.75-3.5 Caliper	3	ADWR
	Ulmus parvifolia 'True Green' True Green Elm	36" box 36 box, 10.0'-12.0' High, 6.0'-8.0' Wide, 1.75-2.5 Caliper	10	ADWR

Shrubs

Sym.	Plant Name	Size	Qty	Remarks
	Bouteloua gracilis 'Blonde Ambition' Blonde Ambition Blue Grama	5 gal.	561	ADWR
	Calliandra californica Red Fairy Duster	5 gal.	9	ADWR
	Calliandra eriophylla Pink Fairy Duster	5 gal.	12	ADWR
	Cordia boissieri Mexican Olive	5 gal.	6	ADWR
	Cordia parvifolia Little Leaf Cordia	5 gal.	3	ADWR
	Dalea frutescens Black Dalea	5 gal.	34	ADWR
	Encelia farinosa Brittlebush	5 gal.	10	ADWR
	Ericameria laricifolia Turpentine Bush	5 gal.	6	ADWR
	Justicia californica Chuparosa	5 gal.	11	ADWR
	Leucophyllum laevigatum Chihuahuan Sage	5 gal.	7	ADWR
	Perovskia atriplicifolia Russian Sage	5 gal.	4	ADWR
	Salvia greggii Autumn Sage	5 gal.	16	ADWR
	Sphaeralcea ambigua Globe Mallow	1 gal.	39	ADWR
	Tecoma stans Yellow Bells	5 gal.	1	ADWR

Groundcover's

Sym.	Plant Name	Size	Qty	Remarks
	Chrysactinia mexicana Damianita	1 gal.	104	ADWR
	Dyssodia pentachaeta Golden Dyssodia	5 gal.	37	ADWR
	Glandularia gooddingii Goodding Verbena	1 gal.	91	ADWR
	Hymenoxys acaulis Angelita Daisy	1 gal.	61	ADWR
	Melampodium leucanthum Blackfoot Daisy	1 gal.	205	ADWR
	Setcreasca pallida Purple Trailing Heart	1 gal.	20	-

Accents and Cacti

Sym.	Plant Name	Size	Qty	Remarks
	Agave americana Century Plant	15 gal.	44	ADWR
	Agave deserti Desert Agave	5 gal.	16	ADWR
	Agave parryi Parry's Agave	5 gal.	34	ADWR
	Agave scarba Rough Agave	15 gal.	2	ADWR
	Aloe barbadensis Medicinal Aloe	5 gal.	19	ADWR
	Aloe rudikoppe Little Red Riding Hood Aloe	5 gal.	9	ADWR
	Asclepias subulata Desert Milkweed	5 gal.	21	ADWR
	Echinocactus grusonii Golden Barrel Cactus	10 - 12" diam. 10 - 10" diam 10 - 8" diam.	30	ADWR
	Euphorbia antisyphilitica Candelilla	5 gal.	3	ADWR
	Opuntia engelmannii Engelmann's Prickley Pear	5 gal.	16	ADWR
	Pachycereus schotti f. monstrosus Totem Pole Cactus	12- 24" tall. 12 - 36" tall. 11 - 48" tall.	35	ADWR Single arms
	Yucca brevifolia Joshua Tree	see plan	21	ADWR Multi head

INERTS

Sym.	Description
	1/2" SCREENED DECOMPOSED GRANITE. COLOR - "MAHOGANY" , ROCK PROS USA, 2" DEPTH MINIMUM.

NOTES:

1. ALL PLANT SHOWN IS APPROVED UNDER THE ADWR LOW WATER USE - DROUGHT TOLERANT PLANT LIST.
2. ALL PLANTS SHALL BE WATERED WITH AUTOMATIC DRIP IRRIGATION SYSTEM.
3. ALL LANDSCAPE AREAS EXCLUDING TURF TO BE COVERED WITH 2" THICK MINIMUM CRUSHED ROCK LAYER.
4. LANDSCAPE ARCHITECT TO APPROVE FINAL GRADING. PLANTING SHALL NOT OCCUR UNTIL FINAL GRADING IS APPROVED.
5. ALL SHRUBS TO BE PLANTED 3'-0" MINIMUM AWAY FROM EXISTING OR FUTURE WALLS.
6. ALL TREES TO BE PLANTED 5'-0" MINIMUM AWAY FROM EXISTING OR FUTURE WALLS.
7. WHERE POSSIBLE, ALL TREES AND SHRUBS TO BE PLANTED 2'-0" MINIMUM AWAY FROM WALKS AND CURBS.
8. PLANT MATERIAL SHALL BE ADJUSTED IN FIELD TO AVOID TREE ROOT BALLS.
9. ALL TREES WITHIN THE LINE OF SIGHT WILL MAINTAIN A CANOPY HEIGHT ABOVE 7'-0" CURB ELEVATION, ALL SHRUBS IN THIS AREA MAY NOT REACH A MATURE HEIGHT OVER 24".

0' 20' 40' 60'
Scale: 1" = 20'-0"

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scottsdale, arizona 85251
480.609.0009p 480.609.0068f

REGISTERED LANDSCAPE ARCHITECT CERTIFICATE NO. 28448 RUSSELL E. GREEY Date Signed 4-04-22 ARIZONA, U.S.A. Expires 12/31/24

CALL TWO WORKING DAYS BEFORE YOU DIG
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1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

NOT FOR CONSTRUCTION

250 RIO
250 West Rio Salado Parkway
Tempe, Arizona 85281

revisions:

project #:
scale: 1" = 20'-0"
issued for: REVIEW
drawn by: TEAM
date: 4/12/2022
drawing: Landscape Plan

L3.1
of

ASSESSMENT OF THE HISTORIC ASH AVENUE ROADBED and BRIDGE ABUTMENT
Tempe Arizona

for

The City of Tempe Arizona

PROJECT NO. CIP 6700117

November 2, 2018

VINSON STUDIO PLLC
ARCHITECTURE ART
PLANNING PRESERVATION
2115 W SHAWNEE DR CHANDLER AZ 85224
480.720.3566 VINSONSTUDIO@COX.NET
WWW.VINSONSTUDIO.NET
WWW.FACEBOOK.COM/VINSONSTUDIO
MARK C VINSON FAIA/AICP/NCARB
HANDCRAFTED DESIGN

ASSESSMENT OF THE HISTORIC ASH AVENUE ROADWAY and ABUTMENT Tempe Arizona

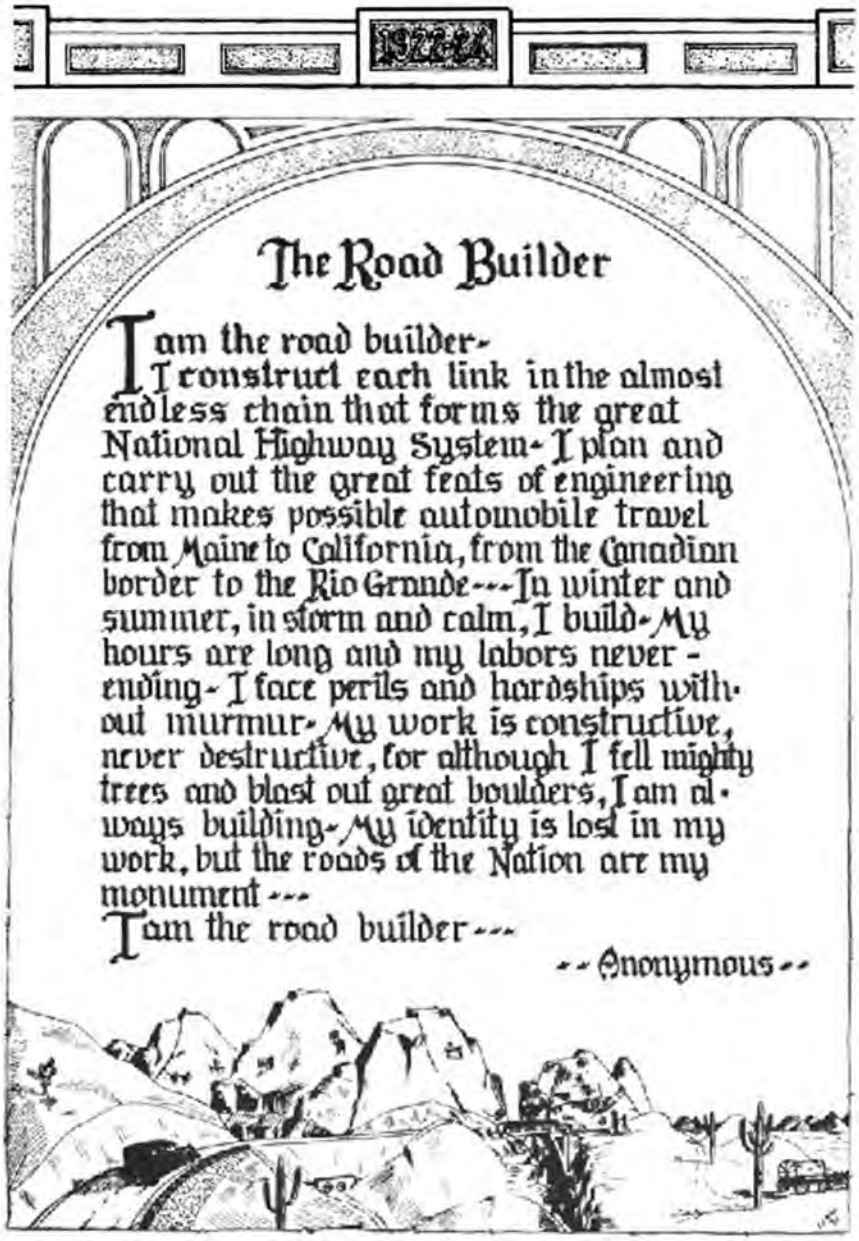

Image credit: The Fifth Biennial Report of the State Engineer to the Govenor of the State of Arizona 1922.

TABLE OF CONTENTS

CAD files are provided electronically.

fig. (1)
Google view of site showing Ash Ave roadbed and bridge abutment at Tempe Beach Park, ballpark and bleachers. ca. 2018

ABSTRACT

Purpose of the Investigation

Assessment – Historic Ash Avenue Roadbed and Bridge Abutment (Tempe Project No. 6700117).

The project site, located in Tempe Beach Park immediately north of Rio Salado Parkway within the original Ash Avenue alignment, is listed on the Tempe Historic Property Register, as is the adjoining Tempe Beach Stadium (also National Register-listed: 1/7/85) and bridge abutment, fig. (1). Although the abutment and stadium bleachers have been previously rehabilitated by the City of Tempe and private public partners, the fenced-off concrete roadbed/approach has numerous deferred maintenance needs and is currently inaccessible, as well as an attractive nuisance.

Abandoned as a highway roadbed in the early 1930s, the existing south approach, together with the adjacent remaining abutment of the historic 1911-1913 Tempe Concrete Arch Highway (Ash Avenue) Bridge, is a rare and surviving example of early roadbed design and construction and a historically significant feature that retains integrity of look, feel, and design.

In addition to historic research, an assessment of the existing conditions, including architectural, civil and geotechnical engineering investigations, contributes to a report of findings and description of potential rehabilitation measures consistent with the Secretary of the Interior's Standards and the Americans with Disabilities Act Accessibility Guidelines. Archaeological impacts and area of potential effect have been considered, although minimal impact was encountered in the preparation of this report. Recommended rehabilitation strategies (stabilizing the existing base and embankment and recovering the existing concrete roadbed) are additive in nature, with little to no sub-surface disturbance. In addition, pit testing and visual examination of geotechnical borings yielded no evidence of archaeological significance.

In formulating rehabilitation options, relationships to Rio Salado Parkway to the south, Tempe Beach Stadium to the east, the rehabilitated Ash Avenue Bridge Abutment to the north and proposed redevelopment to the west (“Pennysaver” site) have been considered. The potential for incorporation of or relationship to a Veterans’ Memorial was also studied. A cost estimate for rehabilitation is included.

The project was administered by City of Tempe Public Works, Engineering Division, for the Historic Preservation Office in Community Development. Reflecting a project period of 12 weeks, this report includes sketches, engineered drawings, notes and other graphics conveying findings and concepts submitted electronically as a printable document.

LIST OF FIGURES AND CREDITS

All photos, unless otherwise credited, provided by Mark Vinson

PROJECT DESCRIPTION/PROPERTY AND BUILDING LOCATION MAPS

Project Location

The Ash Avenue Roadbed and Bridge abutment as well as the Tempe Beach Stadium and bleachers constitute a designated Tempe Historic Property. Area of designation is identified in this report, fig. (2). The Ash Avenue bridge was placed on the National Register (in 1985) and removed after its demolition in 1992. The south abutment of the bridge was preserved per a Memorandum of Agreement with the State Historic Preservation Office. The roadbed and abutment are part of the Tempe Beach Park and within the Rio Salado Project area. Any work affecting this site is subject to review by the Tempe Parks and Recreation Division and the Tempe Office of Historic Preservation. It is bounded on the south by Rio Salado Parkway and on the west (partially) by the Pennysaver property. Project site is bordered on the north and east by the Tempe Beach Park and ball field.

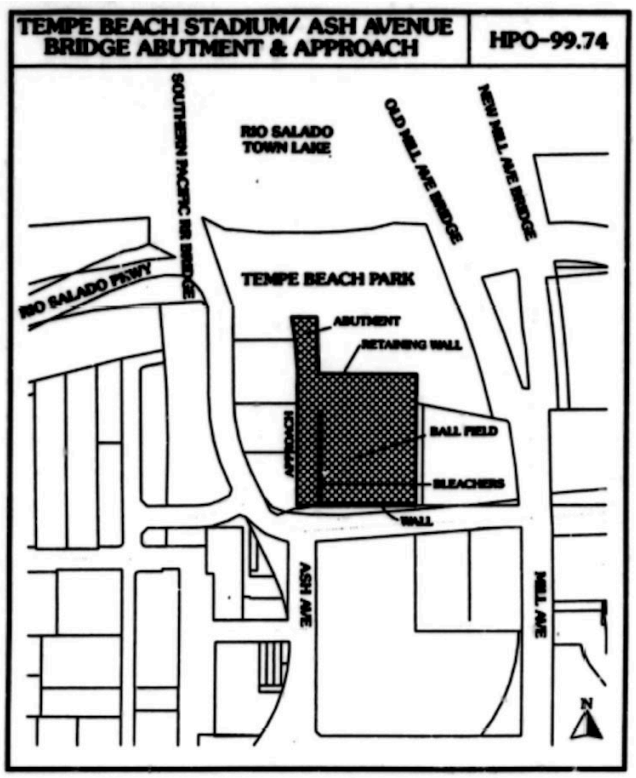

fig. (2)
Tempe Beach Stadium Ash Avenue Bridge Abutment and Approach. Source: Tempe HPO-99.74. 1999.

An easement recorded as an official record of the Maricopa County Recorder no. 00-0392328 dated 5/24/2000 and shown in fig. (3) is important to provide information for

this study as it provides ADA access to the bridge abutment and the northernmost part of the Ash Avenue Roadbed. Cynthia McCoy, Asst. City Attorney, said:

> *"It doesn't give Tempe Center for Habilitation, the right to 'modify your improvements to suit their own needs.' TCH may use the Easement Area in a way that is 'not inconsistent with' the City's rights. If the City has constructed improvements necessary for the City to use the Easement Area for access (vehicular or pedestrian), and 13 surface automobile parking spaces, then any use by TCH must be consistent with the existence of those improvements. That said, improvements not within the permitted uses (like a statue next to the path) could be at risk if TCH wanted to put its own art there; but, if designed by an expert such an element would become part of the path (like a wayfinding sign that happens to be art)."* See fig. (4).

Further negotiations should be taken up between the City and the property developer. The full easement of record is attached as an appendix to this study. Further information is available on this area from an ALTA survey provided by the City of Tempe and completed by AZTEC Engineering on 7/12/18 their project no. AZSVY1806.

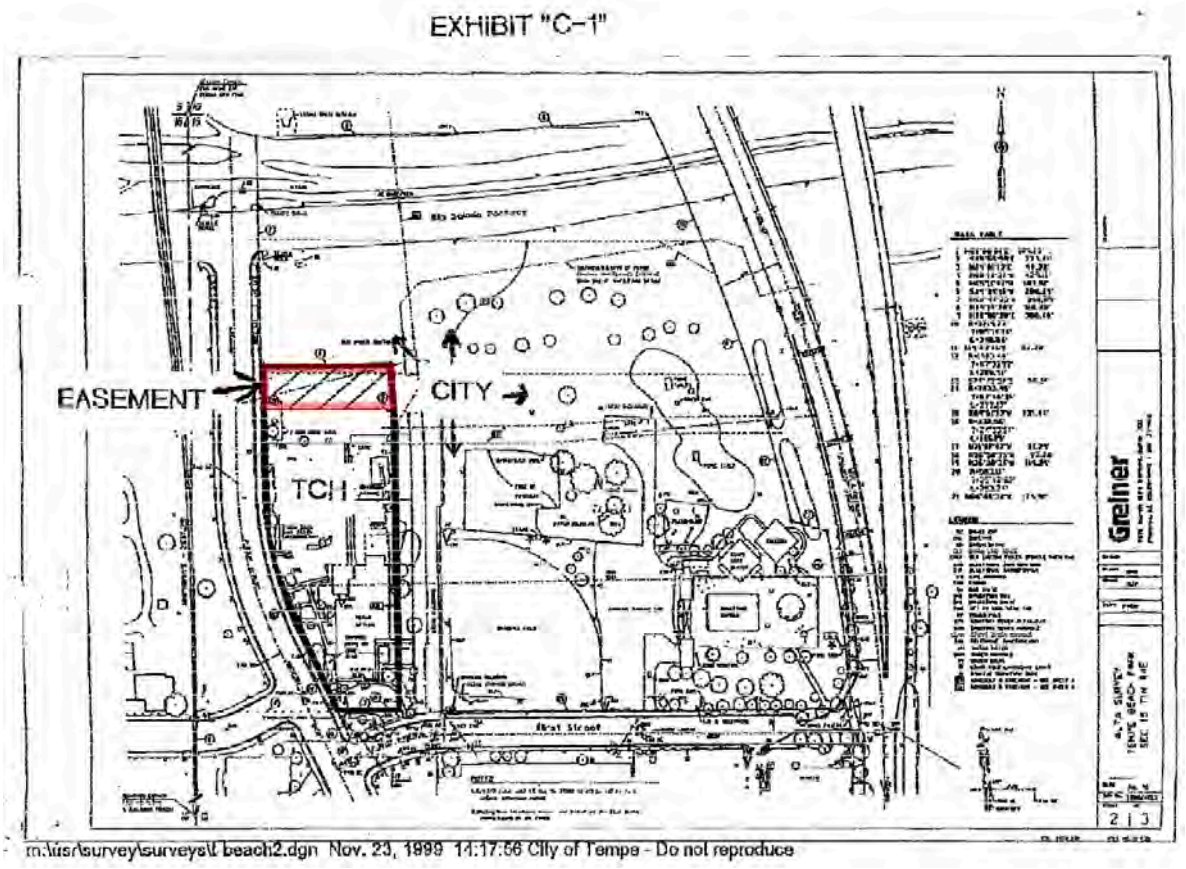

fig. (3)
Exhibit C-1 of the Easement Agreement (reference only) that shows the location of the easement giving access to the ADA ramp and upper roadbed and bridge abutment.

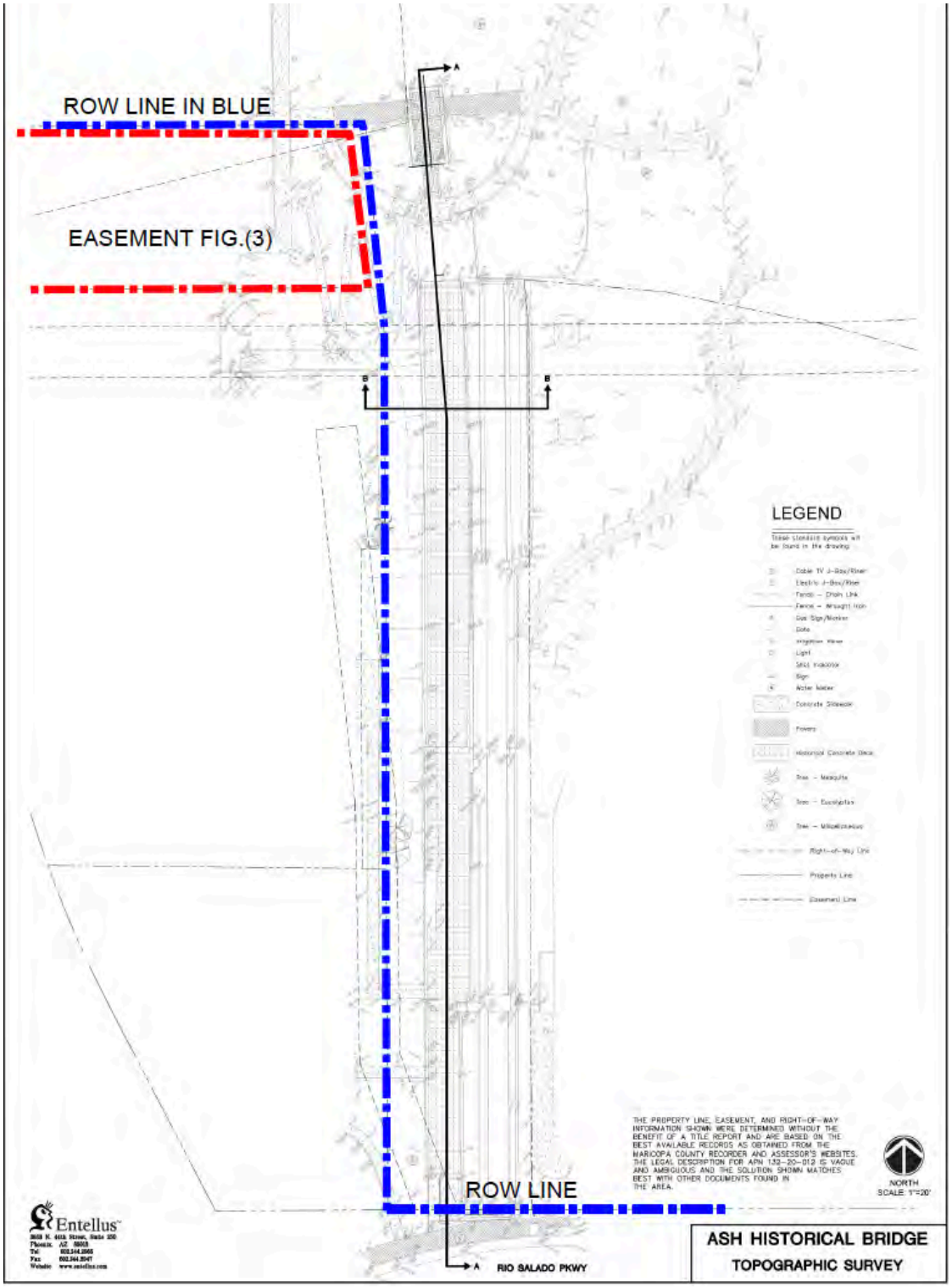

fig. (4)
Site plan of area of study showing the Ash avenue roadbed and bridge abutment, ROW and easement. Entellus Engineering, 2018.

PROPERTY OWNER/TEAM MEMBERS

The land is owned by the City of Tempe, Arizona.

Project Team Members

Owner of Project:

City of Tempe Arizona
Community Development Department/Redevelopment Division
John Southard, Historic Preservation Officer

Public Works Department/Engineering Division
Sharletha Johnson, PE Project Manager
480-350-8630
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Tempe, Arizona 85280

Architect for Report:

VinsonStudio
Mark C. Vinson FAIA/AICP
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Chandler, Arizona 85224
480-720-3566

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Mesa, AZ 85203
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Surveyor and Hydrology Engineers, Sub-consultant to HistoricStreetscapes PLLC:

Entellus Engineers
Bill Linck PE
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Phoenix, Arizona 85018
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Geotechnical Engineers. Sub-consultant to HistoricStreetscapes PLLC:

RAMM
Kenneth Ricker PE Project Manager
Drew Schirmer field technician
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Tempe, Arizona 85282
480-921-8100

Cost Estimator. Sub-consultant to **Vinson**Studios:

M. A. Schaefer Construction Co. Inc.
Mark Schaefer
5231 E. Patrick Lane
Phoenix, AZ 85054
602-405-7015

SITE EVALUATION ANALYSIS

Historic Approach to Site Evaluation

Multiple sources were used in obtaining historic data to document the development of the Ash Avenue bridge approach roadbed. An internet search identified many documents and where they were located. Local historic archives/newspapers have been researched. Refer to bibliography.

Evaluation Approach

VinsonStudio has been requested to do an historic report of the roadbed condition for preservation purposes and potential future uses by the City and has retained the following consultants to provide an analysis of their respective systems and services:

- Structural and Roadbed Foundation systems: RAMM Geotechnical Engineers.
- Geotechnical services: RAMM Geotechnical Engineers Phoenix, Arizona.
- Site survey: Entellus Engineers Phoenix, Arizona.
- Hydrology Report: Entellus Engineers Phoenix, Arizona.
- M. A. Schaefer Construction Co. Inc. Construction costs consultant.

Beginning on August 2018, Entellus Engineers, RAMM and Ken Halloran PE, representing City of Tempe, were on the site to begin site investigations. Final reports are attached to this document.

fig. (5)
Tempe Ash Avenue Bridge from north bank, ca. 1913, HABS HAER archives collection. HAER no. AZ-29-13.

ROADBED EVALUATION APPROACH TO PRESERVATION ISSUES

The Ash Avenue roadbed is designated a City of Tempe Historic Property. The Historic Preservation office has asked **Vinson**Studio to evaluate the Ash Avenue roadbed and provide a detailed condition analysis and report, recommended repairs if appropriate and Adaptive reuses and associated cost estimates. This analysis is approaching the evaluation similar to a Historic Building structures report with comparisons to a section 106 National Historic Preservation Act evaluation to suggest what if any "adverse effect" the modifications would have on the historic integrity of this piece of historic roadbed, fig. (5). A 2004 report on a "History of Roadbuilding in Arizona" reported:[1]

> *"A historic road determined eligible for National Register listing because of the integrity of important associations, locations, setting and feeling, but which does not retain original materials or aspects of workmanship. A proposed undertaking that would alter the fabric of the road (such as a road resurfacing project or installation of a buried utility line that*

[1] *Good Roads Everywhere: A History of Road Building in Arizona.* March 2004, page 4.

cuts through the road surface) but not change the road's setting and feeling, would result in no adverse effect. Alternatively, construction of a nearby power line that visually intrudes into on an otherwise unaltered setting might result in an adverse effect on the road."

The report went on to say:

"A related issue of particular relevance to the evaluation of linear structures such as roads is the fact that simply by virtue of their length, many roads are composed of segments of varying integrity. They may have pristine sections that exemplify their historic significance, but in other areas they may have been upgraded and surrounded by modern developments. Thus, when evaluating the eligibility of a historic road and assessing potential project effects, it is important to identify and distinguish between those segments that retain sufficient integrity to be regarded as historic character defining elements and those that do not. Such analyses have to consider specific factors related to individual roads."

This report is not looking to place the Ash Avenue roadbed on the National Register, it is using the Secretary of the Interior's recognized approach to development. The four treatment approaches are Preservation, Rehabilitation, Restoration, and Reconstruction, outlined below in hierarchical order and explained.

"As a reference, the Secretary of Interior's Standards for Preservation are neither technical nor prescriptive but are intended to promote responsible preservation practices that help protect our nation's irreplaceable cultural resources. For example, they cannot, in and of themselves, be used to make essential decisions about which features of the historic property should be saved and which can be changed. But once a treatment is selected, the Standards provide philosophical consistency to the work."[2]

The first treatment, **Preservation**, places a high premium on the retention of all historic fabric through conservation, maintenance, and repair. It reflects a building's (structure's) continuum over time, through successive occupancies, and the respectful changes and alterations that are made. See fig. (6).

Rehabilitation, the second treatment, emphasizes the retention and repair of historic materials, but more latitude is provided for replacement because it is assumed the property is more deteriorated prior to work. (Both Preservation and Rehabilitation standards focus attention on the preservation of those materials, features, finishes, spaces, and spatial relationships that together give a property its historic character.)

[2] National Register Bulletin 15*: How to Apply the National Register Criteria for Evaluation.* US Dept. of the Interior, National Park Service Cultural Resources, 1997.

fig. (6)
1935 aerial photo, looking northwest of Tempe Beach Park and roadbed approach to Ash Avenue Bridge. Photo courtesy of the Tempe History Museum.

Restoration, the third treatment, focuses on the retention of materials from the most significant time in a property's history, while permitting the removal of materials from other periods.

Reconstruction, the fourth treatment, establishes limited opportunities to re-create a non-surviving site, landscape, building, structure, or object in all new materials.

If the project cannot be redesigned, provide a description of the process developed to minimize or mitigate the effect of the undertaking on potential historic properties.

- Description of the methods needed for further evaluation, if applicable.
- Description of alternative methods for mitigation; e.g., photographic record.

HISTORIC RESEARCH AND BACKGROUND

Multiple sources were used in obtaining historic data to document the development of the Ash Avenue bridge approach roadbed and its importance to the development of the transportation history of the City of Tempe. Internet searches identified many documents and their locations. Local historic archives, such as the Tempe History Museum and the Arizona Historical Society at Papago Park, have also been used.

Introduction

The Ash Avenue Bridge (also known as the Tempe Bridge, Old Tempe Bridge, and Salt River Bridge) was "unquestionably Arizona's most historically important bridge"due to many factors.[3] Built over the most heavily traveled river crossing in Arizona and a significant example of the use of prison labor in public projects, it was also a "remarkable example of early twentieth century bridge technology."[4] The bridge and its approaches were an important link on the main north-south highway in Arizona, as well as on the national roadbeds known as the Bankhead Highway and the Ocean-to-Ocean Highway. The approach is all that remains of one of the earliest concrete roadbeds in Arizona that was also one of the first of Arizona's federal aid highway projects undertaken after the passage of the Federal Aid Road Act of 1916.

The founding of Tempe is often traced to 1871 when Charles Trumbull Hayden opened several of his business enterprises. Native Americans and settlers from various places had already lived and farmed in the area, but Hayden's ferry, store, and flour mill, as well as the economic impact they provided, set the stage for a town to coalesce at the foot of the two buttes in the Salt River Valley. Hayden, a merchant in Tucson who provided grain and food to Army posts, traveled north of the Gila River in 1866 to see about supplying more Army posts throughout Arizona. He came to the two buttes south of the Salt River as a suggested location for the best crossing of the river but was stopped by flooding. This afforded him the opportunity to consider the future of irrigating the land and other business ventures at the location. Hayden had claimed 160 acres south and west of the butte which became the first Tempe townsite.[5]

Sometimes called Hayden's Ferry, sometimes "Butte City," and often called "Tempe" after the Vale of Tempe near Mount Olympus in Greece,[6] the city was officially recognized as "Tempe" on May 5, 1879 when a U.S. Post Office was located there. By this time, Hayden was the central figure in town with his businesses employing many people, his store supplying

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[3] FRASERdesign, *Bridges: Arizona Historic Bridge Inventory*, 2008, section E, p. 20.

[4] HAER No. AZ-29, *Ash Avenue Bridge*, Gerald A. Doyle & Associates, 1991, 12.

[5] Dean Smith. *Tempe, Arizona Crossroads.* Windsor Publications, Inc., 1991, p.25

[6] Local lore has long credited "Lord" Darrell Duppa with naming Phoenix and Kyrene, and with suggesting the name Tempe. The idea was that the area, once irrigated, would resemble the Vale of Tempe in Greece.

goods, and his wife a significant personage in her own right. Hayden's son, Carl, was the first Anglo child born in Tempe and went on to serve in the U.S. House of Representatives from 1912 to 1927 and in the U.S. Senate from 1927 to 1969.

CONTEXT: NATIONAL, TERRITORIAL AND LOCAL ROADBEDS

As the location of a ferry crossing in flood times and recognized as a good crossing the rest of the year, Tempe was a likely location for transportation lines to be situated. But long before Tempe came into existence, many different peoples such as the ancient Sonoran Desert people, and Spanish explorers had traveled across Arizona using trails. Some of these trails are ancient, yet archaeologists have still been able to find traces of them on the desert floor.[7] One of the first American efforts at establishing roads in Arizona was Cooke's Wagon Road (also the Gila Trail) during the 1840s and used for decades as the primary route across southern Arizona. Army road surveys such as those led by Lt. Amiel Whipple and Lt. John Parke were carried out during the 1850s and marked routes later used by railroads and highways. Efforts to create federal wagon roads through New Mexico Territory (of which Arizona was still a part) resulted in Beale's Road in the north and the El Paso-Fort Yuma Wagon Road in the south. Stagecoaches used these routes, significantly the Butterfield Overland Mail which carried mail and passengers from 1858 to 1861.

When Arizona became a territory separate from New Mexico in 1863, an Arizona Territorial Assembly was appointed. The assembly recognized the need for transportation routes and good roads, but had little money to offer for the building of these roads. The legislators did allow for toll roads to be built, but expected the counties to take on the responsibility of building roads. Thus, roads were usually built for local use, not for long-distance travel. The Assembly declared some existing roads to be toll-free to help encourage transportation and settlement within Arizona. This prevented toll operators from monopolizing travel and helped form a basic network of free roads in Arizona.[8] The military was interested in long-distance routes to connect forts and camps throughout Arizona. One significant trail was the General Crook Trail, established in the 1870s, which generally followed the Mogollon Rim and ran from Camp Verde to Fort Apache. In 1877, the Territorial legislature approved the first bonds in Arizona to be issued for a highway construction project for a wagon road between Phoenix and Globe.[9] Between 1879 and 1885, several counties were authorized to issue thousands of dollars of bonds to pay for road projects, money that was to be repaid by collecting property taxes. Of course, counties with more property owners and higher populations could afford bigger projects. In 1886, the Harrison Act was passed to limit how

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[7] Mark E. Pry, Ph.D. and Fred Andersen, *Arizona Transportation History,* Arizona Department of Transportation Research Center, 2011, p. 7.

[8] FRASERdesign, *Bridges: Arizona Historic Bridge Inventory*, 2008, section E, p. 10.

[9] Pry and Andersen, p. 20.

much debt a U.S. territory could incur so it became somewhat harder to begin large road projects.[10]

CONCEPTION

fig. (7)
Crossing the Salt River HABS HAER 29-2 before the bridge.
ca. 1912

In 1877 the railroad entered Arizona at Yuma, signaling a new era of transportation. The Southern Pacific Railroad completed its line across southern Arizona Territory in 1880. By 1883, the Atlantic and Pacific Railroad (a subsidiary of the Atchison, Topeka and Santa Fe) had a line across northern Arizona. Phoenix was not even on a main line at this time, but was served by a branch line from Maricopa in 1887. The *Arizona Silver Belt* newspaper reported on June 25, 1887, that "the first passenger and freight train left Tempe for the junction on Sunday evening, to connect with the eastbound Southern Pacific train and returned to Tempe Monday morning."[11]

At this time, there were no bridges across the Salt River except for railroad bridges. In February of 1891, the *Arizona Republican* reported from the *Tempe News*, "Thursday's high water forever settled the question as to where future bridges across the Salt river (sic) will be built. Tempe offers the only practical point on the river, fig. (7). The narrowest crossing is at this place and a bridge built from butte to butte would be safe at any stage of the river… a petition has been sent to the Board of Supervisors asking them to memorialize our legislature now in session to…allow this county to issue its bonds for the constructions of a wagon bridge, to be built in connection with the new railroad bridge."

In 1885, Tempe incorporated officially as the Town of Tempe. City leaders began municipal improvements including surveying and graveling the streets to improve drainage. The Goodwin brothers operated a street car line using mule-drawn cars, constructed the Kyrene

[10] Pry and Andersen, p. 22.

[11] *Arizona Silver Belt, Globe, Arizona, June 25, 1887, p. 2.* Found on www.Newspapers.com.

Irrigation Ditch, and incorporated the Phoenix, Tempe, and Mesa Railway.[12] The arrival of the Maricopa and Phoenix Railroad in Tempe in 1887 and the opening of the Arizona Territorial Normal School in 1886 (teacher training) were two big events that aided the growth of Tempe and helped establish it as an important community in Arizona. In the two years after the first train reached Tempe, more agricultural produce was shipped out of Tempe than out of Phoenix.[13] 1904 brought another train bridge for the Phoenix and Eastern railroad, but still no wagon bridge. Wagons and buggies had to ford the river or use the ferry when the water was too high. Tempe leaders advocated for a bridge, but one was built in Phoenix first at Central Avenue, fig. (8).

fig.(8)
Bridges over the Salt river, ca. 1905. Courtesy of the California Libraries and California Historical Society.

Seasonal floods affected not only travel but also businesses, which could not receive goods or ship them out, and sometimes caused substantial damage to property and loss of life. To help subdue the river and ensure a dependable water supply for the future, the massive project of building Roosevelt Dam was undertaken from 1905 to 1911. As part of the agreement to repay the federal government for the project, central Arizona farmers had agreed in 1903 to form the Salt River Valley Water Users Association, thereby pledging their land for water rights.[14] Tempe Canal landowners, who had established their water rights years earlier, did not join the association until 1923 when they needed help pumping their land.

Although train transportation was a huge economic factor in the United States in the 19th century, roads were still of local necessity and significance. Roads were gaining importance throughout the United States. In July of 1866 an act of Congress granted free right-of-way for public roads over unreserved public lands and a number of counties took advantage of this by declaring all section lines to be public roads. The Good Roads Movement began in

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[12] Archaeological Consulting Services Ltd. *Environmental Assessment Inventory and Evaluation of Historic Resources*, Tempe Streetcar, July 2015, p. 23. Also Dean Smith. *Tempe, Arizona Crossroads*. Windsor Publications, Inc., 1990, p. 45.

[13] Smith, p. 42.

[14] Smith, p. 58.

the 1890s when bicycle enthusiasts advocated for better roads. The first "Good Roads Association" was formed in Missouri in 1891 and a national roads conference was held in 1894.[15] In 1893, the Agricultural Appropriation Act appropriated $10,000 to make inquiries regarding the system of roads in the US. In October of that year, the Office of Road Inquiry (ORI) was established and General Roy Stone became the Special Agent and Engineer for Road Inquiry. Stone and the ORI began by gathering information from across the country and producing bulletins on topics such as locations of materials for roadbuilding, highway laws, and proceedings of national good roads conventions.[16] In 1904, The ORI conducted the first inventory of all roads in the US outside cities and in 1905 it became the Office of Public Roads (which eventually became the Federal Highway Administration, or FHWA).

At this time in Arizona, people were still looking for a way to cross the Salt River during flood season. In 1907, the Tempe News reported, "The Arizona Republican has joined the Tempe News in its crusade for a wagon road across the Salt river. This morning's Republican contains the following:

> *"The need of a good wagon bridge across Salt river at some convenient point is a proposition that few, if any, people will take issue with. Many suggestions have been made for the building of the bridge and some people have objected to each one of them, while most of them have seemed so expensive that almost everybody objected to them as being impracticable even if not undesirable…but all this time the need of a bridge grows more and more apparent."*[17]

DESIGN AND CONSTRUCTION

To address road and bridge needs in Arizona, in 1909 the Territorial Assembly created the office of the Territorial Engineer. Governor Richard E. Sloan appointed J.B. Girand to the position. The Assembly also levied a tax to help fund development of regional highways. The Report of the State Engineer to the State of Arizona in 1914 stated, "A tentative system of Territorial Highways was laid out, consisting of a north and south highway beginning at the City of Douglas in Cochise County and running in a northerly direction through the Counties of Cochise, Pima, Pinal, Maricopa, Yavapai and Coconino and terminating at the Grand Canon (sic), and an East and West Highway beginning at the City of Yuma, in Yuma County and running in an easterly direction through the Counties of Yuma, Maricopa, Gila and Graham, terminating at the town of Clifton in Graham County."[18]

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[15] *Tempe News*, 10/25/1907, from HAER report, Doyle, p. 4.

[16] *Tempe News,* 10/25/1907, from HAER report, Doyle, p. 4.

[17] *Tempe News*, 10/25/1907, from HAER report, Doyle, p. 4.

[18] Report of the State Engineer of the State of Arizona, July 1, 1904 to June 30, 1914, pp 19-20.

Besides the establishment of road networks to connect county seats, Girand also took on the task of designing and building bridges. Girand used convict labor to lower the cost of building a new Florence Bridge in 1910. This method saved $2,500 so he proposed using the same method for the next major project of the concrete arch bridge over the Salt River at Tempe. The Arizona Republican reported on February 14, 1911 that "two plans for the Tempe bridge have been prepared….It is learned at the same time that a bill has just passed in Washington which provides for a continuation of the territorial road law, carrying with it provisions for the 25-cent levy for bridge purposes." The Tempe bridge was begun in 1911 and was to be a wagon bridge. Bunk houses for the laborers "composed largely of prisoners from the territorial penitentiary" were built on the south side of the river.[19] See fig. (9).

fig. (9)
"Stockade – Tempe Bridge east approach" HAER photo #7, ca. 1912.

As the bridge was being constructed, Arizona became a state on February 14, 1912. The office of Territorial Engineer became the State Highway Engineer and Lamar Cobb was appointed. The new State Legislature passed the first state road law which directed the State Highway Engineer to designate 1,500 miles of roads and highways for a state highway system. The Legislature allocated $250,000 for a State Road Tax Fund and appropriated $30,000 "for the purpose of completing the erection and construction of the Tempe Bridge, the approaches thereto, and a section of road connecting the north approach of said bridge with the present state highway."[20] The bridge itself received a lot of publicity, including an article in a national publication, *Engineering News*. The article from 1912 refers to the bridge as "somewhat out of the ordinary in design."[21] The bridge has been described as "one of the

[19] *Arizona Republican "Bunk Houses at Bridge", May 19, 1911, p. 6.*

[20] Report of the State Engineer of the State of Arizona, pp. 41, 44.

[21] Engineering News*, "The Reinforced Concrete Bridge at Tempe, AZ, vol. 67, no. 13, p. 578.*

first large arch-rib structures built in the United States" and as a "remarkable example of early reinforced concrete construction."[22] See fig. (10).

Portland cement was invented in England in 1824 but its use in bridge construction was for its compressive strength. In 1871 and 1872, W.E. Ward established the need to reinforce the lower "stretched" portion of concrete beams. Work was progressing in Europe on reinforced concrete construction. European engineers Francois Hennebique and Robert Maillart designed concrete bridges and possibly influenced the design of the Tempe Bridge.[23] An unusual choice, perhaps, but the lower cost of using concrete and convict labor likely played a part in this design choice. The bridge was "a forerunner in the new concrete technology, exceeding other similar undertakings in length, difficulty, and artistic qualities."[24]

fig. (10)
c. 1916 view of Tempe Bridge; H.C. Tibbitts, photographer. Found on worthpoint.com

COMPLETION

By June of 1913, the bridge was almost finished. An Arizona Republican article listed the finishing touches, "Yet by no means is the road work finished…Chief of these is the north two blocks of Ash Avenue connecting with the south approach to the new Tempe highway bridge. This stretch will be completely rebuilt and left ready for gravel so that with the completion of the bridge it may be put in first class condition with the addition of the gravel coating."[25] The following week, the newspaper reported that "all that remains to do is complete the railing at one end, pave the structure with bitulithic, which will shortly be

[22] Doyle, HAER report, p. 14.

[23] Doyle, HAER report, p.15.

[24] Doyle, p. 18.

[25] *Arizona Republican*, June 14, 1913, p. 8.

done, and to surface the approaches."[26] The paper described the bridge as a "Splendid New Gateway of North and South" and included a photo.[27] The bridge itself opened on September 23, 1913, but the road on the north side was not yet finished. Once the road was completed, the significance of the bridge as a connector is seen in the Report of the State Engineer in 1914 with the statement, "Immediately upon opening of this piece of new road (Phoenix – Tempe Highway) and the Tempe bridge the traffic increased on the route over 500 per cent."[28]

The opening of the bridge spurred other improvements in Tempe, particularly those streets connecting to the bridge or functioning as part of the state highway route. As reported in the Arizona Republican "operations were started…by the local council to repair First street from Mill avenue to the new state highway bridge approach. The road will be entirely cleared of all brush and weeds, graded, graveled and sidewalks provided, one on each side. At a later date the council hopes to provide street lights…thus making a lighted highway from one extremity of the city limits to the other…"[29] In 1913, the Arizona Good Roads Association compiled and published road maps and a tour book. Two pages in the book with information about Tempe for visitors include a map and photos. Tempe is listed as the "Gateway to the Salt River Valley. On the Ocean-to-Ocean Highway….Largest concrete wagon bridge in West."[30]

ROAD BUILDING

Concrete roads were beginning to gain ground in the early 1900s. In 1865, the first concrete pavement had been built in Inverness, Scotland. The first long-lasting use of Portland cement concrete for pavement in the United States was used in Bellefontaine, Ohio in 1894. In 1909, Wayne County, Michigan tested a variety of surfaces and, as a result, built the first mile of rural pavement for automobiles.[31] The rise of the automobile contributed to the use of concrete in pavements in order to cut down on dust and provide a smoother riding experience. In 1915, a Good Roads meeting was held in Flagstaff with presentations on subjects such as "The Road Drag," "The Need of a Uniform System of Road Accounting," and "Concrete Highways and Recent Road Construction in California."[32] Cities such as Chicago,

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[26] *Arizona Republican,* June 21, 1913, p. 8.

[27] *Arizona Republican*, June 21, 1913, p. 8.

[28] Report of the State Engineer, p. 171.

[29] *Arizona Republican*, October 4, 1913, p. 11.

[30] Arizona Good Roads Association Illustrated Road Maps and Tour Book, originally compiled and published in 1913 by Arizona Good Roads Association. Reprinted in 1987 by Arizona Highways magazine, pp. 46-47.

[31] Pasko, Thomas J. "Concrete Pavements – *Past Present, and Future,"*

[32] St. Johns Herald and Apache News, October 7, 1915, p. 3.

Minneapolis, and Sioux City, Iowa, were all building concrete roads. Phoenix had begun paving its streets with a concrete base overlain with asphalt in 1912.[33]

In 1916, the Federal Aid Road Act was passed. This act committed the federal government to setting technical standards for and funding highway construction while leaving the design and actual work to the state and counties. The act "was among the most important pieces of public works legislation in American history. It established a model for federal participation in highway development that prevailed for the remainder of the century."[34] Each state received a fixed amount of annual dollars and could be reimbursed for half the total cost of a project. In 1917, the Arizona Legislature changed the road tax and eliminated the cap on the revenue that could be collected from that tax, thereby increasing the funds available for matching federal aid money.

One of the first federal aid projects to utilize the 1916 Federal Aid Road Act was a portion of the Phoenix – Tempe Highway. In fact, this project was the second federal aid project in Arizona. The 1916-1918 report of the State Engineer discussed this project before it was begun. "The portion of the Phoenix-Tempe Highway extending from the Grand Canal to the Tempe bridge has been maintained by dragging, sprinkling and by occasional scarifying. At times the condition of this roadbed has been good but the traffic carried is too heavy for this type of construction. For this reason plans and specifications have been prepared for laying a concrete pavement 18 feet wide from the Grand Canal bridge to the east end of the east approach of the Tempe bridge. These plans and specifications have been approved by the U.S. Office of Public Roads and Federal Aid will be granted in the amount of $38,600.00."[35] Although the plan was approved, the project was delayed due to a wartime regulation that "no road work was to be permitted during the reminder of the war that was not considered a military necessity."[36] The State Engineer, B.M. Atwood personally traveled to Washington, D.C. to gain consent to resume roadbuilding. Consent was given in October 1918. The subsequent report of the State Engineer in 1920 reported on "Federal Aid Project No. 2 – Phoenix Tempe Highway: Consists of 3.86 miles of concrete paving on the highway between Phoenix and Tempe. The pavement is 18 feet wide and 5 inches thick, with 3-foot shoulders on each side."[37] This project was also reported in a May 1918 publication of the U.S. Department of Agriculture called *Public Roads*. Entitled "Building an Arizona Project,"

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[33] Keane, Melissa and J. Simon Bruder. *Good Roads Everywhere: A History of Roadbuilding in Arizona*. URS Cultural Resource Report 2003-28(AZ), 2004, p. 31.

[34] Pry and Andersen, p. 34.

[35] *Third Biennial Report of the State Engineer to the Governor and the Commission of State Institutions, July 1, 1916 to June 30, 1918*, p. 110.

[36] *Arizona Republican, October 30, 1918, p. 10.*

[37] Fourth Biennial Report of the State Engineer to the Governor of the State of Arizona for the period July 1, 1918 to December 31, 1920, p. 43.

the article described the road project and included multiple photos.[38]

fig. (11)
1935 aerial photo of Tempe Beach Park and roadbed approach to Ash Avenue Bridge.Courtesy of Tempe Museum.

This section of road was increasingly significant in the transportation network of Arizona. A newspaper article from 1918 claimed that "over 2000 vehicles a day use the Tempe Road."[39] A paper in El Paso, Texas, reported on the plan to build a concrete roadbed between Phoenix and Tempe "covering a stretch of main highway declared to bear more traffic than any other in the southwest...nothing short of concrete appears to be able to stand the pressure."[40] This section of road was so important because it linked the transportation routes through the Salt River Valley and allowed for crossing the river. Roads that passed through Mesa, Tempe, and Phoenix, of which the linchpin was the Tempe bridge, included the Ocean-to-Ocean Highway, Bankhead Highway, Old Spanish Trail, Lee Highway, Borderland Highway, and Dixie Overland Highway.[41] The Bankhead Highway route was the focus of much concern for a time. "There is an immense advantage from a national standpoint in having the Bankhead highway…pass through the great irrigated valleys of the Salt and Gila rivers. These valleys give to all those crossing the country an object lesson of the wonderful home making possibilities of our national reclamation policy…."[42] Automobile associations, good road associations, and city booster clubs were interested in upgrading their roads to entice travelers and tourism and wanted to be designated as part of these "national roads." By 1921, all but one mile of the road from Mesa, in the east, to Buckeye, in the west, was paved.

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[38] Public Roads, *U.S. Department of Agriculture, vol. 1, No. 1, p. 17.*

[39] *Arizona Republican, January 22, 1918, p.6.*

[40] *El Paso Herald*, *July 19, 1918, p. 12.*

[41] Keane and Bruder, *p. 43-45; Archaeological Consulting Services, Ltd., Inventory and Evaluation of Historic Resources, Tempe Streetcar, 2015, p. 35-36;* Pry and Andersen, p. 31-33.

[42] *Arizona Republican, September 21, 1920, p. 1.*

Three main roads converged on this stretch — the Lee Highway, the Bankhead Highway and the Dixie Overland Highway — making it one of the most heavily traveled roads in the state.[43]

During this time, the City of Tempe began to discuss paving the town's roads. In 1917, it was hoped to "pave the full extent of the state highway as it passes through Tempe from the highway bridge to the county road on the east…" and the "boosters for paved streets in Tempe are confident that pavement can be installed and maintained at a less expense than the present streets."[44] The city council actively pursued paving the state highway through town by endorsing the state legislative bills pertaining to paving highways through cities and towns, holding a bond election to procure funds to match available federal aid, and finally hiring Southwestern Contracting Company to pave the streets.[45] Tempe was also a member of the Arizona Good Roads Association.

fig. (12)
Jaycee Event in Tempe Beach Stadium ca. 1950
photo courtesy of City of Tempe Community Development.

BRIDGE CONCERNS

In 1919, flooding caused the second pier from the north end of the Tempe bridge to settle about 4 inches. Bridge engineer with the State of Arizona, Merrill Butler, described what happened in a 1921 issue of Engineering News. Butler explained other problems that had developed and the efforts to repair the bridge.[46] A 1925 issue of Arizona Highways detailed concerns about the bridge, described further repairs, and stated that "the use of the bridge was worth approximately $1,000 a day to the public…" The bridge was obviously a significant link in the transportation network of the region. In 1928, a new bridge was recommended by the Arizona Highway

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[43] Pry and Andersen, p. 35.

[44] *Arizona Republican, March 3 and March 29, 1917.*

[45] Tempe City Council minutes*, 1919-1920. On microfilm at the City of Tempe.*

[46] Butler, Merrill. *Engineering New-Record, 1921, p. 675.*

Commission and construction on the new bridge began in 1930. What was to become known as the Mill Avenue Bridge opened in 1931 and was dedicated in 1933. The Tempe bridge was closed to all but pedestrian traffic and the highway commission officially abandoned the bridge in 1933.[47] The bridge was listed on the National Register of Historic Places in 1985 as part of the Tempe Multiple Resource Area, fig. (11).

TEMPE BEACH PARK

For years, the approach and bridge had stood at the west end of a public park space known as Tempe Beach Park. In 1922, the Tempe Civic Club had founded Tempe Beach and constructed a public swimming pool in 1923. The park was such a draw for families in the area, that in subsequent years a bandstand was constructed, a baseball field laid out and a new bathhouse built. As the United States tried to battle the Depression through the creation of jobs via the Works Progress Administration and other agencies, Tempe benefited from those programs. A 1935 newspaper article reported, "Tempe Beach is expanded. With Federal Emergency Relief Administration aid, extensive improvements have been made, which include indoor baseball parks, handball courts, tennis courts with night lighting, horseshoe courts and also volleyball and softball courts. Lights have been installed for the indoor baseball courts and a rock wall has been built of river boulders, harmonizing with the modern bath house."[48] The following year (1936), another relief project began which included "construction of a stone and concrete stadium at the west end of the park, running the entire width of the grounds…"[49] The stadium was built directly into the side of the south approach to the now-closed bridge, fig. (12). The park amenities were used for many years for local and regional activities including hosting baseball games, church and family picnics, and swimming events. Renovations in the 1960s led to the removal of several parts of the park including some of the WPA-era stone walls around the park. However, the ball field and stadium bleachers survived. In 1985, the Tempe Beach Stadium was listed on the National Register of Historic Places. In 2003, in partnership with the Arizona Diamondbacks, Tempe Beach Stadium was renovated by the City of Tempe, including improvements to the field, addition of lighting and an electronic scoreboard, and stabilization of the bleachers. There was little to no improvement to the approach however.

DEMOLITION OF BRIDGE

As part of the Rio Salado/Tempe Town Lake project, the bridge was examined. It was found to be in such poor condition that it was demolished in 1990. In accordance with a Memorandum of Agreement with the State Historic Preservation Office, the south abutment of the bridge was preserved. In 1999, the Tempe Historic Preservation Commission

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[47] Doyle, HAER report, p. 12.

[48] *Arizona Republic,* August 2, 1935.

[49] *Arizona Republic*, January 24, 1936.

recommended that the Tempe Beach Stadium, the ball field, the Ash Avenue Bridge abutment and approach be designated as a Tempe Historic Property. A portion of the roadbed was removed during the installation of a new 72" underground waterline. Although the slope was retained and asphalt paving installed, the abutment was effectively cut off from the approach. In 2012, in partnership with the Rio Salado Foundation, the abutment was rehabilitated by the City of Tempe for use as an overlook to Tempe Beach Park and Tempe Town Lake.

fig. (13)
A portion of the 1935 HABS HAER aerial photograph showing the approach, bleachers and bridge.

CONCLUSION

The Ash Avenue Bridge and related roadbed was a significant connector in transportation in the early 20th century, playing a pivotal role in state and national roadbeds. It was part of the north-south state highway, a key part of the Bankhead Highway, Dixie Overland Highway, and Ocean-to-Ocean Highway, among other national roads. As a key component of such heavily-used highways, the bridge and road were part of the earliest construction of concrete roadbeds in Arizona circa 1918-1919. The paving of the stretch of road connecting to the bridge, and including the approaches, was Federal Aid Project No. 2 in Arizona under the 1916 Federal Road Act. The bridge and the road have received attention in multiple national publications. The bridge itself was also an excellent example of early concrete bridge construction/technology and the use of prison labor in public projects. On September 21, 2018, the Arizona Transportation Board voted to approve the designation of the Historic Arizona US Route 80. Historically, US 80 included the Ash Avenue Bridge until the time of the completion of the Mill Avenue Bridge in 1931.[50]

The remaining portion of the approach and roadbed still embodies its original profile, concrete paving, and relationship to the remaining portion of the bridge, fig. (13). Even with the addition of the stadium bleachers in 1936, the roadbed on the approach maintains its integrity of right-of-way, west embankment, and original longitudinal and cross slopes. The

[50] Historic Arizona U.S. Route 80, *Historic Highway Designation Application.* Prepared Demion Clinco, Tucson Historic Preservation Foundation, May 2016.

significance of this section of road and bridge abutment is linked to the earliest days of the state of Arizona in terms of transportation, bridge engineering, and roadbuilding. Looking forward, the continued use of the ball field for Little League and Community Recreational League play (126 days in 2017), plans for a streetcar stop and traffic circle at the intersection of Rio Salado Parkway and Ash Avenue, and proposed redevelopment of the parcel adjoining the west right-of-way line, ensure that now and in the future, the roadbed will occupy an important place in the experience of many. Since the Tempe Town Lake area is the second most visited location in the state, visitors and residents alike can experience this significant connection to the earliest days of statehood.

fig. (14)
Existing concrete roadbed from north end through existing fencing securing roadbed access. Road has been demolished from this location to the bridge abutment to keep any unauthorized vehicular access to roadbed. photo credit Mark Vinson August 2018.

ROADBED CONDITION

As part of this study a geotechnical report was completed by RAMM geotechnical engineers that provides borings of the concrete paving, analysis of subsurface soils and pH analysis for the soils under the roadbed. It was also requested of the team for the geotech engineers to provide their review and analysis of the area of the roadbed that has settled and where the subbase material has been washed away and has undermined the roadbed. Eight boring locations are identified in the report as well as the location of roadbed collapse. A full copy of the report is made a part of this study and attached as a separate document.[51]

The entire concrete roadbed has been closed to vehicular access since the Mill Avenue Bridge opened in 1933 and the section north of the ball field has been closed to pedestrian and bicycle traffic since the Ash Avenue Bridge was demolished in December of 1990. The approach roadbed has received little or no maintenance since then. Chain link fencing, fig.

[51] Geotechnical Engineering Report Historic Ash Ave approach, RAMM proj. no. G25170. September, 2018

(14), has been added to all four sides of the roadbed to secure the roadbed and protect it from any vandalism or damage. Curbs are the original historic curbing approximately 5”x12” with original 8”x 8” bollards still showing in the curbs at multiple locations (approximately 45 on west side and some remaining on the east curb) at 8’-0” on center, fig. (15). There are some indications of bollards on the east curb also, fig. (16). The fencing’s vertical supports have been attached to the curbs in various ways and any damage will have to be repaired once removed. The actual roadbed surfacing is the original concrete paving placed ca. 1920.[52] Roadbed width varies from 16ft to 20ft in width, due to bleacher construction in the 1930s, fig. (17). See Entellus survey document. The roadbed surface is in various stages of decay as shown in figs. (18-23). Moisture has penetrated the paving and caused heaving, cracking and spalling of the concrete. The original paving has settled in several areas due to moisture penetrating the roadbed at areas where the curbing has moved away and differential settlement has occurred between the curb and roadbed.

fig.(15)

fig. (16)

fig. (17)

Several areas of the roadbed have completely separated from the curb as there was never any connection between the curb and paving section. Vegetation has penetrated the roadbed and caused heaving of sections of roadbed where this has occurred. In other areas the roadbed is completely missing and vegetation has replaced the roadbed.

Where the bleachers were added in 1930s on the east slope of the roadbed, the transition from bleachers to roadbed has fared better. The condition of the bleachers was not part of this report but several intersections of the roadbed and the bleacher area will need to looked at carefully, due to

[52] Good Roads everywhere a History of roadbuilding in Arizona, Table 12, page 62. 2004

fig. (18)

fig. (19)

fig. (20)

fig. (21)

fig. (22)

fig. (23)

figs. (18-23)
Photos above show the deterioration of the pavement of the historic roadbed. Multiple areas have heaving pavement sections, damage from vegetation intrusion, animal burrows and poor repairs in the past.

erosion, during any restoration or renovation effort on the roadbed that may affect the bleachers.

Animal burrows are providing access for moisture and intrusion under the roadbed causing additional deterioration and settlement, fig. (21). Other areas of the roadbed have received incomplete or less than sufficient repairs, fig. (23), while other areas have been completely ignored and allowed to continue to deteriorate, fig. (22).

fig. (24)
West slope of roadbed ROW showing vegetation has been removed. Concrete roadbed exposed.

Most of the growth has occurred along the west side of the roadbed adjacent to the west slope of the roadbed ROW. The original slopes for the roadbed (ROW) are covered in grass along the west slope, and the bleachers along the east slope. A section of approximately 100ft of the west slope has no landscaping, fig. (24). It is unclear why the landscaping was removed from this area. It shows signs of erosion and provides a clear view to the undermining of the roadbed in this area and the roadbed settlement. It is also visible to see the roadbed has been undermined by erosion in figs. (25). This condition has been extensively covered in the RAMM geotechnical report attached as part of the appendix to this study.

fig. (25)
Visible erosion of roadbed along west slope. 2018

Clearly visible are multiple areas where the locations of the historic bollards are still visible in the curbing, and areas where the curbing has been removed to provide access to the Pennysaver property in the past, fig. (26). It is obvious from the damage done to the bollards that care was not taken in their removal. Fig. (28) also shows where the bollard penetrated the roadbed into the subgrade below suggesting that the bollards were placed in the gravel roadbed before the curbing and the concrete roadbed were installed at a later date, fig (29). This is supported by research that dates the gravel roadbed to the date of the

Ash Avenue bridge of 1913, to the later addition of the curbing and concrete roadbed in 1920. Historic photographs, fig. (27), show bollards lying on the ground ready for installation. These bollards look to be 8ft in length based on men in photo. So the bollards go over 4ft down into the subgrade.

The concrete paving specification that was used by the Arizona Department of Transportation (ADOT) in the 1920s, is described in a ADOT report published in 2004, as a Portland Cement concrete road, and defined as "A graded and drained road, the wearing surface of which consists of Portland cement concrete, with or without a bituminous mat less than 1 inch in compacted thickness."[53] A complete geotechnical report was completed on site by

fig. (26)
Historic curbing has been removed to allow sidewalk access from Pennysaver site. Photo 2018.

fig. (27)
HABS HAER photo ca.1913 showing Ash Ave Bridge west side bollard installation.

fig. (28)
Remaining piece of historic bollard on west curbing. Note gap between road and curb. Photo 2018.

fig. (29)
Historic roadbed bollard on west curb showing penetration of roadbed and erosion of roadbed subbase material. Photo 2018.

[53] *National Register Bulletin* 15, p. 17.

RAMM Engineering and is an attachment to this report. It shows that the subgrade material is compacted gravel, maintaining its structural integrity except where it has been undermined by water erosion. Fig. (30) shows limits of report.

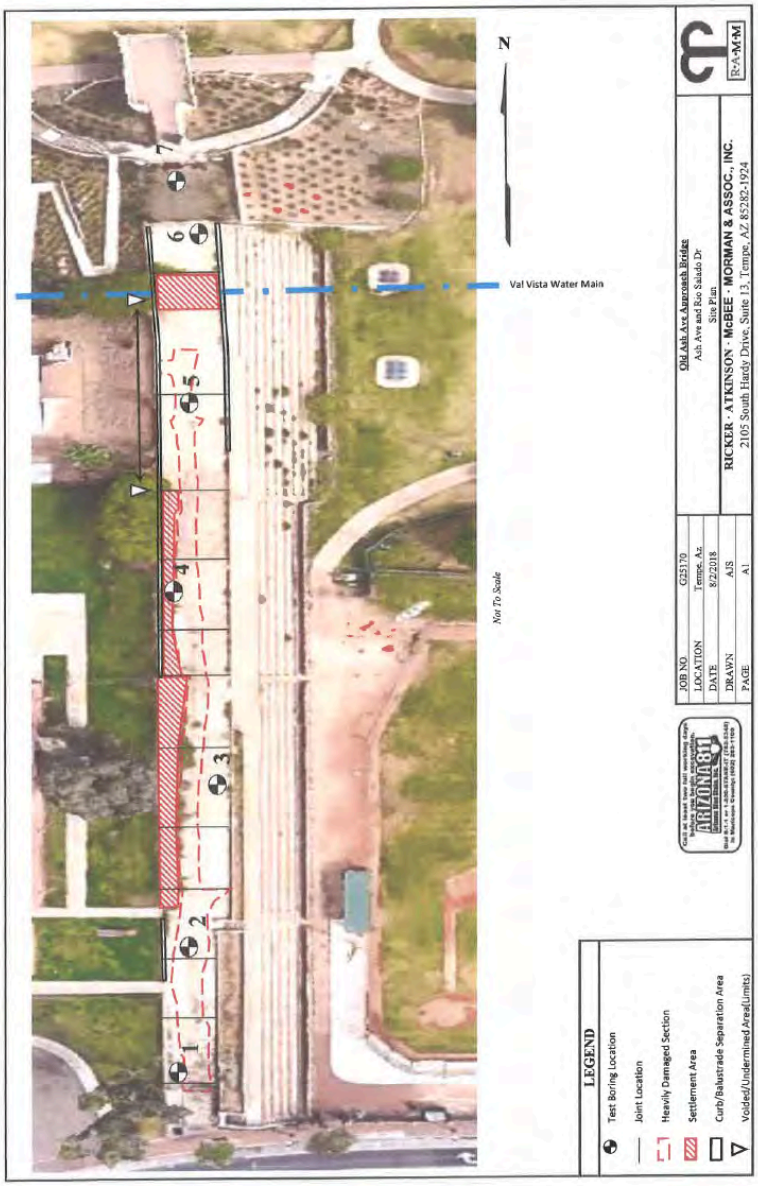

fig. (30)
Figure from RAMM geotech report showing areas of work.

REVIEW OF PRESERVATION ISSUES

Already listed on the Tempe Historic Property Register,[54] the structure is nearing 100 years in age and may be eligible for listing on the National Register of Historic Places under Criterion A or C (descriptions below).

Criterion A: Projects that show an association with events that have made a significant contribution to the broad patterns of our history:[55] "The property must have an important association with an event or historical trend, and maintain its historic integrity."[56]

Criterion C: Properties that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.[57]

APPROACH/POTENTIAL EFFECT OF UNDERTAKING

Description of the potential effect of the undertaking on this property and a determination of effect: No Historic Properties Affected, No Effect or Adverse Effect (36 CFR Part 800.4).

Based on the historic research and physical evaluation as set forth in this report, as well as existing and historic relationship to the adjoining bridge abutment and stadium, **Vinson**Studio PLLC recommends the following approach to preserving the significance and integrity of the historic Ash Avenue Approach and roadbed:

The existing concrete roadbed is beyond repair. The existing curbing and ghosted bollards still showing in the curb should become part of the Adaptive reuse of the roadbed. The roadbed surface cannot be left in its existing condition and provide public access, as the surface will not meet ADA standards. Large sections of pavement will have to be removed and replaced. Some areas have collapsed slightly due to undermining by water intrusion. In some areas there exists a gap between the roadbed and the subgrade of 2 feet.

- As previously stated in this report on pages 9-10 :

  "A proposed undertaking that would alter the fabric of the road (such as a road resurfacing project or installation of a buried utility line that cuts through the road surface) but not change the roads setting and feeling, would result in no adverse effect."

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[54] *Tempe City Code chapter 14, Historic Preservation Ordinance no. 95.35, 11-9-95, Ord. no. 2004.42, 1-20-2005.*

[55] *National Register Bulletin* 15, p. 12.

[56] *National Register Bulletin* 15, p. 12.

[57] *National Register Bulletin* 15, p. 17.

Therefore, the approach to **repaving the roadbed section** to meet public access requirements and ADA codes is a viable preservation decision and could still meet the Secretary of the Interior's Standards for rehabilitation.

- It is also critical to maintain the **character defining features of the roadbed**, also discussed earlier in this report on page 11.

  "when evaluating the eligibility of a historic road and assessing potential project effects, it is important to identify and distinguish between those segments that retain sufficient integrity to be regarded as historic character defining elements and those that do not."

It is important to **maintain the entire length of roadbed remaining** (440ft) from the Entellus survey, to the approach of the bridge abutment remaining in place and to replace that portion of the roadbed that was removed that connects the roadbed to the abutment.

fig. (31)
Existing Bleachers at Tempe Park 2018

The **roadbed right-of-way (ROW) cross section should also be maintained**. The east slope is still visible even though the "historic stone bleachers" are now part of that slope, fig. (31). The west slope is still in its original location and maintains it dimensional integrity. Any intrusion into the west ROW would impact its visual character defining features.

National Register guidelines state that "integrity is the ability of a property to convey its significance." The guidelines recognize seven aspects of integrity (location, design, setting, materials, workmanship, feeling, and association), and require a property to "possess several, and usually most, of the aspects" to be eligible for the National Register (National Park Service 1998:44).[58]

- There should be maintained **a connection to the south terminus of the original roadbed** to the Rio Salado Parkway/First St and the proposed traffic circle and streetcar stop.

[58] *Geotechnical Engineering Report Historic Ash Ave approach, RAMM proj. no. G25170. pages 5-6. 2018*

- The **development of Tempe's highway and road system** is an important part of the development of the city and the Ash Avenue bridge approach is a very important part of its transportation history and should be a part of the story to be told. The transition from buggies to automobiles and the role played by this remaining piece of its history. If the roadbed is resurfaced a small portion of the original paving, curbing and bollards should be preserved and visible to the public along with a history of the development of the road and bridge.

- Making **history accessible to the public** is an important part of "historic preservation" and integrating the rehabilitated roadbed into a potential site for the veterans memorial can play a major role in bringing history to the community and making it a destination for the public while at the same time honoring the veterans of our city and state. Likewise, a compatible relationship with potential redevelopment to the west which preserves significant character defining features could be beneficial.

CONSTRUCTION APPROACH TO REHABILITATION OF THE ROADBED

The restoration and rehabilitation of the Ash Avenue roadbed approach to the Ash Ave Bridge is meant for pedestrian and light maintenance vehicle access. It will not be used as a roadbed for heavy vehicle traffic. The restoration/rehabilitation recommendations are based on that level of usage. This construction approach is provided to be able to make a recommendation of cost for future budgeting.

The Geotech report completed by RAMM dated September 17, 2018 outlines in detail the approach to stabilization of the roadbed and soils condition. This recommended method of approach to restoration/rehabilitation is not meant to be a specification for construction but only a limited descriptive approach to provide for an Adaptive Reuse concept to place the roadbed back into the public domain for community use. A full set of construction documents should be completed prior to implementation of these recommendations, as cited in the geotech report.[59]

Recommended Approach for Construction:

- Construct a variable height retaining wall along the west slope of the ROW from the northernmost limit of the roadbed to the old sidewalk access to Penny Saver property.
- Inject/fill voided sections of the west slope with flowable injectable grout, lean mix, or controlled low strength material, (CLSM), to replace loss of subgrade and prevent further settlement and distress.
- Remove and protect against regrowth of all vegetation on the approach surface and between the approach and curbing and balustrade.

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[59] *Geotechnical Engineering Report Historic Ash Ave approach, RAMM proj. no. G25170. pages 5-6. 2018*

- Clean the existing concrete surface and cracks until clear of all debris or loose material.
- Any areas that have large separation gaps between the roadbed and the existing curbing should be filled in with non-expansive grout prior to placing of the vapor barrier.
- Place a minimum 20mil thickness of vapor barrier/plastic membrane overlaying the concrete approach slab. The barrier must have all seams and penetrations sealed per manufacturers recommendations and should be place in accordance with ACI 302.2R.
- Place geotextile fabric (MAG 796.2.2 Class A) over the vapor barrier and anchor the sides into the inside edge of the curbs.
- Place a single 2-inch layer of Portland Cement concrete (lean mix) topping along the entire length of the roadbed.

In addition to the recommendations from the geotech engineer the following should be completed:

- Demolish and remove sidewalk sections that connect roadbed to old Pennysaver site.
- Install new steel bollards and lighting along the west side of the roadbed at historic locations identified by the ghosted locations of the old bollards but on the outside of the existing historic curbing. See fig. (36).
- Replace areas of missing pavement with new 3" concrete paving sections. Dowel new concrete sections into the existing paving.
- Replace areas missing curbing with curbing to match in size and shape the historic curbs. New concrete will identify it as not historic.
- Place new vegetation on sloped areas after installation of the retaining walls on the west slope of the ROW, fig. (32).

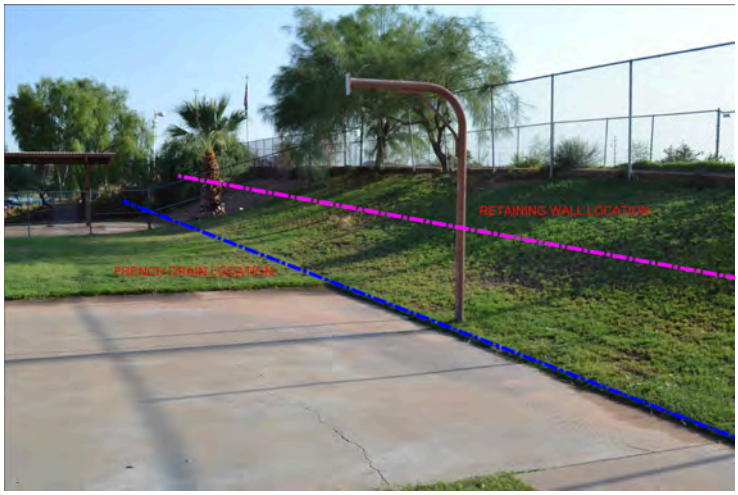

fig. (32)
West slope of ROW showing location of recommended retaining wall and french drain, 2018.

- Install new French drain system at bottom of ROW slope on west side of roadbed entire length of restored roadbed.
- Refer to Adaptive Reuse concepts for installation of Veterans Memorial plaques along roadbed at locations identified in Adaptive reuse section.

- Revegetate the existing planters on the east side of the southernmost part of the roadbed attached to the bleachers.
- Construct new entry areas for both north and south entrances into the roadbed. See Adaptive Reuse section.

The following figures depict the roadbed site plan identifying the construction steps to the renovation of the Ash Avenue roadbed. These are not meant to be a construction sequencing or development plan, but give an approach to project scope.

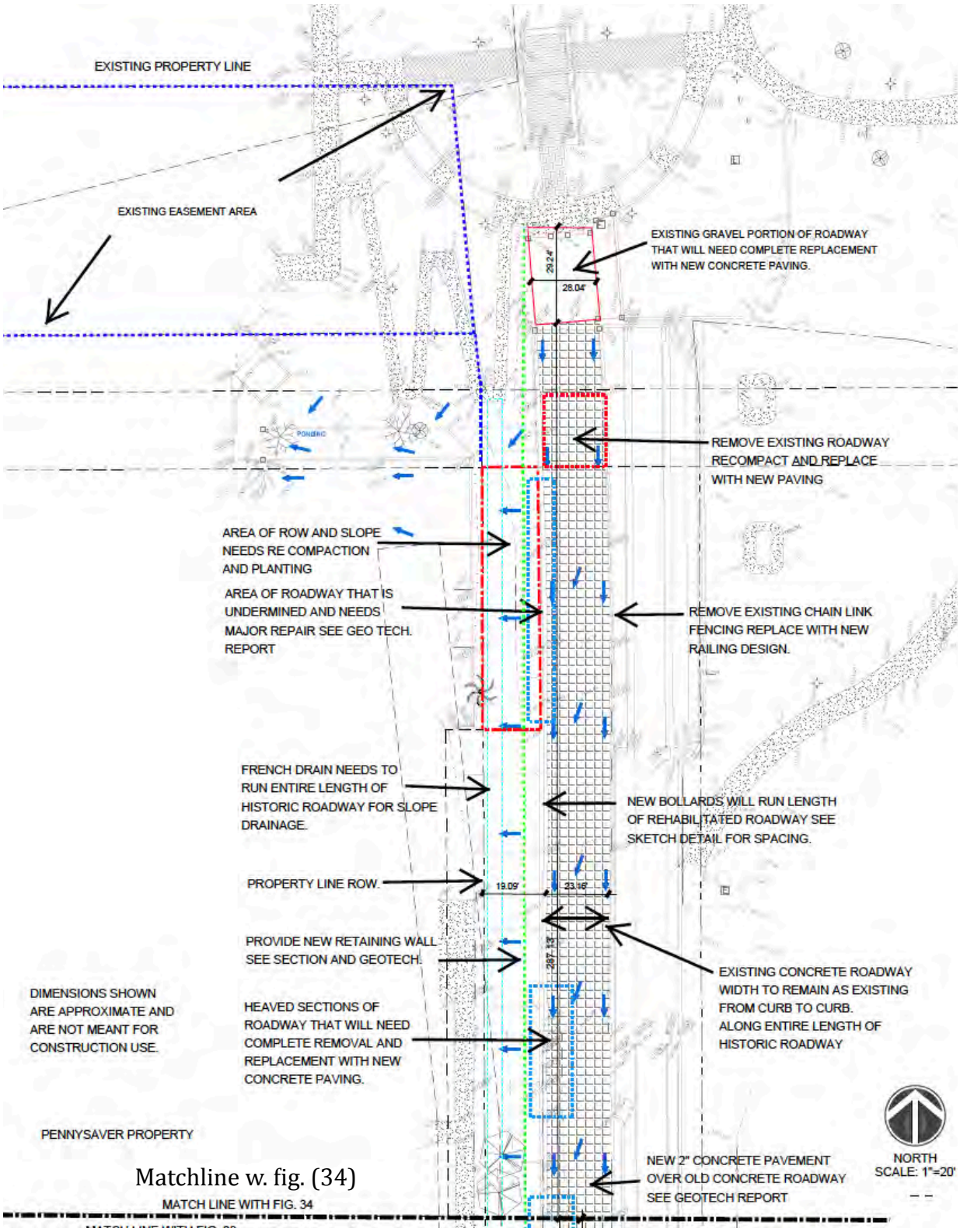

fig. (33).
North section of roadbed identifying renovation scope.

Match line w. fig (33)

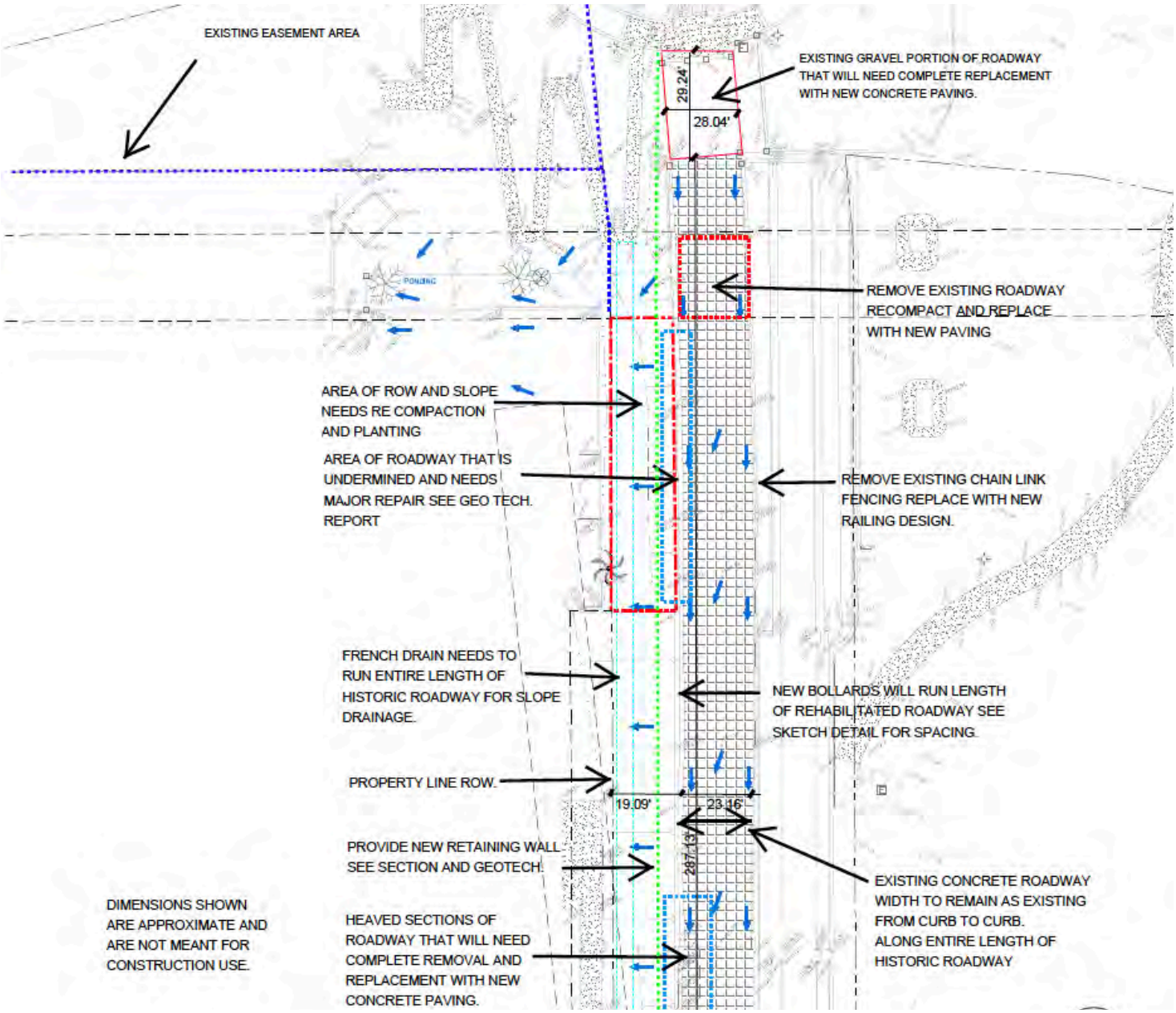

fig. (34)
South section of roadbed identifying renovation scope.

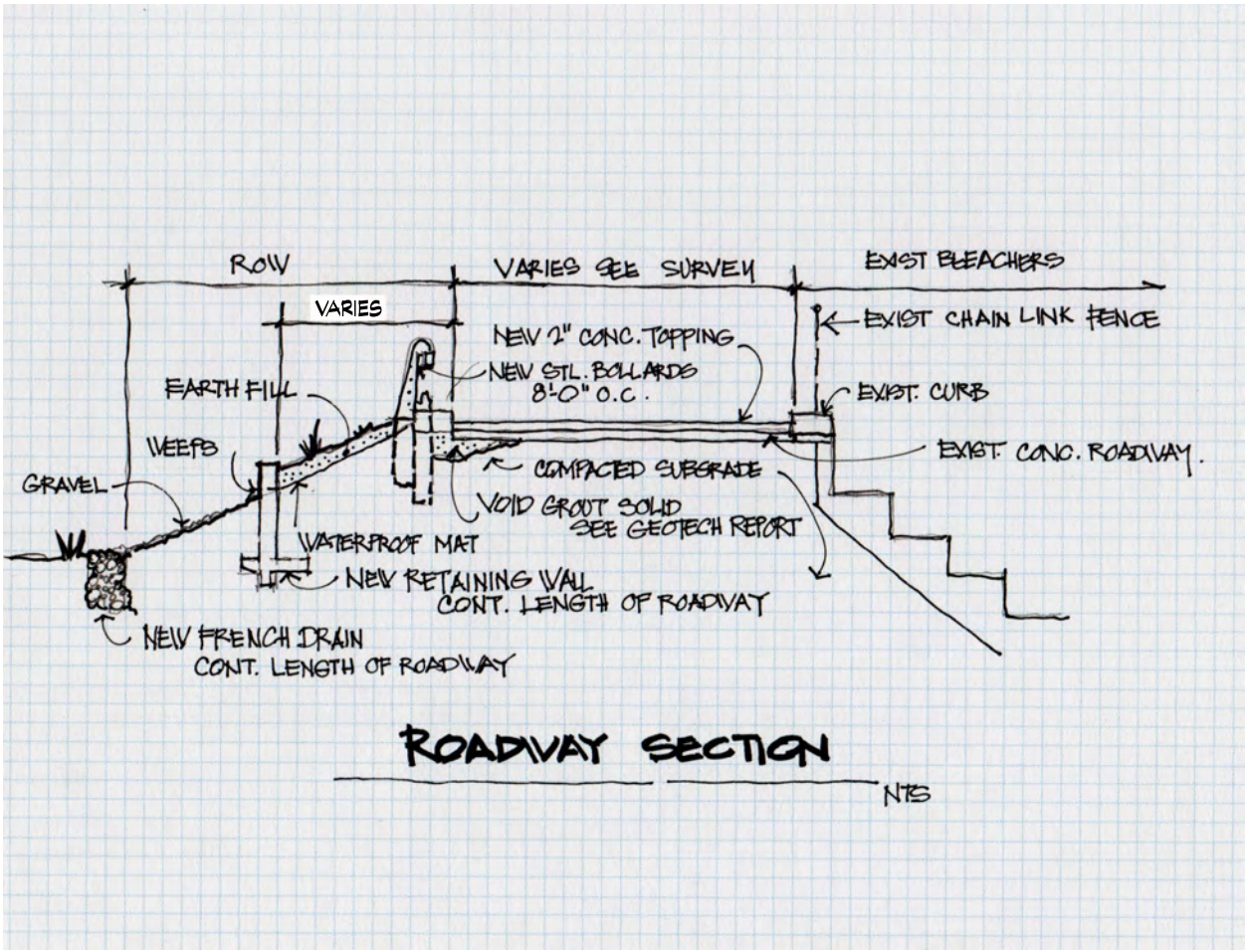

fig. (35)
Cross section of roadbed showing renovation concepts.

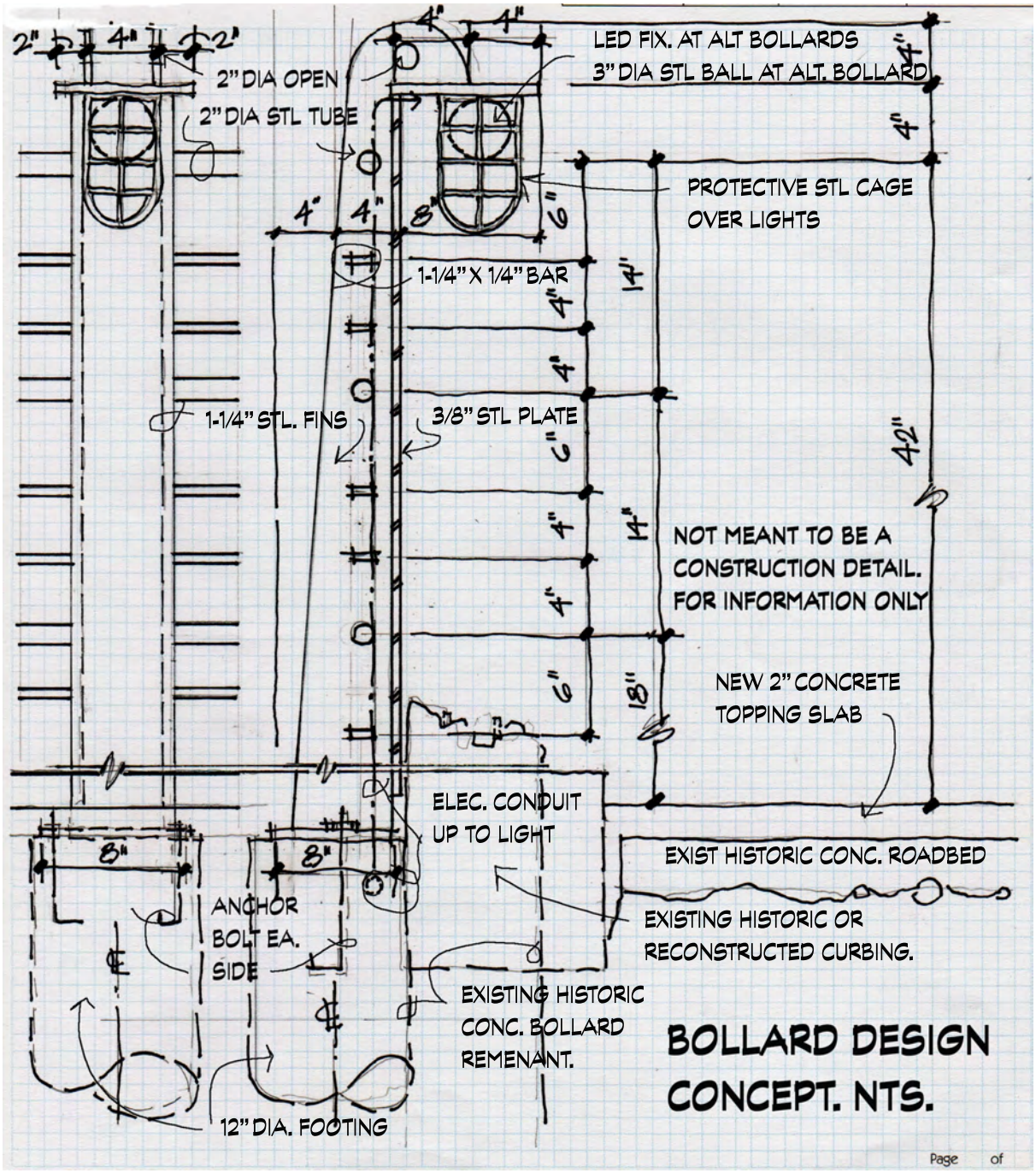

fig. (36)
New bollard concept sketch.

ADAPTIVE REUSE CONCEPTS

Acknowledging that the greatest threat to the continued existence of historic buildings and structures is often disuse, a successful adaptive reuse strategy can be the single most important factor in the preservation of such properties. As such, physical and functional relationships to any private redevelopment on the adjoining parcel to the west should be evaluated for mutual benefit and compatibility. As previously stated in this report, the Secretary of the Interior's Standards for the Treatment of Historic Properties sets forth the appropriate methodology (Rehabilitation) for application in any adaptive reuse scenario. Previously identified in this report are the character-defining features of the Ash Avenue Bridge Approach, the preservation of which are necessary to assure compatibility with the Secretary's Standards and ensure the ability of the historic resource to convey its significance into the future.

VETERANS MEMORIAL SITE EVALUATION APPROACH

One particular adaptive reuse strategy that has been previously suggested and explored by community leaders and city staff, incorporation of a memorial to veterans of the United States military (with an emphasis on Tempeans), seems to offer a compatible and mutually beneficial relationship. In fact, the 2012 rehabilitation of the Ash Avenue Bridge Abutment by the City of Tempe, in association with the Rio Salado Foundation, was actually implemented as Phase I of a memorial. Various versions of a successive phase have been proposed, but none have yet been met with widespread community support or proven sufficiently cost-effective.

As part of this report an evaluation of several areas within the study area has been reviewed for the possible location of a veterans memorial to be constructed at a later date, fig. (37). The scope of the memorial has not been determined so identified areas will be recommended for further evaluation and design. The program for the memorial needs to be developed so a more defined area can be set aside. The concepts provided in this report are for general consideration until further development can be completed. Preliminary information provided indicates that each branch of service will be represented in the memorial and it should be accessible to the community during times that the Tempe Beach Park is open to the public. It shall be ADA accessible and have access to ADA compliant parking. Several locations have been identified as potential locations to place a veterans memorial. These locations are identified in the figs. (38-41) and further described below. The actual design of the memorial is not part of this study, only the locations and general characteristics.

PRELIMINARY COST ESTIMATE

ASH AVENUE APPROACH REHABILITATION
TEMPE, ARIZONA
M.A. SCHAEFER CONSTRUCTION CO., INC.
10/29/18

120 DAY PROPOSED CONSTRUCTION SCHEDULE

Approach Rehabilitation		**$**	**776,543.00**
Gen Cond			
Project Management	4 mo	$	7,500.00
Supervision	4 mo	$	35,610.00
Labor	ls	$	3,000.00
Dumpsters	3 ea	$	1,850.00
Cleaning	ls	$	1,500.00
Builders Risk Insurance		by owner	
Liability Insurance	4 mo	$	8,976.00
Rental Equipment & Fence	3 mo	$	3,500.00
Portable Toilet	4 mo	$	450.00
Job Trailer		na	
Temporary Power & Water		na	
Office—Print/Copies/Mailings	ls	$	800.00
GENERAL CONDITIONS SUBTOTAL:		**$**	**63,186.00**
Site Work			
Site Survey/Staking including As-Built Mylars for City	ls	$	10,380.00
Site Work Mobilization(s)	3 mobs.	$	4,500.00
Site Cleaning & Demolition	ls	$	27,890.00
Dust Permit or Demo Permit	ls	$	900.00
Dust Control	4 mo	$	3,500.00
Remove & Replace Failed Roadway Surfaces	1400 sf	$	17,685.00
Remove Existing South Approach	1220 sf	$	7,000.00
Remove Existing West Bank Sidewalks	1500 sf	$	4,000.00
Grade, Excavate & Backfill at West Bank	ls	$	28,676.00
Complete Concrete Approach - North End	1150 sf	$	14,400.00
Complete Concrete Approach - South End	1200 sf	$	18,600.00

Install South End Plaza & Signage	ls	$	3,000.00
Inject West Slope Voids Beneath Road Bed	50 cy	$	21,870.00
Roadway Vapor Barrier & Geotextile Fabric	8730 sf	$	3,500.00
Roadway Concrete Overlay	8730 sf	$	75,600.00
Existing Curb Repairs	ls	$	11,000.00
Existing Light Pole Foundation Repairs	32 each	$	11,500.00
Install New Proposed Light Bollards	18 ea	$	27,000.00
Furnish & Install New Historic West Side railings	485 lf	$	60,000.00
Drill, Dowel, & Epoxy Existing Curbs	ls	$	7,897.00
CIP Concrete Benches	10 ea	$	22,000.00
Site Retaining Wall Footing Excavation	485 lf	$	19,400.00
Site Retaining Wall Concrete Footing	485 lf	$	20,000.00
Site Retaining Wall Masonry	3500 sf	$	54,000.00
Site Retaining Wall Waterproofing	3500 sf	$	7,000.00
Site Retaining Wall French Drain	485 lf	$	2,000.00
Site Electrical - Transformer	1 ea	$	10,000.00
Primary Conduit from Transformer to SES	200 lf	$	8,500.00
SES & Enclosure	ls	$	25,000.00
Site Electric–Conduit, Wire, Etc.	550 lf	$	14,535.00
West Bank Landscaping	ls	$	35,789.00
East Side Planter Landscape Restoration	ls	$	12,850.00
Irrigation	ls	$	30,000.00
SITE SUBTOTAL:		**$**	**619,972.00**
GENERAL CONDITIONS		$	63,186.00
SITE SUBTOTAL		$	619,972.00
SUBTOTAL		**$**	**683,158.00**
Overhead & Profit		$	55,000.00
Construction Taxes		$	38,385.00
CONSTRUCTION TOTAL		**$**	**776,543.00**

ls = lump sum; sf = square feet; lf = linear feet

This estimate is based on an undated Entellus Topographical Survey, RAMM Geotech Report No. G25170 Recommendations, and **Vinson**Studio Historic Structures Report Draft, dated 9-24-18. The existing abutment and bleachers on the east bank of the approach roadway were previously rehabilitated by the City of Tempe and no work to these elements is included herein.

The anticipated Construction Schedule to complete this work is 120 Calendar Days. Long lead design and fabrication of historic bollards, light fixtures, and railings may extend the anticipated Construction Schedule.

Thanks for the opportunity to provide you with this preliminary estimate of the work.

Mark Schaefer
M.A. SCHAEFER CONSTRUCTION CO., INC.
5231 East Patrick Lane
Phoenix, AZ 85054

mark@maschaefer.com
602-405-7015

Note: The above schedule does not include design (architecture/engineering) time, which could also be estimated at 120 days, which would be extended for permitting, etc. The cost estimate includes work as indicated in the rehabilitation section of this report, such as new bollards, railings, lighting and landscaping, but does not include specific elements of a conceptual Veterans Memorial.

The estimate does not include a contingency or amounts for design and project management. Therefore, **Vinson**Studio PLLC recommends the following additions to the estimate:

Construction contingency @ 10%:	$77,654.00
Design (architecture/engineering) @ 10%:	$77,654.00
Permitting & Project Management @ 5%	$38,827.00
Subtotal:	$194,135.00
Total estimated project cost: (not including future inflation, 5%±/year)	**$970,678.00**

EXISTING CONDITION PHOTOS

fig. (37)
Aerial view of the Tempe Beach park showing several potential locations for the Veterans Memorial noted A, B, C, D. source Google Maps, Mark Vinson.

fig. (38)
Memorial location "A"
This location is generally north of and below the rehabilitated bridge abutment, extending north to the west park entrance and ramada.

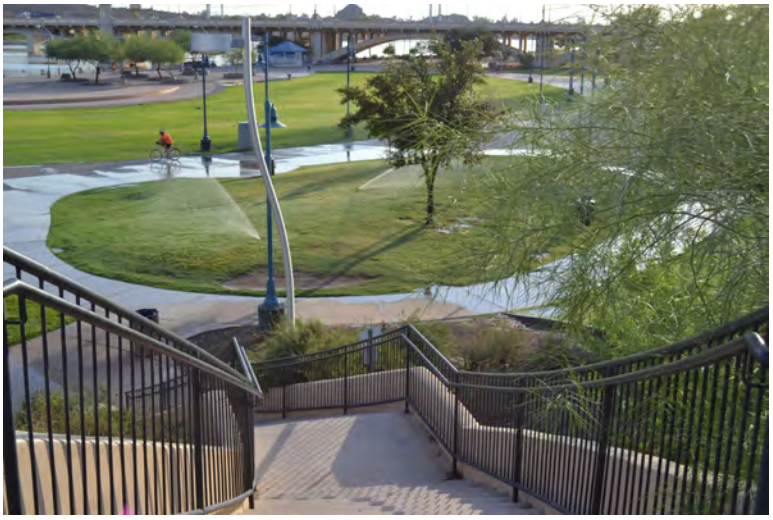

fig. (39)
Memorial location "B"
This location is generally northeast of and below the rehabilitated bridge abutment, contained within the surrounding curvilinear concrete walkway.

fig. (40)
Memorial location "C"
This location is immediately east of and below the northernly extension of the historic stone-and-concrete bleachers of Tempe Beach Park Stadium, extending eastward to the Arizona Public Service solar ramada: this area is generally in the location of the tennis courts which were demolished in 2000.

fig. (41)
Memorial location "D"
This location is linear in nature, consisting of the north-to-south length of the historic concrete roadbed of the Ash Avenue bridge approach and associated right-of-way (ROW) west of the roadbed.

fig. (42)
Aerial view of site including possible veterans memorial locations consisting of sites "C" and "D".

ILLUSTRATED CONCEPTS

As identified in fig. (37) (*early in this report*) and diagrammatically illustrated in the preceding image, a combination of potential sites “C” and “D” exhibits potential to provide a meaningful experience at a relatively moderate cost. While sites “A” and “B” initially seemed feasible, conflicts with access and staging for park events, as well as underground utilities, would likely prove too problematic. In addition, opportunities for interpretation and contemplation might be limited. However, the relatively “quiet” nature of site “C,” combined with the linear aspect of site “D,” offers numerous possibilities for the implementation of a memorial that addresses applicable goals and establishes a viable use compatible with a rehabilitated Ash Avenue Bridge Approach.

The following illustrations are not intended to indicate a definitive or final design, but to convey the potential character of such an adaptive reuse/rehabilitation strategy.

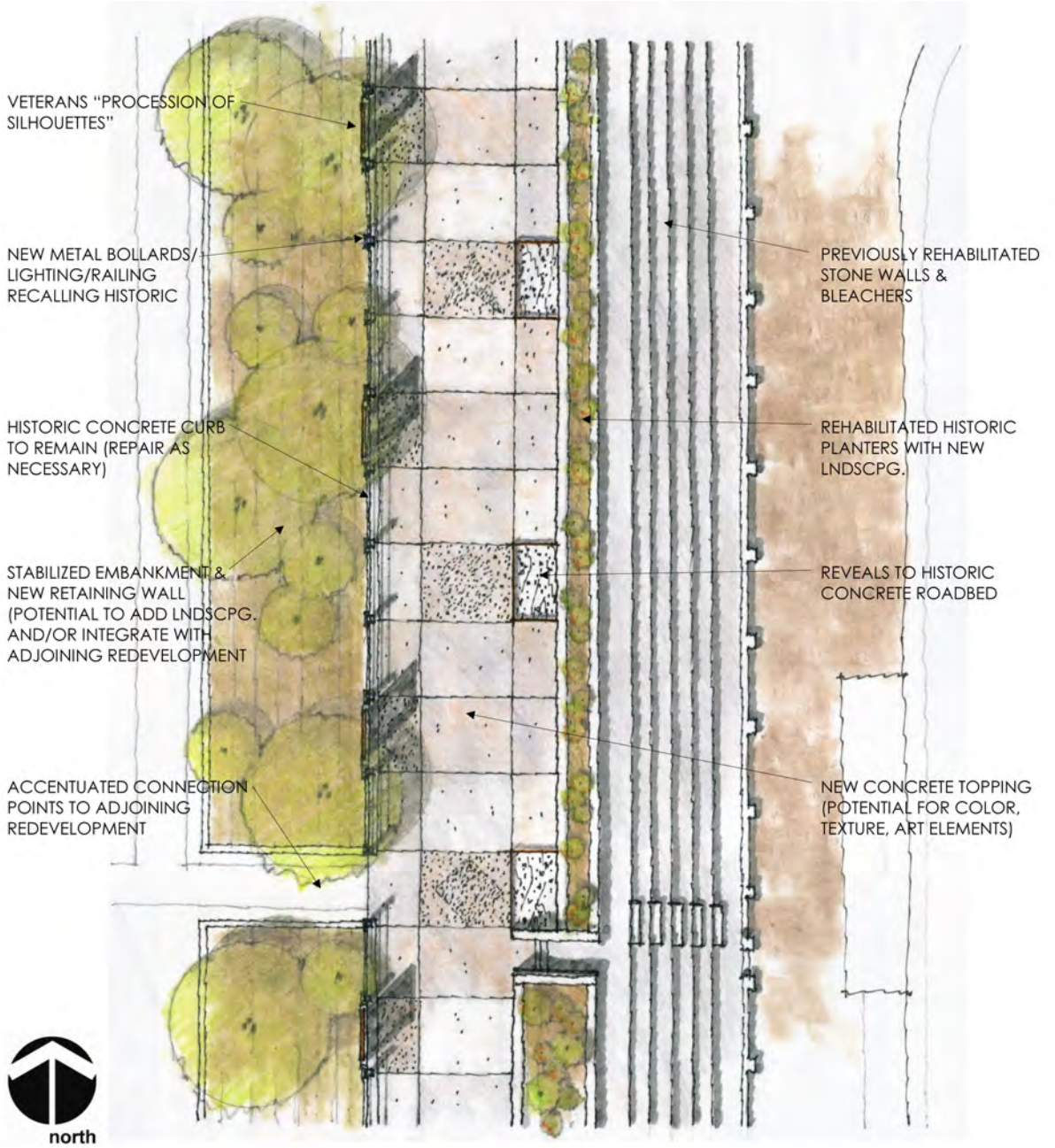

fig. (43)
Concept approach plan

fig. (44)
Roadbed approach concept.

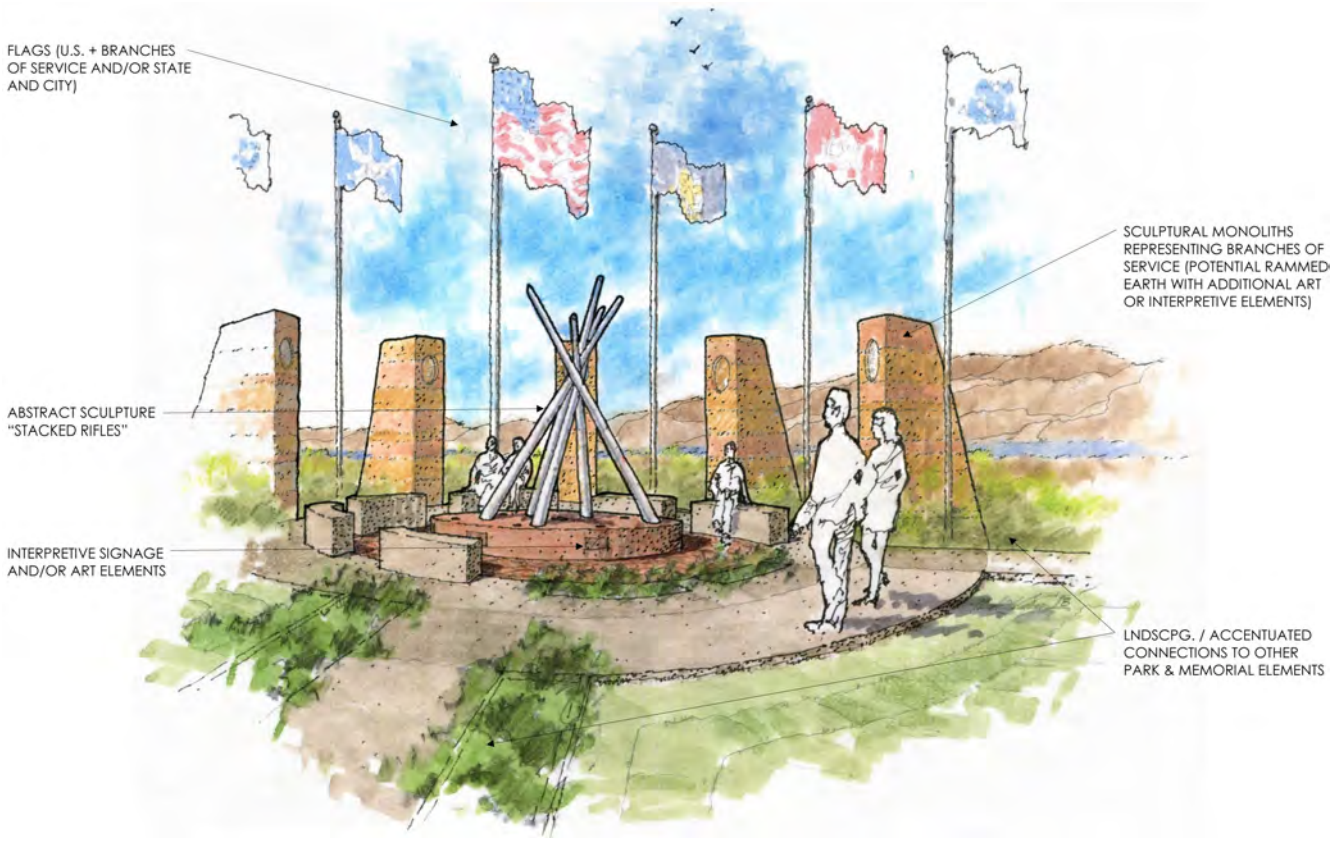

fig. (45)
Court of reflection concept.

fig. (46)
Concept sketch of south entry plaza.

ADDITIONAL EXISTING CONDITION PHOTOS

Unless noted otherwise all photos taken by Mark Vinson August 2018.

fig. (47)
Modern photographs of site study area.






fig. (48)
Modern photographs of bleachers and east slope.






fig. (49)
Modern photographs of curbing and historic bollards.

fig. (50)
Modern photographs of existing roadbed surfaces.

fig. (51)
Modern photographs of roadbed curbing and sidewalks.

fig. (52)
Modern photographs of west slope bleacher transitions.

fig. (53)
View of Ash Avenue bridge approach from the south on present day Ash Avenue.

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HABS HAER archives

Onsite photos by Mark Vinson FAIA, AICP

Onsite photos by Ron Peters AIA, AICP

Google maps

APPENDIX

RAMM Geotech Report
Entellus Engineering Survey Drawings
Easement of Record

Geotechnical Engineering Report
Historic Ash Avenue Approach Evaluation
Rio Salado Parkway East of Ash Avenue
Tempe, Arizona
RAMM Project No. G25170

For:
HistoricStreetscapes, PLLC
1711 East Brown Road
Mesa, Arizona 85203

◆◆◆

By:
Ricker • Atkinson • McBee • Morman & Associates, Inc.
2105 South Hardy Drive, Suite 13
Tempe, Arizona 85282

R·A·M·M

RICKER • ATKINSON • McBEE • MORMAN & ASSOCIATES, INC.

Geotechnical Engineering • Construction Materials Testing

HistoricStreetscapes, PLLC
1711 East Brown Road
Mesa, Arizona 85203

September 17, 2018

Attention: Ron Peters, AIA, AICP

Subject: Geotechnical Engineering Report
Historic Ash Avenue Bridge Approach Evaluation
Rio Salado Parkway East of Ash Avenue
Tempe, Arizona

RAMM Project No. G25170

Attached to this letter is the Geotechnical Engineering Report for the Historic Ash Avenue bridge approach evaluation, located in Tempe, Arizona.

The scope of the project included field explorations, visual distress evaluation, review of historic photos/documents, analysis and recommendations related to the historic remains of the existing Ash Avenue bridge approach. The results of our field explorations, laboratory testing, research, and geotechnical engineering analysis, evaluation and recommendations are presented in the report.

The attached report was prepared based on project and site data available at this time and was prepared in a manner and to the standards of local geotechnical engineering practice. Our services did not include evaluations for the presence of hazardous materials, area subsidence resulting from groundwater withdrawal or other geologic hazards.

2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924 • Telephone (480) 921-8100 • Facsimile (480) 921-4081
www.rammeng.com

If you have any questions, please do not hesitate to call.

Respectfully submitted,
RICKER • ATKINSON • McBEE • MORMAN & ASSOCIATES, INC.

Expires 3/31/2019

By: Andrew J. Schirmer and Kenneth L. Ricker, P.E.

/kes
Copies to: Addressee (rlpeters@historicstreetscapes.com)

TABLE OF CONTENTS

REPORT

R·A·M·M

INTRODUCTION

This report presents the results of our geotechnical engineering services, evaluation and recommendations for the Historic Ash Avenue bridge approach, located in Tempe, Arizona. The scope of our services included field explorations, performing a visual distress evaluation, laboratory testing and providing engineering evaluation, analysis and recommendations for the stabilization and rehabilitation/improvements along the existing historic bridge approach. We would be pleased to discuss with you any additional recommendations you may require.

This firm should be notified for additional evaluation and recommendations should design parameters be made available and where site use or conditions encountered during construction differ from those presented within.

EXISTING CONDITIONS

Historic Ash Avenue bridge approach is a north/south trending historic remnant which has been demolished, abandoned and partially reconstructed/repurposed at the north end of the abutment and remaining bridge sections to serve as a Veteran's movement and observation deck. The bridge approach abuts the abandoned private development known as The Penny Saver to the west and Tempe Beach Park to the north and east. A pedestrian ramp, sidewalk and stairway provides access to the memorial and observation deck. Tempe Beach Stadium, a mortar and cobble construction of bleachers, bandstand, planters and walls was built into the west embankment of the approach. Both the cobblestone bleachers and the Ash Avenue bridge approach (Tempe Bridge) are listed on the National Registry of Historic Places with Tempe Bridge listed as a standing run. A small 25-foot section of concrete at the abutment was removed and replaced with asphalt millings. In near proximity, irrigated landscaping consisting of small to large trees, shrubs, and grasses are present, and a variety of invasive weeds, shrubs and grasses were present within cracked or settled areas of the concrete of the approach.

The project area consists of the bridge approach from the existing abutment approximately 485 feet south to the southern most edge of the historic roadway. The concrete roadway surface is contained by a curb/balustrade (balustrade: foundation supporting a group of balusters to create ornamental railing) with most of the support posts decayed and raveled. The roadway has 18 feet of clear surface with a 20-foot total width originally intended for wagon traffic. The west slope is separated into three areas: north slope with ramp and irrigated landscaping; mid-slope with asphalt,

parking and bare, unsurfaced slope; and south slope which contains the irrigated grass, trees, and shrubs surrounding the abandoned Penny Saver building. A chain link fence was installed along the entire west approach edge and along the east curb/balustrade edge for the northern 230 feet.

RESEARCH

Ash Avenue Bridge (previously known as Tempe Bridge, Old Tempe Bridge and Salt River Bridge) was conceptualized in the late 1800's as an all weather crossing of the then flowing Salt River. This bridge would replace the Hayden's Ferry as a durable, permanent and necessary access corridor connecting Phoenix to Tempe, Mesa, and other Salt River communities (HAER, No. AZ-29, 1991). Construction began in Spring of 1911 by Direction of the Territorial Legislation of Arizona and it was completed in 1913 by the Board of Control of Arizona (Plans of the Tempe Bridge, As-builts, 1911).

As the only connection between northern and Southern Arizona, the bridge originally designed for wagon use, began to carry traffic for the US 60, 80 and 89 Highways as well as local traffic (HAER, No. AZ-29, 1991). Damage due to settling, overloading, and periodic flooding in addition to increased sizes, capacity and use by automobiles, caused the Ash Avenue Bridge to be replaced by the adjacent Mill Avenue Bridge in 1931 (National Register of Historic Places, HPS-227). Ash Avenue Bridge was shut down to auto traffic and only used for pedestrian traffic until 1933 when it was officially abandoned. In 1991, after funding for repairs was reviewed and considered impractical, the bridge was mostly demolished, leaving only the south approach and abutment span in place (HAER, No. AZ-29, 1991).

Reviewing historic photos archived by Tempe History Museum, from the Historic American Engineering Record, No. AZ-29, and from Historic Areal Photography from various sources and published by Maricopa County GIS Services provided insight into construction of Ash Avenue Bridge and the South Abutment, as well as a better understanding of improvements in the immediate vicinity which would have impact on the approach. See Appendix D for a selection of photos of interest.

FIELD EXPLORATIONS AND OBSERVATIONS

Subsurface conditions at selected locations in the area being evaluated were explored by drilling seven test borings to depths of 1.0 to 3.5 feet, as shown in the Site Plan in Appendix A. The test

borings were drilled with a hand auger. The concrete ramp slab was cored with a diamond tip single tube core barrel. The drilling equipment and crew were provided by Wildcat Drilling, Inc. and coring equipment was provided and operated by Penhall Company. The test boring locations were determined in the field by a field technician from our firm who also directed the crew. During the field explorations, representative disturbed and undisturbed samples were obtained; the test boring logged and soils field classified by our field technician. The relatively undisturbed samples were obtained be hand driving a e-inch diameter, ring-lined, open-end sampler into the soil with a 40-pound hammer dropping 18 inches. The results of the field explorations are presented in the Test Boring Log in Appendix A.

Observations made during the field work included a visual distress evaluation, mapping of distress features, and identifying voided or settled areas. The results and locations of the observations are shown on the Site Plan in Appendix A and Site Photos are shown in Appendix C.

LABORATORY ANALYSIS

Representative samples obtained during the field exploration were subjected to the following laboratory tests.

Type of Test	Type of Sample	Number of Samples Tested
Sieve Analysis and Atterberg Limits	Representative	7
pH	Representative	10
Moisture Content/Dry Density*	Undisturbed	10
Moisture Content*	Disturbed Ring	1

*Reported in the Test Boring Logs

The results of the laboratory tests are presented in Appendix B.

SUBSURFACE CONDITIONS

The subsurface conditions encountered in the test boring locations were relatively uniform. The results of each test boring are presented in Appendix A, in the Test Boring Logs. Concrete thicknesses were widely variable and ranged from 2.75 to 6.00 inches thick with no aggregate base present. In general, the concrete contained large, angular and plately aggregate, typical of concrete from this period and the source material. Aggregate would be manually crushed by laborers mining the material from the river bottom.

In general, the surface and near surface soils extending to the full depths of exploration consisted of silty sand with gravel, which was also mined from the river bottom. These soils were dense to very dense and were non-plastic. In Test Boring 1, soils consisted of silty clay sand with gravel which was dense to very dense and contained low plasticity fines. Soil moisture contents were described as slightly damp (potentially due to coring) in the upper 6 to 12 inches and nearly dry below. No groundwater was observed in any of the test borings during the drilling operations.

DISCUSSION OF TEST RESULTS

As part of this investigation, laboratory pH testing was conducted. The results of the laboratory tests are presented in Appendix B. Undisturbed samples of the fill from various depths below the concrete ramp slab were found to have slightly elevated pH ranges of 7.9 to 8.2, but within typical normal ranges. The moisture content and dry density determined from relativity undisturbed ring samples of fill were slightly variable.

OBSERVED MOVEMENTS, DISTRESSES AND DEFICIENCIES

Due to the age of the project and the methods used during construction, assumptions may be invalid as some original camber, displacement or distress could have been built in. Photographs and reports of the conditions of the area, while helpful, are only reliable as far as general conditions are concerned as original finite distresses would not have been captured or could have been easily over looked. Therefore, this report focuses on observed movements and distresses and assumes some distresses may be related to original construction.

The following has been observed during out site visits and distress evaluation.

- The approach slabs have settled at the following locations.
  - Several areas along the west side of the approach along side the Penny Saver Property.
  - Within the heavily damaged sections running the length of the approach.
  - Along the entire north side of approach directly above (overlying) the Val Vista Water Main Installation.
- The joint between the edge of the approach concrete slabs and the adjacent curb/balustrade have separated due to thermal cycling, slab settlement, and loss of stability. This has resulted in water which falls on or drains down the joints to penetrate the fill soils below the slabs causing loss of material and additional loss of stability. The separating are as follows:

- The east curb/balustrade from the north edge of the approach, south for approximately 115 feet and ranges in width from 0.5 to 1.0 inches.
- The west curb/balustrade from the north edge of the approach, south for approximately 225 feet, and ranges in width from 0.5 to 4.5 inches.
- The west curb/balustrade at the south end and the approach has a small 30-foot section between the perpendicular sidewalks on the Penny Saver Property. This section has been patched and has continued to separate since repairs were conducted. The patched sections is 4.5 inches wide with an additional movement of 2.5 inches.

- As shown on the Site Plan (Sheet A1) numerous cracks, and concrete joints in the approach slabs have spalled or expanded allowing water which falls in or drains down the approach to enter the fill below the ramp slabs. Heavily damaged/cracked areas and settlement areas allow runoff to pond at the surface and saturate the underlying fills.
- Voiding was observed in multiple core locations and along the unvegetated, mid-slope section of the west slope. A 0.25-inch void was observed under Test Boring 1 core, a 0.75-inch void was observed under Test boring 4 core and a 0.5-inch void was observed under core 6. A 6 to 10-inch vertical gap was observed below the curb/balustrade in the mid-slope section and extended an average of 2.0 feet under the approach.
- Surface air voids and occasional honeycombs (mortar failing to fill spaces between coarse aggregates) formed during placement were identified on the exposed surfaces of the curb/balustrade.
- While residual asphalt was observed in occasional locations, typically across the south half of the approach, no evidence from historic photos or aerials depicts an asphalt coating on the approach and only on the bridge. Therefore, it is believed the residual asphalt may be from located attempts at stabilization or repair.

Recommendations

With the exception of the settlement overlying the water main, the distresses and movements noted are probably related to age, overloading, thermal cycling, erosion and poor drainage. Due to the historic nature of the project area, recommendations are limited to surface treatments and minimally invasive stabilization only in an attempt to safely stabilize the structure. The following repairs and modifications are recommended:

- Construct a variable height retaining wall along the west slope to retain the soils and prevent further destabilization and/or settlements.
- Inject/fill voided sections of the west slope with flowable/injectable grout, lean mix, or controlled low strength material, (CLSM), to replace loss of subgrade and prevent future settlement/distresses.
- Remove and protect against regrowth of all vegetation on the approach surface and between the approach and curb/ balustrade.
- Clean the concrete surface and all cracks until clear of debris or loose material.
- Place a minimum 20 mil thickness of vapor barrier/plastic membrane overlying the concrete approach slab and curbs/balustrade. The barrier must have all seams and penetrations sealed per manufacturer's recommendations and should be placed on accordance with ACI 302.2R.
- Place Geotextile fabric (MAG 796.2.2 Class A) over the vaper barrier and anchor the sides into the outside edge of the curbs/balustrade, or to the inside edge of the retaining wall.
- Install a single 2-inch layer of Portland Cement concrete (lean mix) or 2-Sack CLSM.

APPENDIX A
FIELD EXPLORATIONS

Not To Scale

LEGEND

- Test Boring Location
- Joint Location
- Heavily Damaged Section
- Settlement Area
- Curb/Balustrade Separation Area
- Voided/Undermined Area(Limits)

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	A1

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Site Plan

RICKER · ATKINSON · McBEE · MORMAN & ASSOC., INC.
2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924

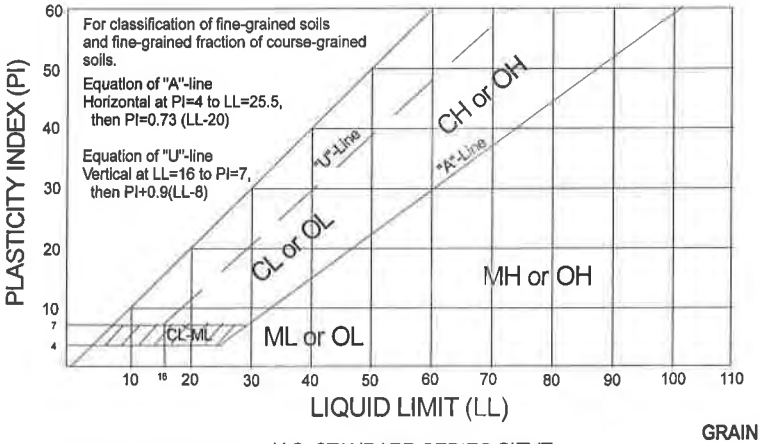
R-A-M-M

LEGEND

ASTM Designation: D2487-11
(Based on Unified Soil Classification System)

CLASSIFICATION OF SOILS

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests					Soil Classification: Group Symbol	Soil Classification: Name
COARSE-GRAINED SOILS More than 50% retained on No. 200 Sieve	Gravels More than 50% coarse fraction retained on No. 4 Sieve	Clean Gravels Less than 5% fines	Cu >4 and 1 <Cc <3		GW	Well graded gravel
			Cu<4 and/or 1>Cc>3		GP	Poorly graded gravel
		Gravels with Fines More than 12% fines	Fines classify as ML or MH		GM	Silty gravel
			Fines classify as CL or CH		GC	Clayey gravel
	Sands 50% or more of coarse fraction passes No 4 sieve	Clean Sands Less than 5% fines	Cu >6 and 1 <Cc <3		SW	Well-graded sand
			Cu<6 and/or 1>Cc>3		SP	Poorly graded sand
		Sands with Fines More than 12% fines	Fines classify as ML or MH		SM	Silty sand
			Fines classify as CL or CH		SC	Clayey sand
FINE-GRAINED SOILS 50% or more passes the No. 200 Sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI>7 and plots on or above "A" line		CL	Lean clay
			PI<4 or plots below "A" line		ML	Silt
		Organic	Liquid Limit - oven dried / Liquid limit - not dried	<0.75	OL	Organic clay / Organic silt
	Silts and Clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line		CH	Fat clay
			PI plots below "A" line		MH	Elastic silt
		Organic	Liquid limit - oven dried / Liquid limit - not dried	<0.75	OH	Organic clay / Organic silt
HIGHLY ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor				PT	Peat



TEST BORING LOG DEFINITIONS

Blows per foot using 36 pound hammer with 18 inch free-fall.

Depth, feet	Blows/Foot: C	Blows/Foot: N/R	Sample Type	Dry Density pcf	Water Content, %	Unified Classification	Description

C = Continuous Penetration Resistance (2 inch diameter rod)
N = Standard Penetration Resistance (ASTM D1586)
R = Penetration Resistance (3 inch diameter ring line sampler)
RQD = Rock Quality Designation
▽ = Static Water Level

GRAIN SIZES

U.S. STANDARD SERIES SIEVE	200	40	10	4	3/4"	3"	12"
CLEAR SQUARE SIEVE OPENINGS							

SILTS & CLAYS DISTINGUISHED ON BASIS OF PLASTICITY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

MOISTURE CONDITION (INCREASING MOISTURE ⟶)

DRY — SLIGHTLY DAMP — DAMP — MOIST (Plastic Limit) — VERY MOIST — WET (SATURATED) (Liquid Limit)

CONSISTENCY CORRELATION		RELATIVE DENSITY CORRELATION	
CLAYS & SILTS	BLOWS/FOOT*	SANDS & GRAVELS	BLOWS/FOOT*
VERY SOFT	0-2	VERY LOOSE	0-4
SOFT	2-4	LOOSE	4-10
FIRM	4-8	MEDIUM DENSE	10-30
STIFF	8-16	DENSE	30-50
VERY STIFF	16-32	VERY DENSE	OVER 50
HARD	OVER 32		

*Number of blows of 140 lb hammer falling 30" to drive a 2" O.D. (1-3/8" I.D.) split-spoon sampler (ASTM D1586).

TEST BORING LOG

Project: Historic Ash Avenue Approach Evaluation Test Boring: 1

Elevation: Not Determined Datum: --- Date: 8-14-18

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		100/8"	R	101	10		6" Concrete on Slab-on-Subgrade
						SC	EMBANKMENT FILL: Silty Clayey Sand with Gravel; brown, slightly damp, dense to very dense, low plasticity fines.
5							Refusal to auger penetration on Cobble at 1.3 feet.
							No groundwater observed.
							Note: ¼" to ½" void below concrete slab.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Historic Ash Avenue Approach Evaluation Test Boring: 2

Elevation: Not Determined Datum: --- Date: 8-14-18

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		100/8"	R	98	11		3" Concrete on Slab-on-Subgrade
						SM	EMBANKMENT FILL: Silty Sand with Gravel; brown, slightly damp, dense, non-plastic fines.
5							Refusal to auger penetration on Cobble at 1.1 feet. No groundwater observed.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Historic Ash Avenue Approach Evaluation — Test Boring: 3

Elevation: Not Determined — Datum: --- — Date: 8-14-18

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		100/10"	R	98	4		5 ⅜" Concrete on Slab-on-Subgrade
		54	R	101	2	SM	EMBANKMENT FILL: Silty Sand with Gravel; brown, slightly damp, dense, non-plastic fines.
		67	R	93	2		
5							Refusal to auger penetration on Cobble at 3.5 feet.
							No groundwater observed.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Historic Ash Avenue Approach Evaluation Test Boring: 4

Elevation: Not Determined Datum: --- Date: 8-14-18

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		88	R	108	12		2 ¾" to 3 ¼" Concrete Slab-on-Subgrade
		88	R	*	3	SM	EMBANKMENT FILL: Silty Sand with Gravel; brown, slightly damp, dense, non-plastic fines.
		100/10"	R	NR			
5							Stopped drilling at 3.1 feet. No groundwater observed. * Sample too disturbed to determine density. NR = No Recovery. Note: ¾ to 1 inch void below cement slab.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Historic Ash Avenue Approach Evaluation Test Boring: 5

Elevation: Not Determined Datum: --- Date: 8-14-18

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
							4" to 4 ¼" Concrete Slab-on-Subgrade
		100/8"	R	100	10	SM	EMBANKMENT FILL: Silty Sand with Gravel; brown, slightly damp, dense, low to no plasticity.
5							Refusal to auger penetration on Cobble at 1.0 feet. No groundwater observed.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Historic Ash Avenue Approach Evaluation Test Boring: 6

Elevation: Not Determined Datum: --- Date: 8-14-18

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		100/6"	R	89	11		5" to 5 ½" Concrete Slab-on-Subgrade
						SM	EMBANKMENT FILL: Silty Sand with Gravel; brown, slightly damp, dense, non-plastic fines.
5							Refusal to auger penetration on Cobble at 1.0 feet. No groundwater observed.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Historic Ash Avenue Approach Evaluation Test Boring: 7

Elevation: Not Determined Datum: --- Date: 8-14-18

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		100/10"	R	123	2	SM	EMBANKMENT FILL: Silty Sand with Gravel; brown, slightly, dense, non-plastic fines.
		100/5"	R	104	2		
							Refusal to auger penetration on Cobble at 1.7 feet.
5							No groundwater observed.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

APPENDIX B
LABORATORY ANALYSIS

LABORATORY TEST RESULTS

Date: 13-Sep-18

SAMPLE SOURCE: As noted below

TESTING PERFORMED: Sieve Analysis, Percent Passing No. 200 Sieve, Atterberg Limits (ASTM C136, D1140, D4318, D2488)

SAMPLED BY: RAMM/Durot

RESULTS:

Sample	Atterberg Limits		Sieve Size - Accumulative Percent Passing											Soil
Source	LL	PI	200	100	50	30	16	8	4	3/4"	1"	2"	3"	Class.*
1 @ 0"-16"	26	8	25	32	39	47	56	67	76	99	100			SC
2 @ 0"-18"	N/A	NP	23	32	41	47	55	63	71	92	98	100		SM
3 @ 0"-42"	N/A	NP	27	42	49	54	62	68	74	89	92	100		SM
4 @ 0"-37"	N/A	NP	32	45	52	58	64	70	75	88	90	100		SM
5 @ 0"-12"	33	7	27	34	40	47	56	66	75	99	100			SM
6 @ 0"-12"	N/A	NP	17	22	26	32	38	49	62	89	93	100		SM
7 @ 0"-20"	N/A	NP	10	15	24	33	42	49	57	93	98	100		SM

NP = Non-Plastic

* Unified Soil Classification System

LABORATORY TEST RESULTS

Date: 6-Sep-18

SAMPLE SOURCE: As noted below

TESTING PERFORMED: pH, Minimum Resistivity (ADOT 236a)

SAMPLED BY: RAMM/Durot

RESULTS:

Sample Source	pH
1 @ 0.5'-1.5'	7.9
2 @ 3"-11"	7.8
3 @ .5'-1.5'	8.1
3 @ 1.5'-2.5'	8.1
3 @ 2.5'-3'	8.2
4 @ 3"-15"	7.8
4 @ 15"-27"	7.9
5 @ 4"-16"	7.9
7 @ 0'-1'	7.9
7 @ 1'-2'	7.9

APPENDIX C
SITE AND CORE PHOTOS

Not To Scale

LEGEND

- Photo Location/Direction/Number
- Test Boring Location
- Joint Location
- Heavily Damaged Section
- Settlement Area
- Curb/Balustrade Separation Area
- Voided/Undermined Area

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	C1

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Photo Log

RICKER · ATKINSON · McBEE · MORMAN & ASSOC., INC.
2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924

R·A·M·M

JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	C2

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Photos

RICKER · ATKINSON · McBEE · MORMAN & ASSOC., INC.
2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924

R·A·M·M

JOB NO	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	C3

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Photos

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2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924

R·A·M·M

JOB NO	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	C4

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Photos

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JOB NO	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	C5

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Photos

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JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	C6

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Photos

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JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	C7

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Photos

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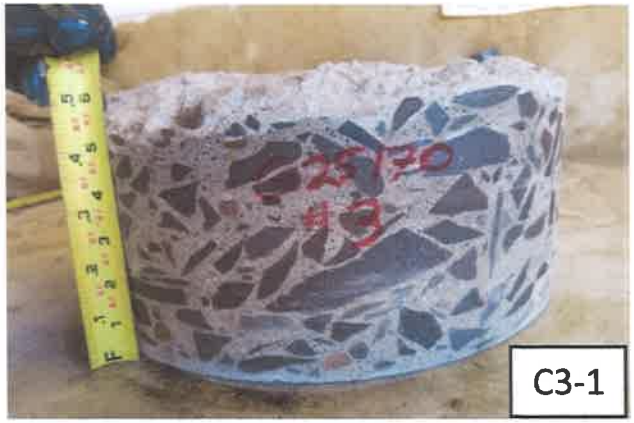
2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924

R·A·M·M



JOB NO	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	C8

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Core Photos

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R-A-M-M

JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	C9

Old Ash Ave Approach Bridge
Ash Ave and Rio Salado Dr
Core Photos

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R-A-M-M

APPENDIX D
HISTORICAL PHOTOS AND HISTORIC AERIALS

R·A·M·M

Looking West from Tempe Butte at the Salt River and the approximate loation of the Hayden's Ferry and Future Tempe Bridge (Ash Avenue Bridge). Maricopa Phoenix Railroad bridge in background. Circa 1888. (The Old Settlers Collection, No. 1987.1.2803, Tempe History Musuem)

Looking east from an undetermined elevated position at the south approach (during construction) Circa 1912. (HAER No. AZ-29, No. AZ-29-7)

JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	D1-1

Historic Ash Ave Bridge Approach
Ash Ave and Rio Salado Dr
Historic Photos and Historic Aerials

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2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924

R·A·M·M

Aerial photograph of the Ash Avenue (Tempe) Bridge prior to construction of the Tempe Beach Park cobble bleachers and walls and Mill Avenue Bridge. (Historic Aerial Photography, Maracopa County GIS, 1930)

Oblique aerial photograph of Tempe Beach Park post contstruction of the cobble bleachers and Mill Avenue Bridge. Circa 1935. (Tempe From Above, No. 1987.1.2288, Tempe History Musuem)

JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	D1-2

Historic Ash Ave Bridge Approach
Ash Ave and Rio Saledo Dr
Historic Photos and Historic Aerials

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R·A·M·M

Aerial photograph of the Ash Avenue (abandoned) Bridge and Mill Avenue Bridge with Tempe Beach Park filling the space between. (Historic Aerial Photography, Maracopa County GIS, 1949)

Oblique aerial photograph of the west slope of the Ash Avenue (abandoned) bridge approach prior to development. Circa 1977. (Tempe From Above, No. 2000.20.218, Tempe History Musuem)

JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	D1-3

Historic Ash Ave Bridge Approach
Ash Ave and Rio Salado Dr
Historic Photos and Historic Aerials

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2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924

R·A·M·M

Top perspective looking north of the Ash Avenue (abandoned) bridge south approach prior to demo. Circa 1990. (Tempe From Above, No. 2016.20.12, Tempe History Musuem)

Aerial photograph of the Ash Avenue (demolished) Bridge and Mill Avenue Bridge with Rio Salado Parkway along the north edge of the park. Photograph taken during construction of the flood control levees and Tempe Town Lake (Historic Aerial Photography, Maracopa County GIS, 1991)

JOB NO.	G25170
LOCATION	Tempe, Az
DATE	8/2/2018
DRAWN	AJS
PAGE	D1-4

Historic Ash Ave Bridge Approach
Ash Ave and Rio Salado Dr
Historic Photos and Historic Aerials

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2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924

R·A·M·M

APPENDIX E
REFERENCES

REFERENCES:

Public Documents

Doyle, G. & Associates. HAER No. AZ-29, Ash Avenue Bridge, Written Historical and Descriptive Data. Library of Congress, Washington, D.C., January 1991

Plans of the Tempe Bridge. Territory of Arizona Department of Highways. As Built plans 1911-1912, and repairs by State in 1920.

Tempe Bridge (#88001606): Survey No. HPS -227 National Register of Historic Places, Arizona. 1992

Tempe Beach Stadium (#88000055): Survey No. HPS-190. National Register of Historic Places, Arizona. 1985.

Digital Archival Collections

Doyle, G. & Associates. HAER No. AZ-29, Ash Avenue Bridge, Photographs. Library of Congress, Washington, D.C., January 1991

Tempe From Above Collection. Tempe History Museum, Tempe, Arizona.

Old Settler's Collection. Tempe History Museum, Tempe, Arizona.

Historic Aerials. The Historical Aerial Photography Web Application, Maricopa County GIS Maps, Phoenix, Arizona.

S. EDGE FCDMC MAINTENANCE ESMT
MCR BK 365 MAPS, P 34

S. EDGE FCDMC MAINTENANCE ESMT
MCR BK 365 MAPS, P 34

80' C.O.T. ACCESS, PARKING, &
VEH. & PED. ING/EGG. ESMT
MCR # 2000-0393238

25' C.O.P. WATERLINE ESMT
MCR DKT 10150, P 963

APN 132-20-015S
NO DEED
CITY OF TEMPE

APN 132-20-015G
MCR # 2007-0919416
US AIRWAYS, INC.

12' C.O.T.
STORM DRAIN ESMT

20' C.O.T.
STORM DRAIN ESMT

APN 132-20-012
MCR BK 210 DEEDS, P 306
CITY OF TEMPE

APN 132-20-018A
MCR # 2007-0919416
US AIRWAYS, INC.

RIO SALADO PKWY

LEGEND

These standard symbols will be found in the drawing.

- Cable TV J-Box/Riser
- Electric J-Box/Riser
- Fence - Chain Link
- Fence - Wrought Iron
- Gas Sign/Marker
- Gate
- Irrigation Valve
- Light
- Shot Indicator
- Sign
- Water Meter
- Concrete Sidewalk
- Pavers
- Historical Concrete Deck
- Tree - Mesquite
- Tree - Eucalyptus
- Tree - Miscellaneous
- Right-of-Way Line
- Property Line
- Easement Line
- 6 NITROGEN — Existing 6" Nitrogen Line

THE PROPERTY LINE, EASEMENT, AND RIGHT-OF-WAY INFORMATION SHOWN WERE DETERMINED WITHOUT THE BENEFIT OF A TITLE REPORT AND ARE BASED ON THE BEST AVAILABLE RECORDS AS OBTAINED FROM THE MARICOPA COUNTY RECORDER AND ASSESSOR'S WEBSITES. THE LEGAL DESCRIPTION FOR APN 132-20-012 IS VAGUE AND AMBIGUOUS AND THE SOLUTION SHOWN MATCHES BEST WITH OTHER DOCUMENTS FOUND IN THE AREA.

NORTH
SCALE: 1"=20'

Entellus™
3033 N. 44th Street, Suite 250
Phoenix. AZ 85018
Tel 602.244.2566
Fax 602.244.8947
Website www.entellus.com

ASH HISTORICAL BRIDGE

TOPOGRAPHIC SURVEY

S. EDGE FCDMC MAINTENANCE ESMT
MCR BK 365 MAPS, P 34

S. EDGE FCDMC MAINTENANCE ESMT
MCR BK 365 MAPS, P 34

80' C.O.T. ACCESS, PARKING, &
VEH. & PED. ING/EGG. ESMT
MCR # 2000-0393238

25' C.O.P. WATERLINE ESMT
MCR DKT 10150, P 963

APN 132-20-015S
NO DEED
CITY OF TEMPE

APN 132-20-015G
MCR # 2007-0919416
US AIRWAYS, INC.

12' C.O.T.
STORM DRAIN ESMT

20' C.O.T.
STORM DRAIN ESMT

APN 132-20-012
MCR BK 210 DEEDS, P 306
CITY OF TEMPE

APN 132-20-018A
MCR # 2007-0919416
US AIRWAYS, INC.

RIO SALADO PKWY

PONDING

6" NITROGEN

LEGEND

These standard symbols will be found in the drawing.

- Cable TV J-Box/Riser
- Electric J-Box/Riser
- Fence – Chain Link
- Fence – Wrought Iron
- Gas Sign/Marker
- Gate
- Irrigation Valve
- Light
- Shot Indicator
- Sign
- Water Meter
- Concrete Sidewalk
- Pavers
- Historical Concrete Deck
- Tree – Mesquite
- Tree – Eucalyptus
- Tree – Miscellaneous
- Right-of-Way Line
- Property Line
- Easement Line
- 6 NITROGEN — Existing 6" Nitrogen Line
- Drainage Flow Path

THE PROPERTY LINE, EASEMENT, AND RIGHT-OF-WAY INFORMATION SHOWN WERE DETERMINED WITHOUT THE BENEFIT OF A TITLE REPORT AND ARE BASED ON THE BEST AVAILABLE RECORDS AS OBTAINED FROM THE MARICOPA COUNTY RECORDER AND ASSESSOR'S WEBSITES. THE LEGAL DESCRIPTION FOR APN 132-20-012 IS VAGUE AND AMBIGUOUS AND THE SOLUTION SHOWN MATCHES BEST WITH OTHER DOCUMENTS FOUND IN THE AREA.

NORTH
SCALE: 1"=20'

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Phoenix. AZ 85018
Tel 602.244.2566
Fax 602.244.8947
Website www.entellus.com

ASH HISTORICAL BRIDGE

DRAINAGE PATTERN

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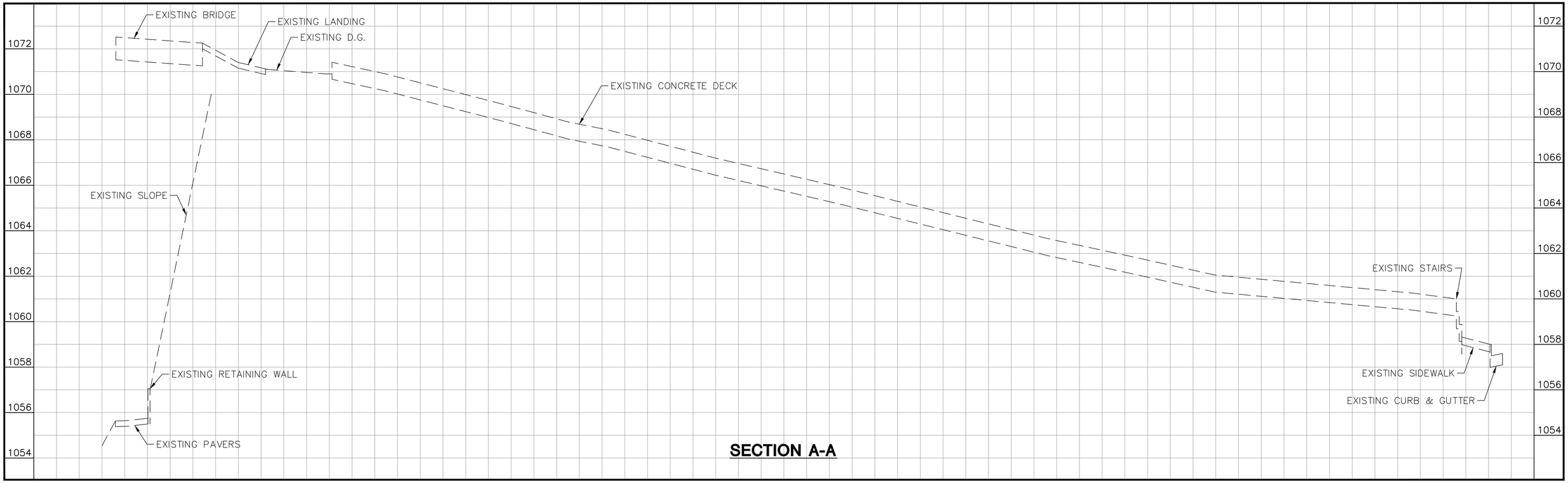
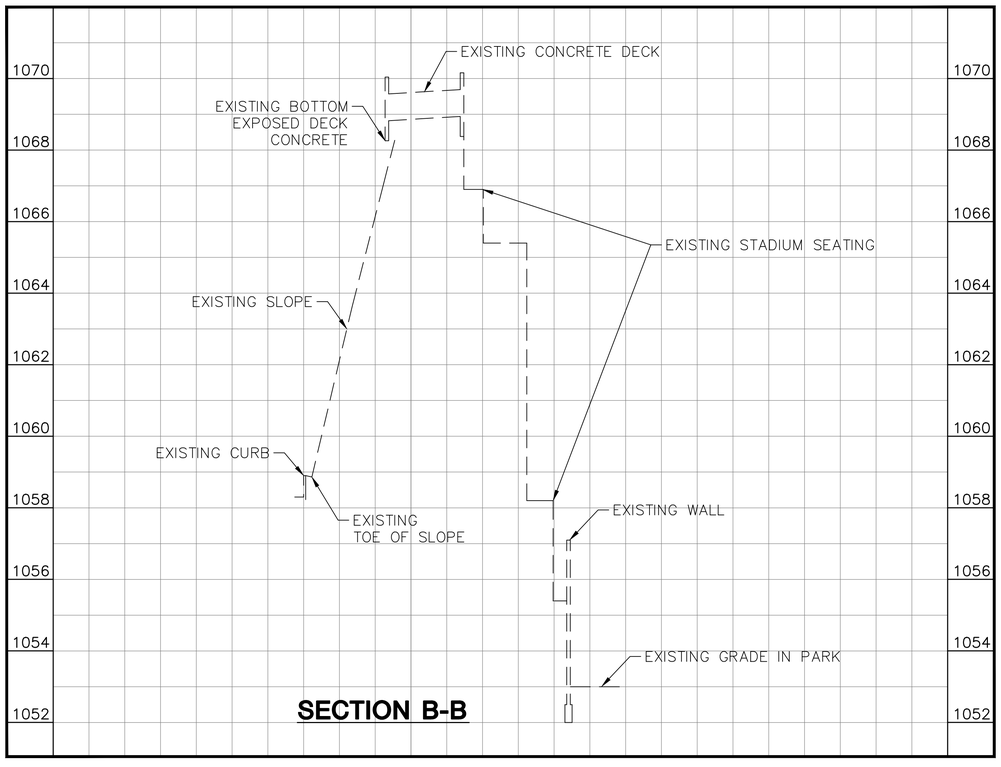
Oct 15, 2018 - 11:34am



SECTION A-A



SECTION B-B

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Tel 602.244.2566
Fax 602.244.8947
Website www.entellus.com

SCALE:
1"=20' HORIZONTAL
1"=2' VERTICAL

ASH HISTORICAL BRIDGE

CROSS SECTIONS

EXHIBIT "C-1"