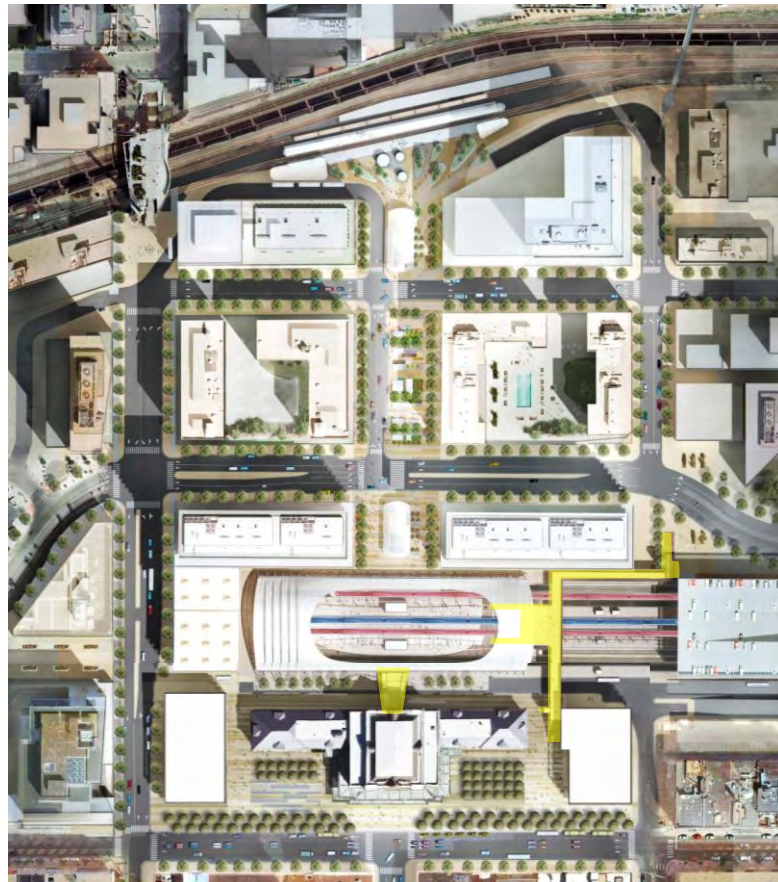


CITY AND COUNTY OF DENVER LPC / PLANNING BD SUBMITTAL

May 5, 2010

Denver Union Station Redevelopment Urban Design Package 2A



Denver Union Station Project Authority (DUSPA)



Denver Union Station Redevelopment

Urban Design Package 2A

Canopy Connector at DUS and Train Hall

The proposed canopy spanning the public plaza between the west face of the DUS historic building and new train hall provides a continuous covered path of travel for rail and bus customers bound from the train room, Amtrak ticketing and public washrooms. The canopy provides a visual transition between the contemporary transportation infrastructure and the historic architecture of the DUS station building. The proposed design presented for LPC and Planning Board design review is the product of extensive collaboration with DUSPA's Peer Design Panel.

The DUS canopy measures approximately 66 feet in length and 35 feet in width. Formally the canopy responds to three geometries—the Train Hall, the historic station and vertical circulation leading down into underground Regional Bus Station. Each of these three program elements is on a slightly different grid, the reason for the slightly asymmetrical framing.

The primary structure is a pair of tied arches composed of 20" diameter steel tubes with galvanized steel cables and shaped plates on which the roofing membrane is clamped. The superstructure is supported by two columns located approximately a foot away from the historic building and two of the train hall's "kickstand columns" on the west side. The canopy's steel structure matches the contemporary design language of the train hall and other architecturally exposed steel elements. The steel structure is painted white.

Due to the long span, the apex of the arched tubes projects approximately one foot above the DUT view corridor that corresponds to the elevation of the sill height of the DUS historic building's arched windows, roughly 21 feet above the new grade level. The design of DUS Canopy maintains the protected view corridor "substantially unobstructed."

The canopy roofing material is ETFE fabric suspended below the steel arches, rather than a white opaque PTFE as being used for the train hall roofing membrane. The ETFE is nearly transparent and contains a frit pattern of small beige colored dots to provide solar protection. A subsystem of stainless steel cables and rods integrates the ETFE membrane and primary steel framing. This ETFE assembly is similar to the vocabulary proposed for the CRT Amtrak canopy, which was previously approved by the Planning Board as part of UD Package 2.

The canopy is treated as an independent structure, *i.e.*, it will not physically attach to the historic station building. Along its perimeter the canopy eaves has a continuous gutter, including along the interface near the historic building. A 3"-diameter rain water leader is paired to each of the freestanding steel columns.

Pedestrian Bridge

The pedestrian overpass spanning the CRT tracks and platforms provides a vital public connection between LoDo and the Valley side of the DUS neighborhood. The bridge also serves as an essential means of egress from the rail platforms.

The proposed bridge structure is nominally 18 feet in width and composed of a composite concrete and steel deck on wide-flange girders. Gently arching tubular steel columns carry the superstructure in 60-foot spans over the tracks. Edges of the deck are detailed with profiled metal panel fascia painted white. Guardrails along the bridge edges are 8 feet in height and composed of stainless steel wire cloth with 1-by-3 inch openings, similar to the guardrailing design used throughout the DUS transportation architecture. Lighting for the pedestrian bridge is achieved with linear luminaires installed on the underside of the handrail assembly mounted to the guardrail barrier.

There are multiple access points between the overpass and grade or rail platforms located below. With the exception of the grand staircase at Wynkoop Plaza, all elevators and stairs associated with the pedestrian bridge were reviewed and approved by the Planning Board as part of Urban Design Package 2.

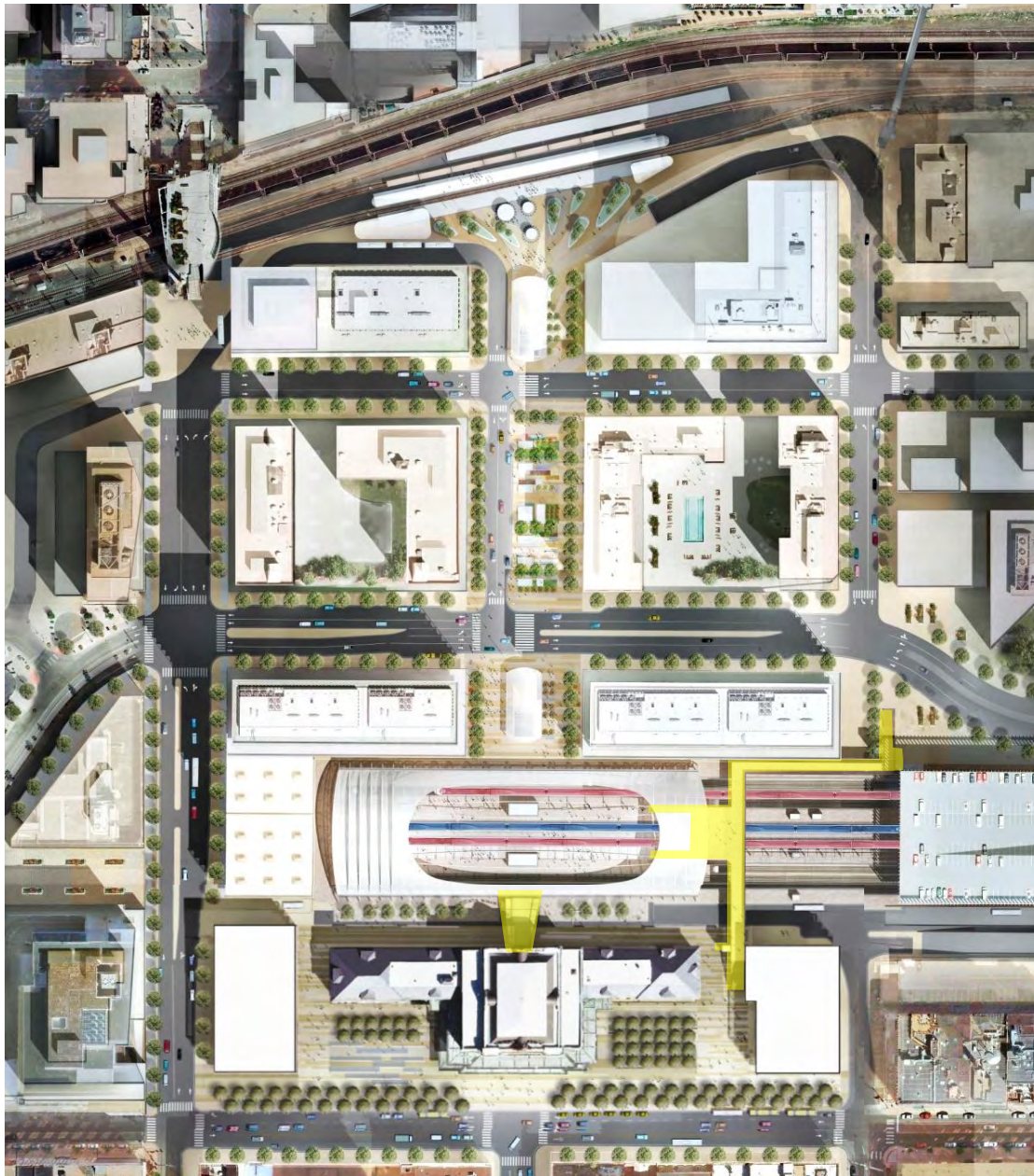
Elevators serving the pedestrian bridge feature full-height glass wall hoistways constructed of Kawneer 1600 System 2 curtain wall system. Horizontal mullions are expressed with 2 1/2" caps. Vertical mullions occur inside the hoistway enclosure and are expressed as structural silicone joints. The elevator enclosure structure is composed of HSS steel members located inside the hoistways. All HSS members, mullion caps, and metal panels are painted white, similar to the design of the CRT Pavilions. Stairs to the CRT platforms and landing at 18th & Wewatta Streets are steel stringers with concrete pans, with stainless steel guardrails and illuminated handrails similar to those used on the bridge.

Grand Staircase at Wynkoop Plaza

This important architectural staircase situated in the space between the historic building and future development site is integrated with the design of the North Wing building, employing the same architectural language and stone materials. Stair treads and risers of are cast-in-place concrete. The guardrail wall features stone cladding, a stone cap and stainless steel handrails.

The staircase's multiple landings and cascade of wide steps meeting the Wynkoop Plaza are suitable for sitting and people-watching, which consequently make the stair an important sculptural and wayfinding element of the public realm.

All vertical elements related to the staircase are outside of the zero-height limit area prescribed by T-MU-30 zoning.



Phased Site Plan Submission

UD Package 2A

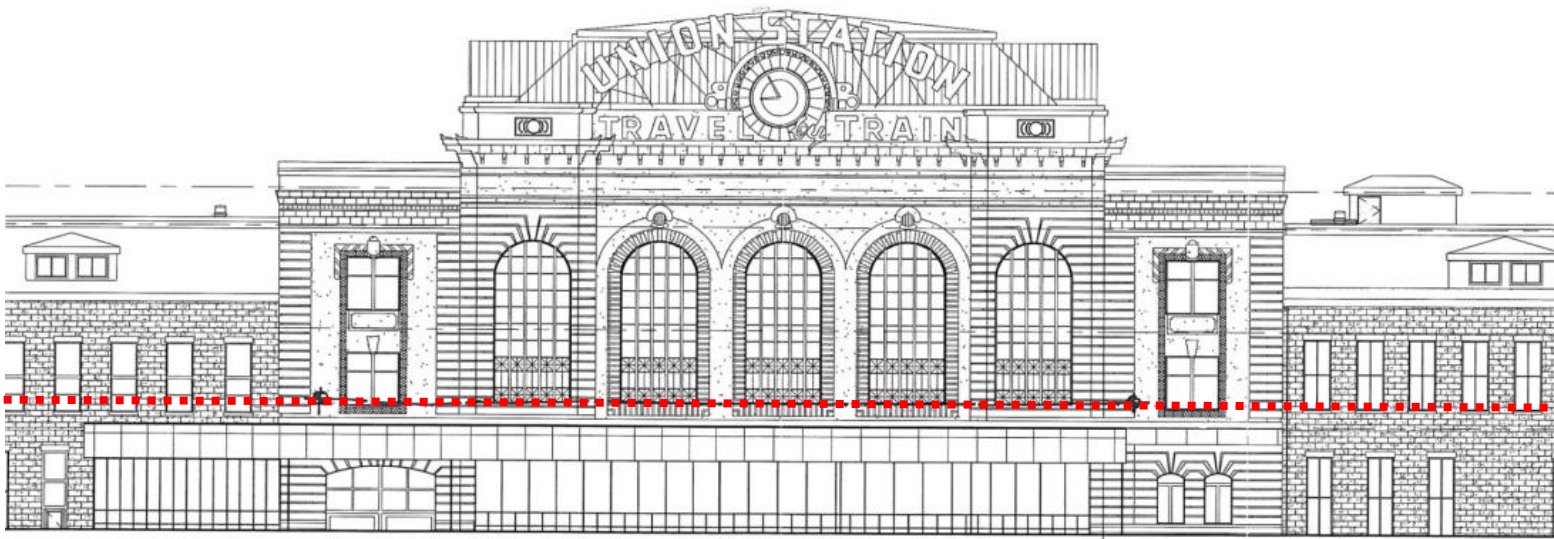
Additional CRT Components

Joint Review by LPC + Planning Board:

- Elevated Pedestrian Bridge over the CRT Platforms and Tracks, including associated Vertical Circulation at Wynkoop Plaza and 18th & Wewatta Streets
- DUS Canopy at CRT Train Hall

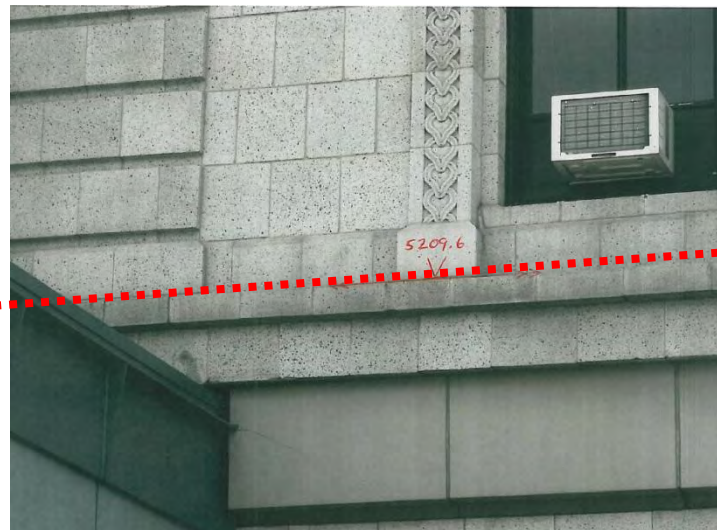
DUT View Corridor

Sill Height of Arched Windows (West Façade of DUS Historic Building)



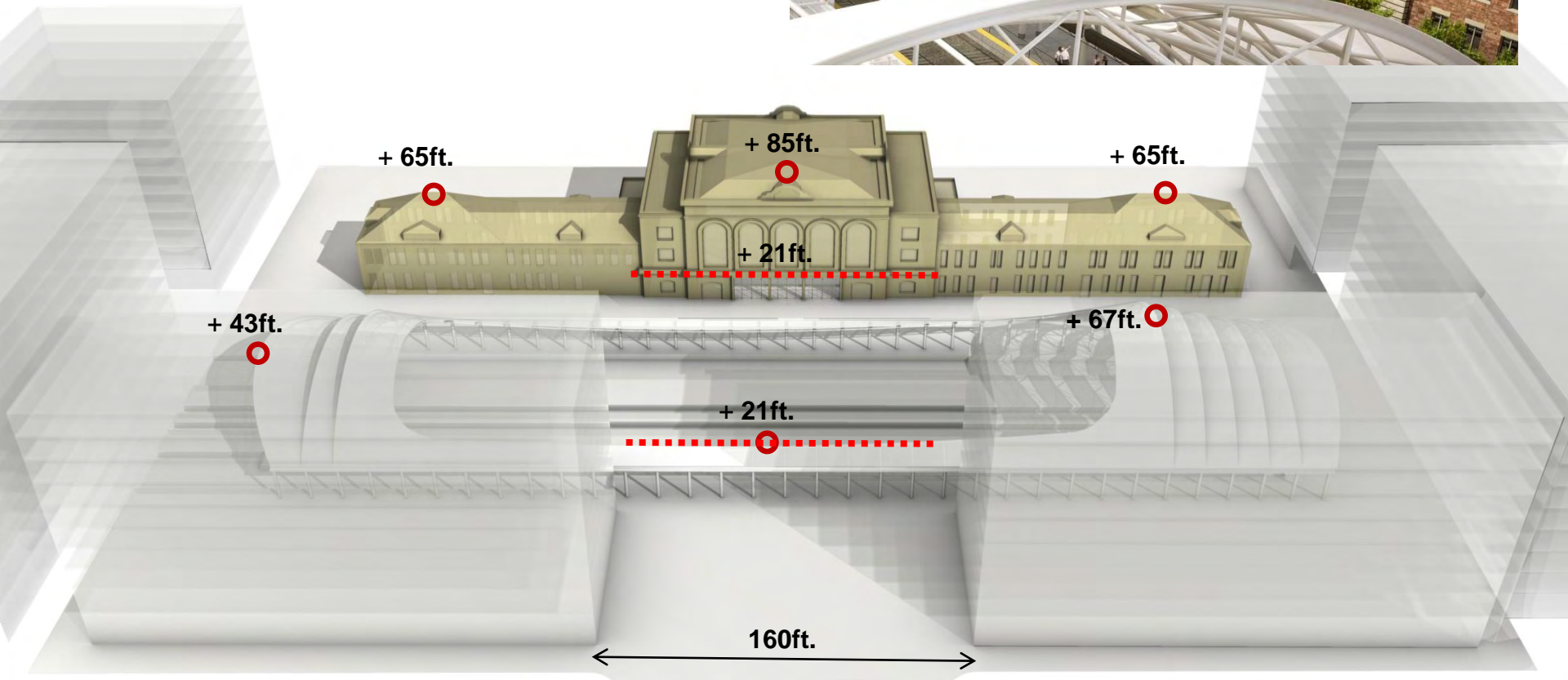
EL. 5209.6'
MEASURED

EL. 5209' PER
ORDINANCE
#707-04



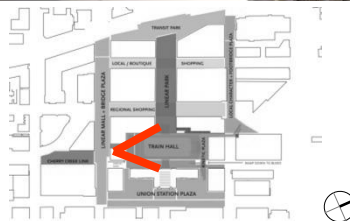
Canopy Connector at DUS and Train Hall

*One Foot Encroachment into DUT View Corridor
limited at apex of Bowstring Arches*



* All heights measured from platform level

Canopy Connector at DUS and Train Hall



Canopy Connector at DUS and Train Hall



Pedestrian Bridge over CRT



Pedestrian Bridge – Wynkoop Landing



Pedestrian Bridge – Wynkoop Landing



DENVER UNION STATION



NORTH BUILDING - WYNKOOP ELEVATION



NORTH BUILDING - EVA LANE ELEVATION

DENVER UNION STATION

Pedestrian Bridge – Wynkoop Landing



NORTH BUILDING - PLAZA ELEVATION

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION - URBAN DESIGN PACKAGE 2A

SHEET INDEX:

- SHEET 1

COVER
- SHEET 2

PROJECT SITE PLAN
- SHEET 3

SITE PLAN: DESIGN COMPONENTS
- SHEET 4

DESIGN COMPONENTS:
ELEVATIONS & SECTION
- SHEET 5

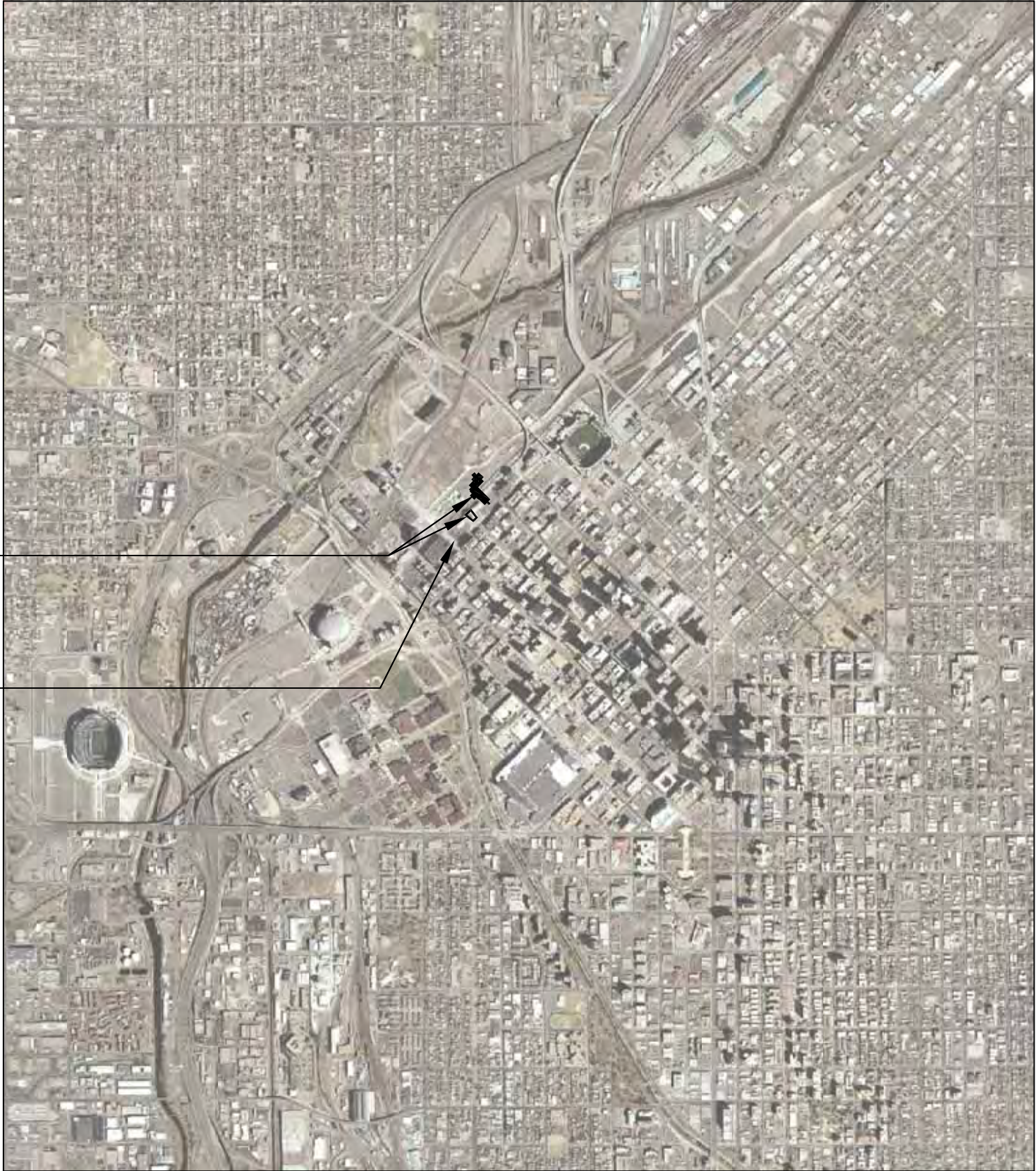
DESIGN COMPONENTS:
ENLARGED PLANS
- SHEET 6

DESIGN COMPONENTS:
ELEVATIONS & ENLARGED SECTIONS
- SHEET 7

DESIGN COMPONENTS:
ENLARGED PLANS & ELEVATIONS

URBAN DESIGN
PACKAGE 2A AREA

DUS REDEVELOPMENT
PROJECT BOUNDARY

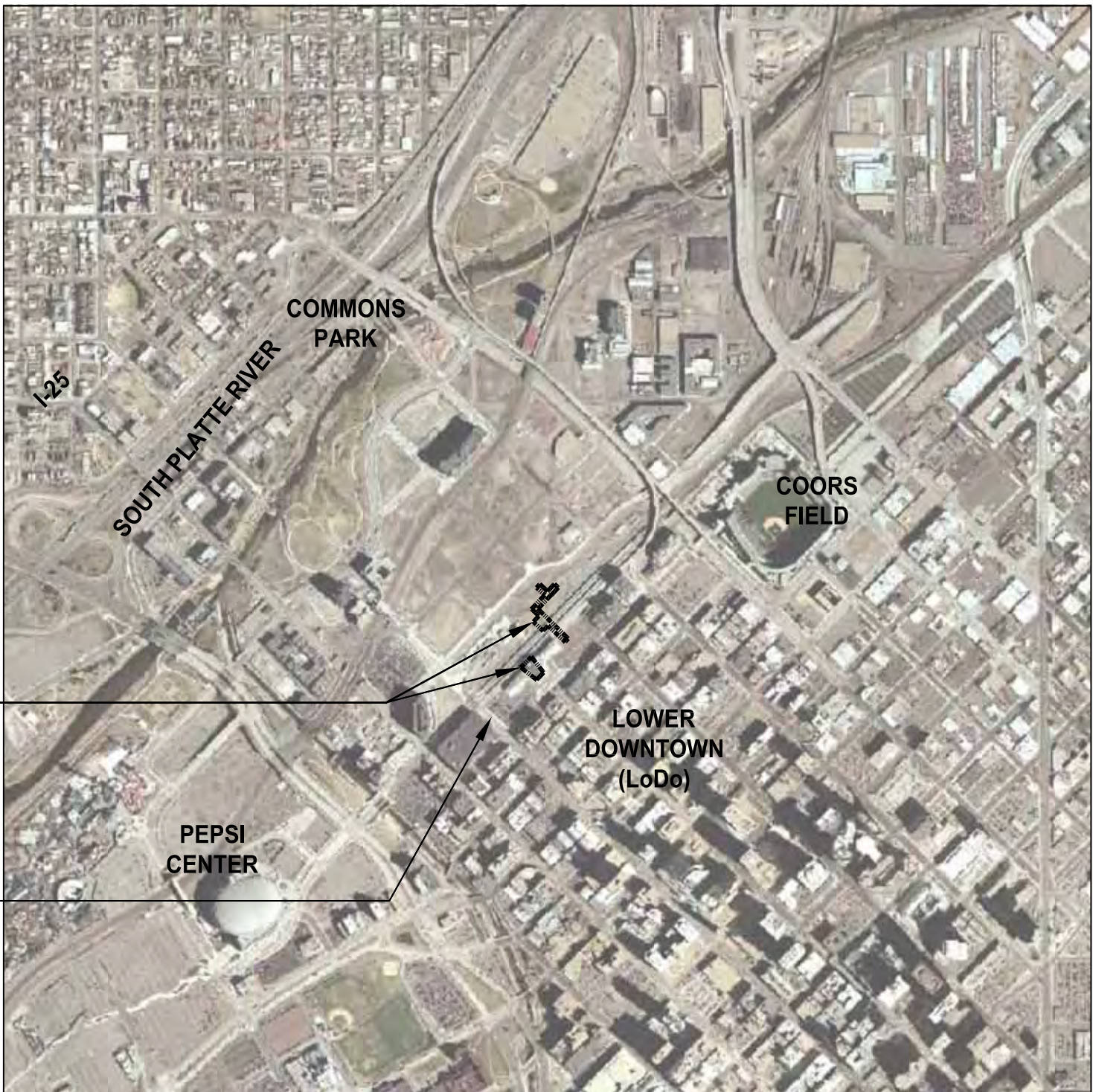


CONTEXT MAP
1" = 2000'

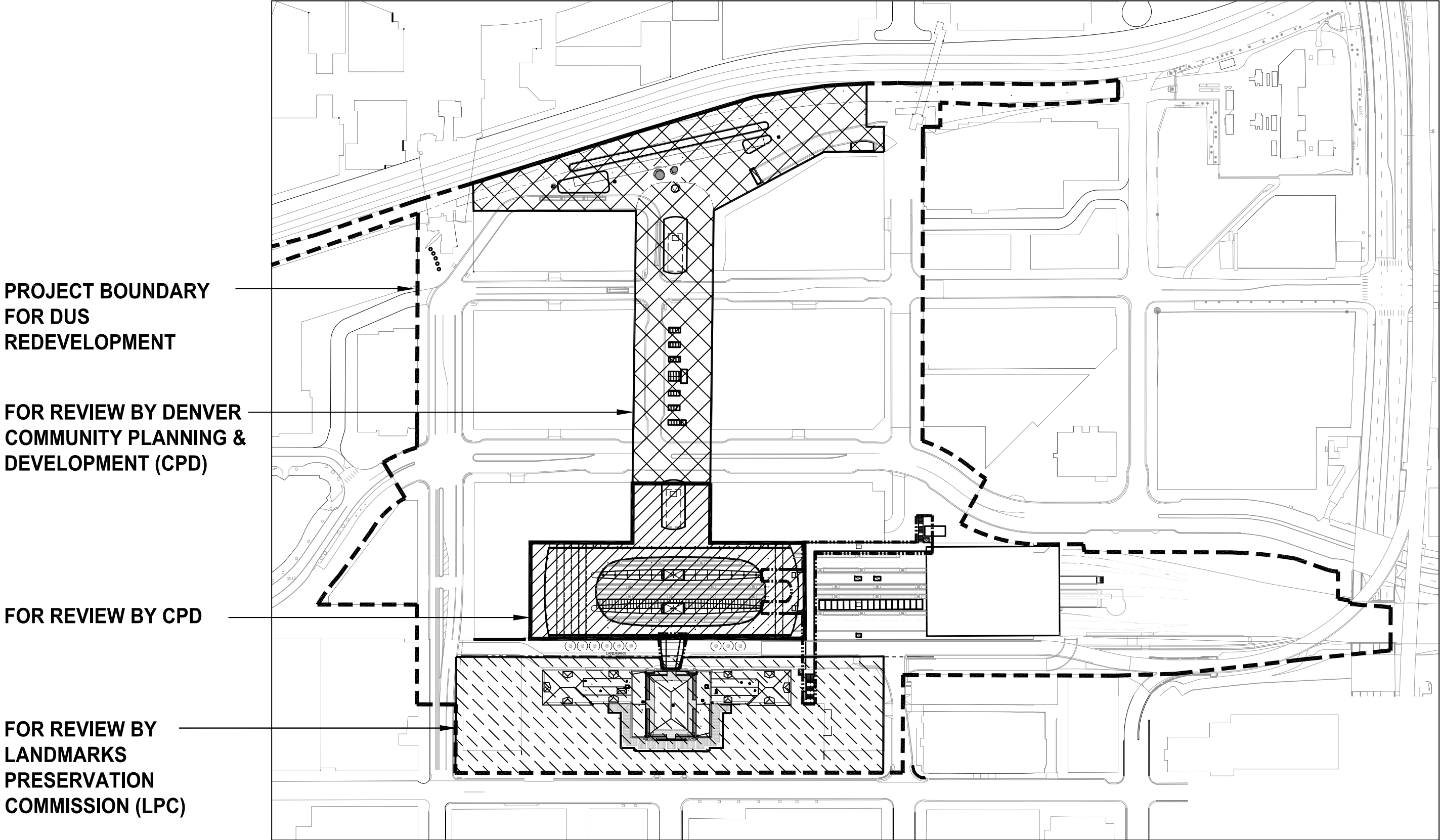
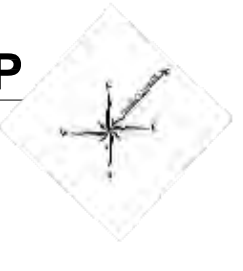


URBAN DESIGN
PACKAGE 2A AREA

DUS REDEVELOPMENT
PROJECT BOUNDARY



VICINITY MAP
1" = 1000'



SITE PLAN
1" = 200'



SUBMISSION

LEGEND

PHASED SITE PLAN SUBMISSION

APPROXIMATE AREA

PACKAGE 1
(APPROVED BY
PLANNING BOARD)



- LRT TO WEWATTA STREET
- LRT CANOPY
 - MALL SHUTTLE CANOPY
 - CHESTNUT PAVILION
 - 17TH ST. SKYLIGHTS & STAIR BULKHEAD

± 210,210 SF

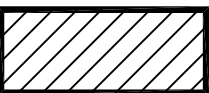
PACKAGE 1A



- LRT PLAZA
- VENTILATION TUBES

± 3,500 SF

PACKAGE 2
(APPROVED BY
PLANNING BOARD)



- WEWATTA STREET TO DUS
- CRT TRAIN HALL
 - ASSOCIATED VERTICAL CIRCULATION
CANOPIES AND PLATFORM

± 171,940 SF



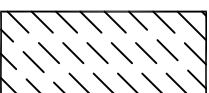
PACKAGE 2A



- ELEVATED PEDESTRIAN DECK
- CANOPY CONNECTOR AT DUS

±19,470 SF

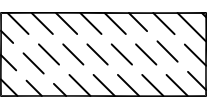
PACKAGE 3A
(APPROVED BY
LPC)



- LANDMARK PRESERVATION AREA - CONCEPTUAL DESIGN
- WYNKOOP PLAZA
 - NORTH & SOUTH WING BUILDINGS

± 205,950 SF

PACKAGE 3B



LANDMARK PRESERVATION AREA - FINAL DESIGN

PACKAGE 4

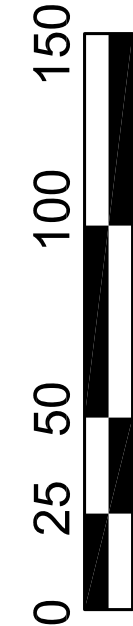


- FULL PUBLIC REALM MINUS PACKAGE 3A
- ALL STREETS & SIDEWALKS
 - ALL PUBLIC SPACES EXCEPT WYNKOOP PLAZA

±1,464,740 SF

COVER SHEET

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION
URBAN DESIGN PACKAGE 2A



SOM
SKIDMORE, OWINGS & MERRILL LLP
14 WALL STREET
NEW YORK, NY 10005
T: 212.238.7300 F: 212.238.9500

AECOM USA, Inc. | AECOM
717 Seventeenth Street, Suite 500 • Denver, CO, 80202
T 303-376-2800 F 303-376-2999
www.aecom.com

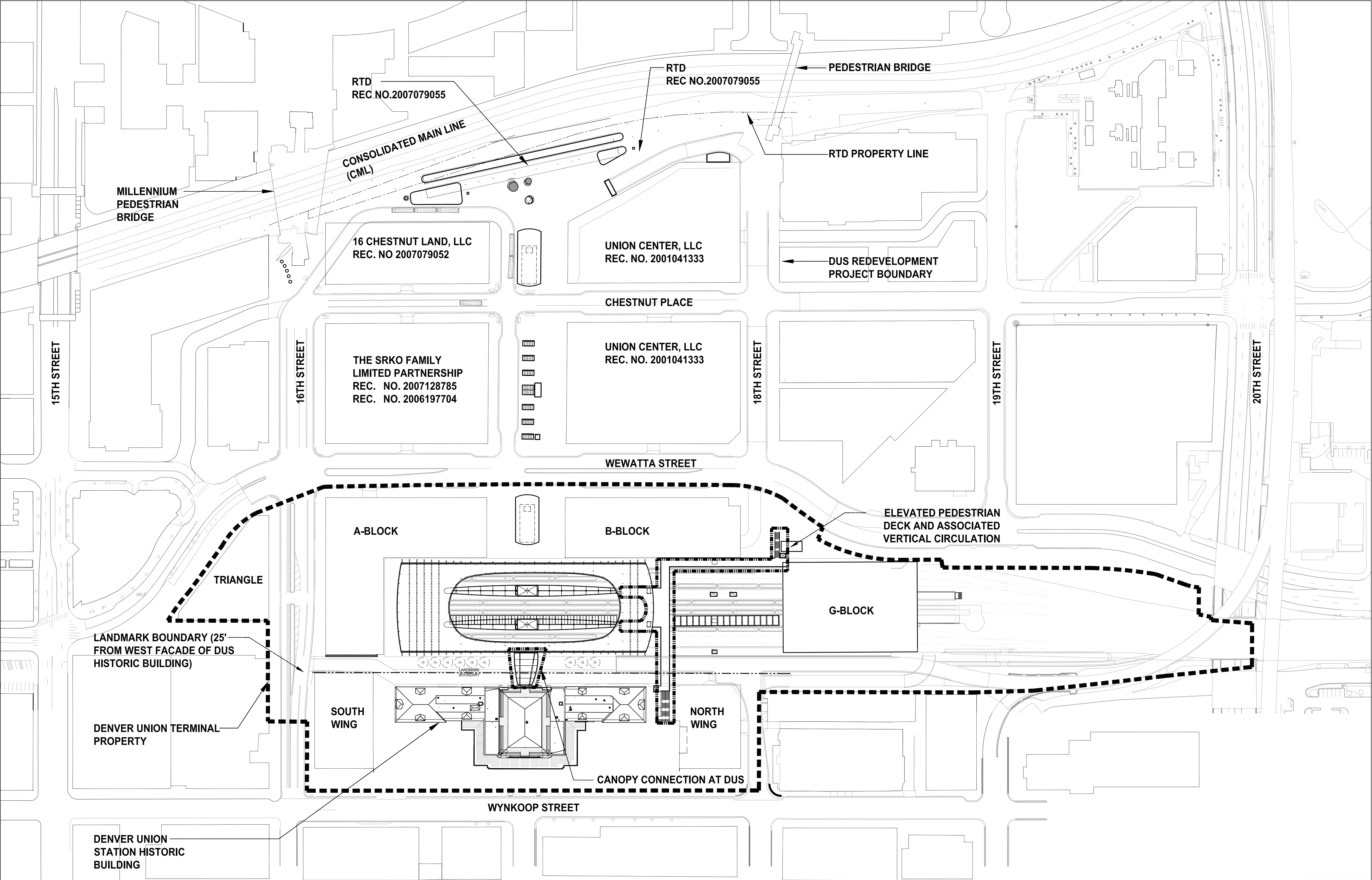
PROJECT NO.
207083

DATE: May 5, 2010

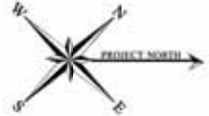
SHEET NUMBER:

1 of 7

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION - URBAN DESIGN PACKAGE 2A

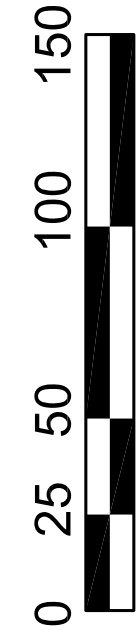


SITE PLAN
1" = 100'



PROJECT SITE PLAN

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION
URBAN DESIGN PACKAGE 2A

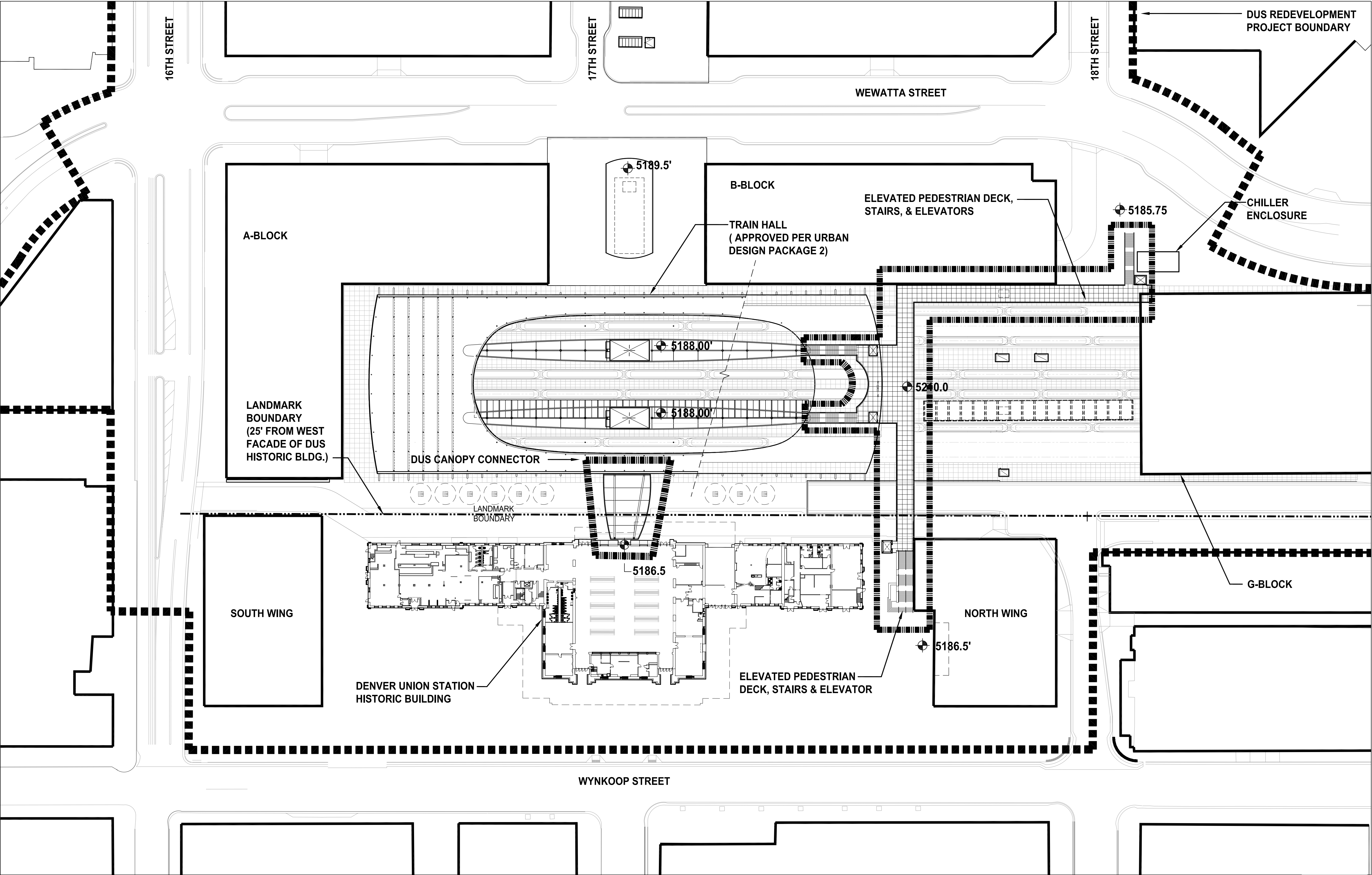


SOM
SKIDMORE, OWINGS & MERRILL LLP
14 WALL STREET
NEW YORK, NY 10005
T: 212.238.7300 F: 212.238.9500

AECOM USA, Inc. | AECOM
717 Seventeenth Street, Suite 500 • Denver, CO 80202
T 303-376-2800 F 303-376-2999 www.aecom.com

PROJECT NO.
207083
DATE
May 5, 2010
SHEET NUMBER

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION - URBAN DESIGN PACKAGE 2A

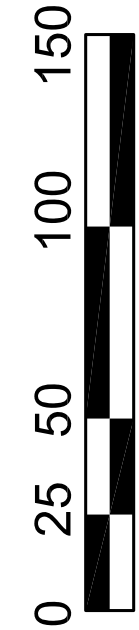


AT-GRADE PLAN
1" = 50'



SITE PLAN VERTICAL COMPONENTS

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION
URBAN DESIGN PACKAGE 2A



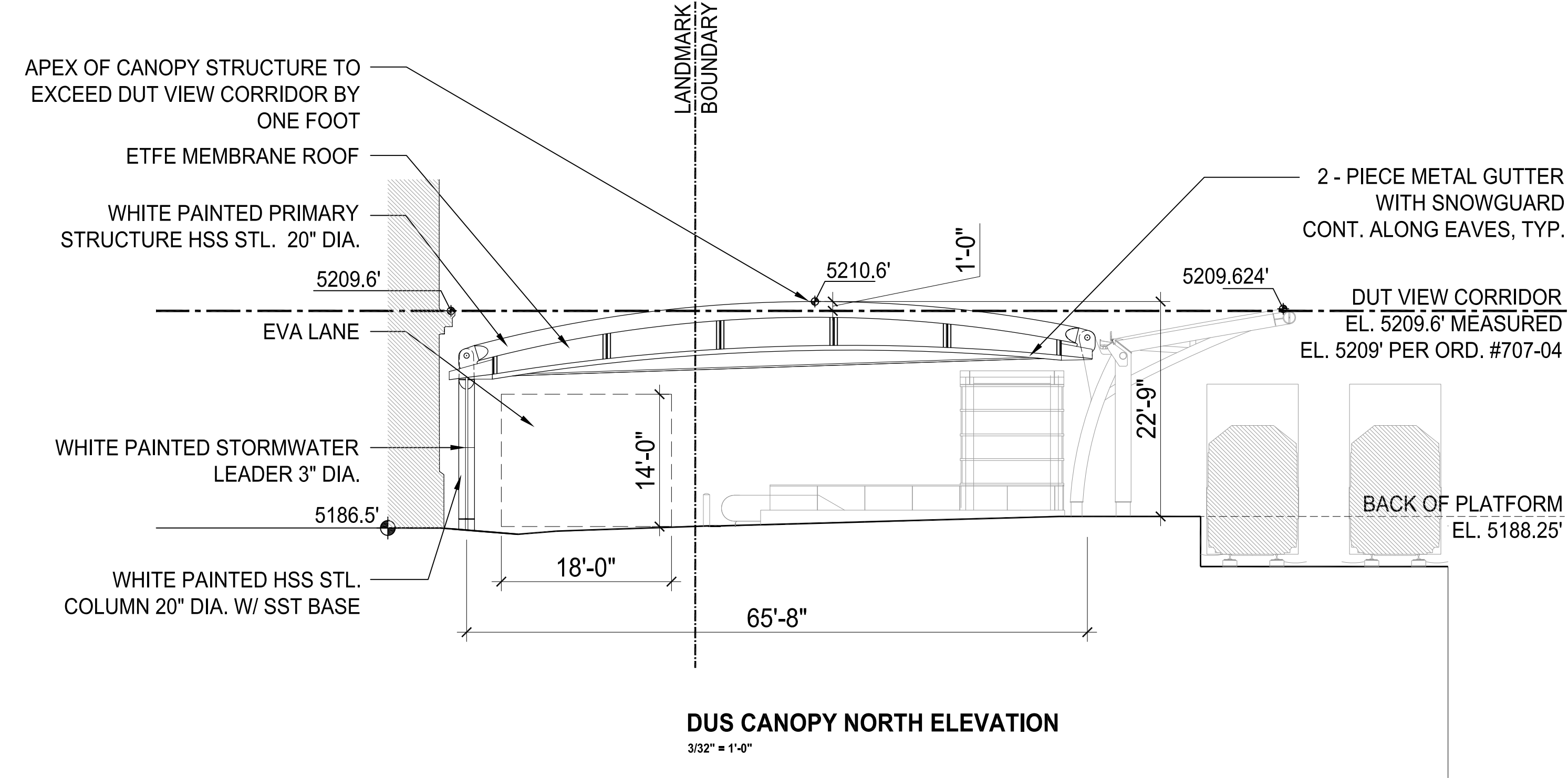
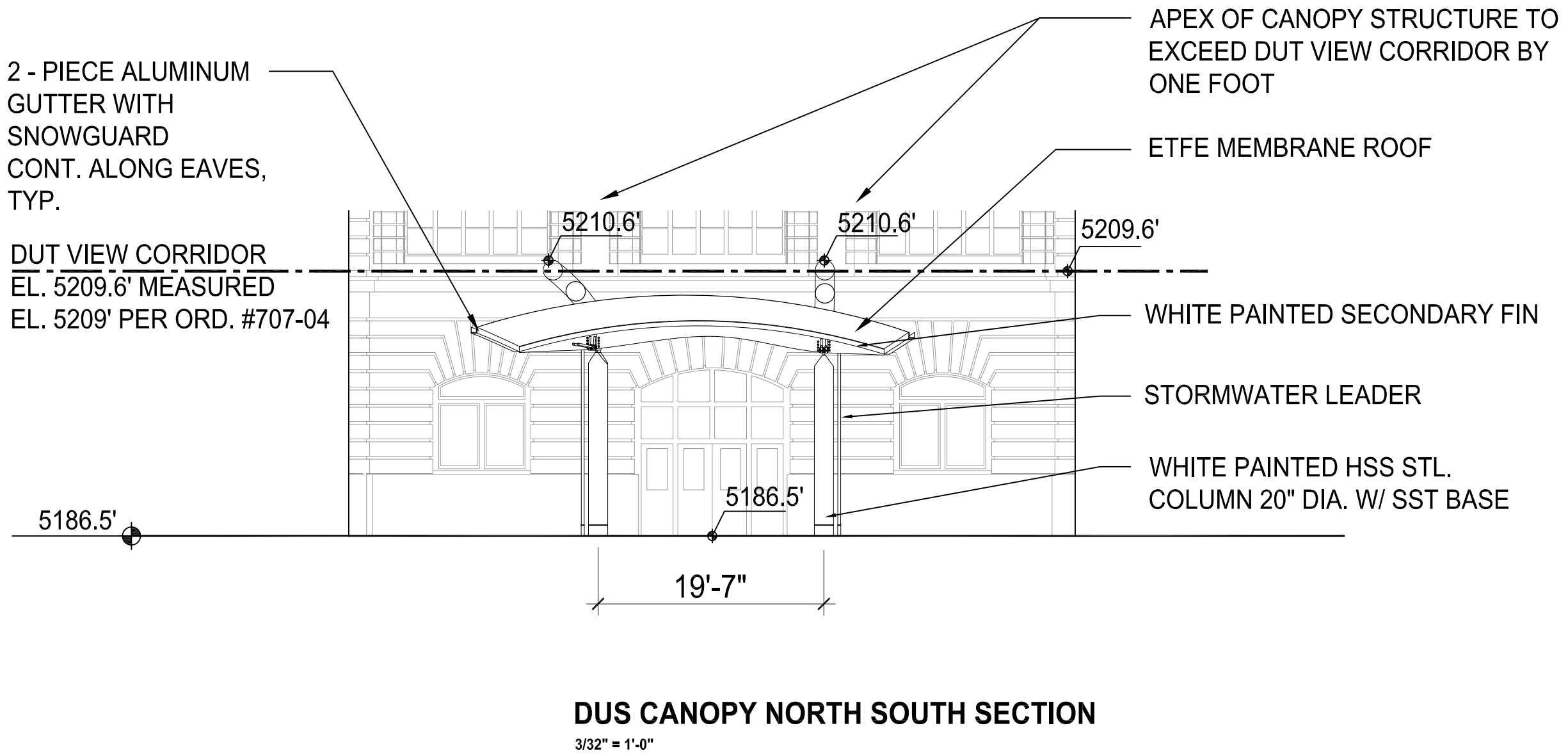
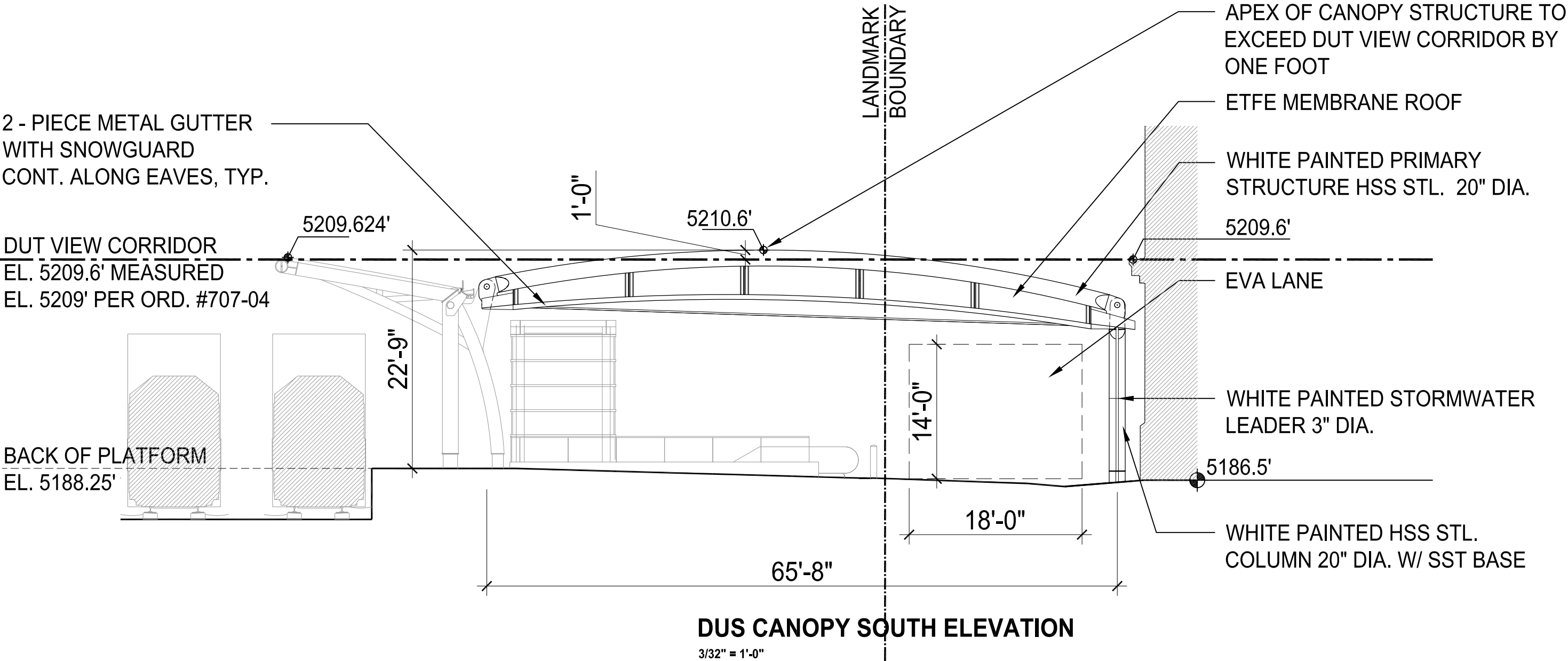
SOM
SKIDMORE, OWINGS & MERRILL LLP
14 WALL STREET
NEW YORK, NY 10005
T: 212.238.7300 F: 212.238.9500

AECOM USA, Inc. | AECOM
717 Seventeenth Street, Suite 500 • Denver, CO, 80202
T 303-376-2900 F 303-376-2999 www.aecom.com

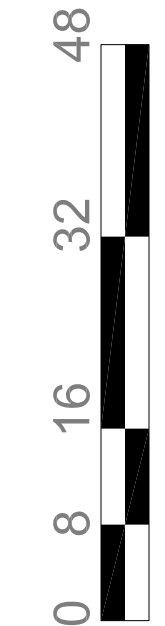
PROJECT NO.
207083
DATE: May 5, 2010
SHEET NUMBER:

3 of 7

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION - URBAN DESIGN PACKAGE 2A



DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION
URBAN DESIGN PACKAGE 2A



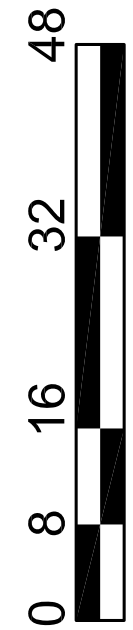
SOM
SKIDMORE OWINGS & MERRILL LLP
14 WALL STREET
NEW YORK, NY 10005
T: 212.298.7300 F: 212.298.8600

AECOM USA, Inc. AECOM
717 Seventeenth Street, Suite 500 - Denver, CO 80202
T 303.376.2900 F 303.376.2999
www.aecom.com

PROJECT NO.
207083
DATE: May 5, 2010
SHEET NUMBER:

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION - URBAN DESIGN PACKAGE 2A

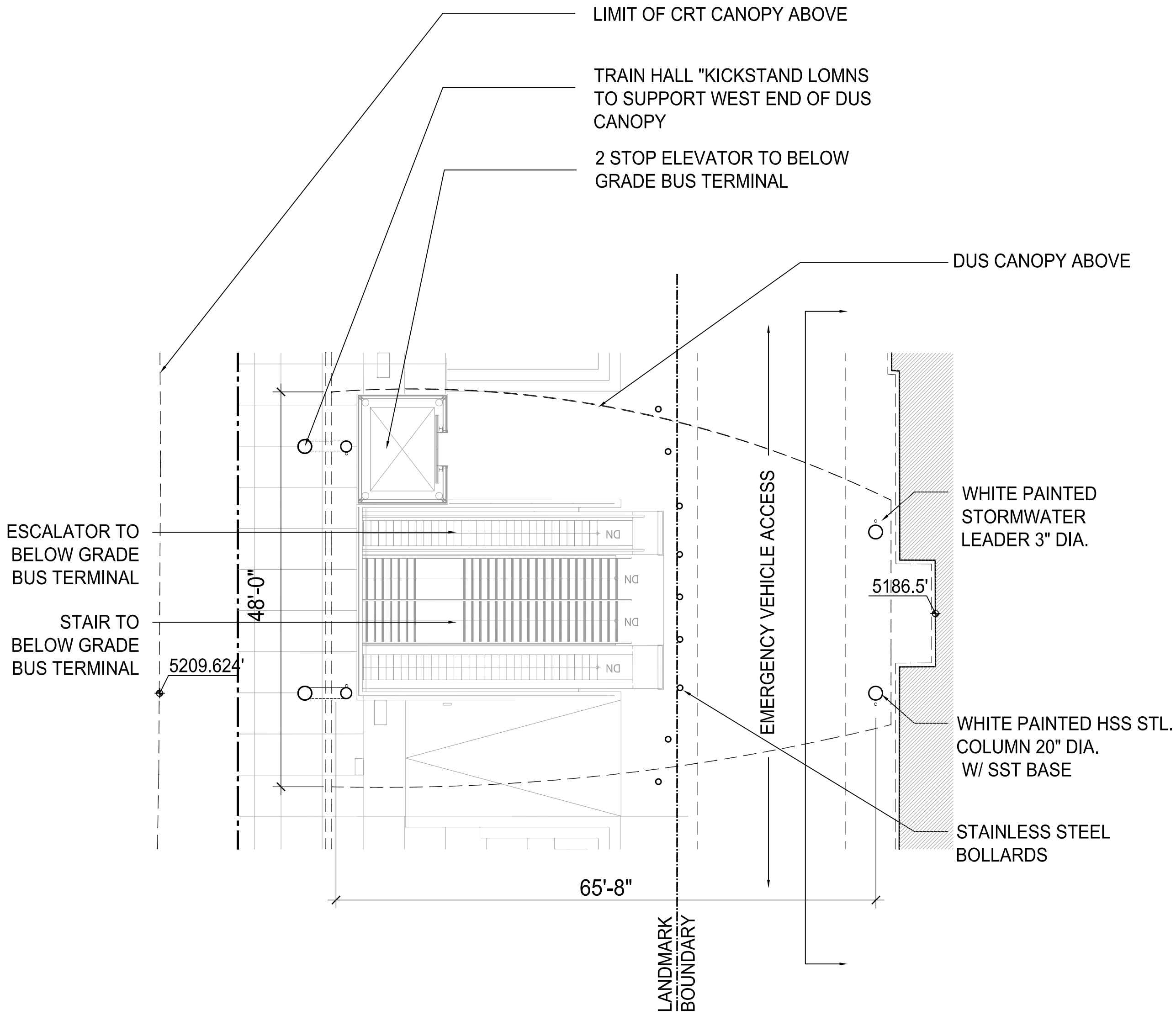
DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION
URBAN DESIGN PACKAGE 2A



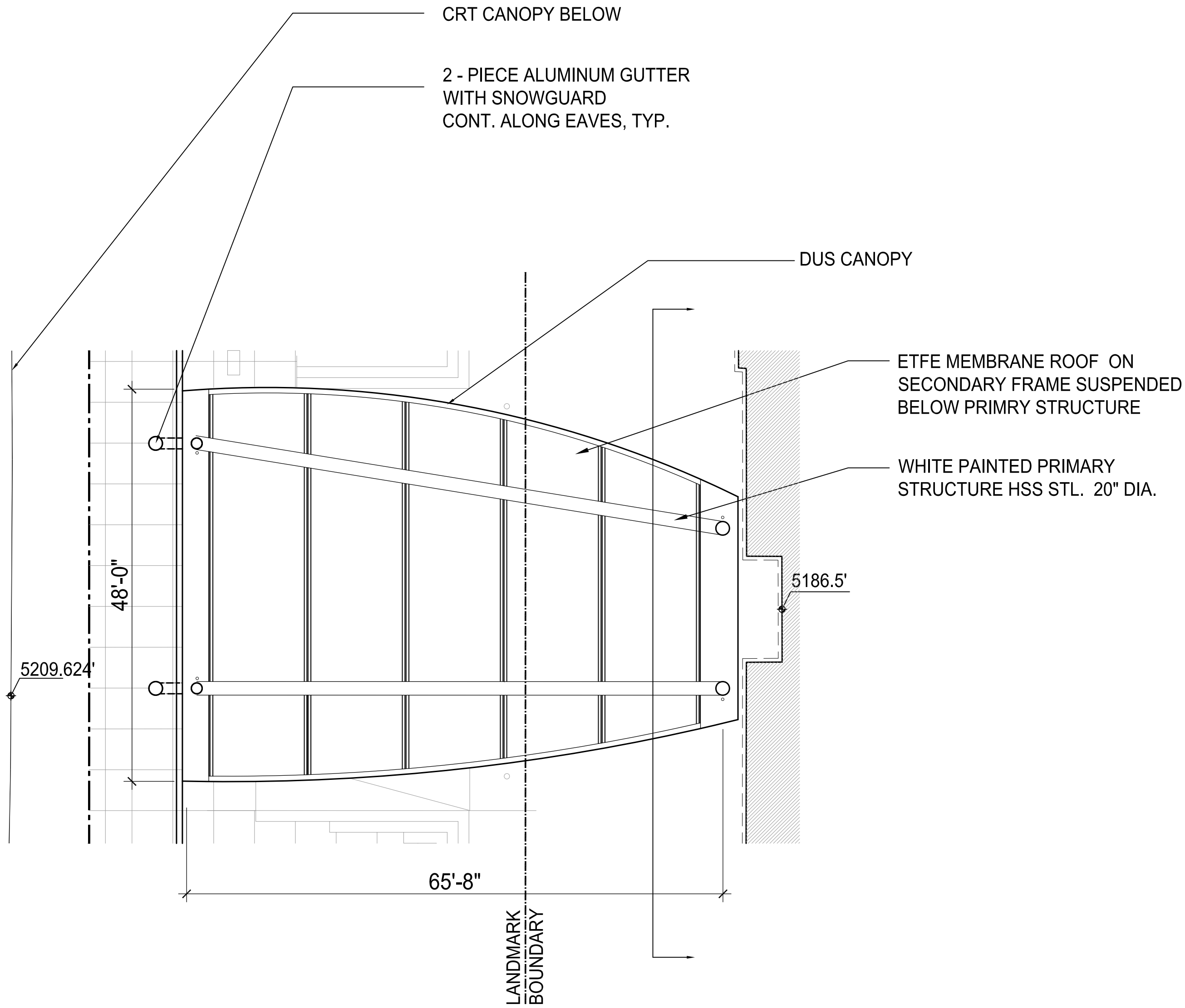
SOM
SKIDMORE OWINGS & MERRILL LLP
14 WALL STREET
NEW YORK, NY 10005
T: 212.288.7300 F: 212.288.8600

AECOM USA, Inc. | AECOM
717 Seventeenth Street, Suite 500 - Denver, CO 80202
T 303.376.2900 F 303.376.2999 www.aecom.com

PROJECT NO.
207083
DATE: May 5, 2010
SHEET NUMBER:

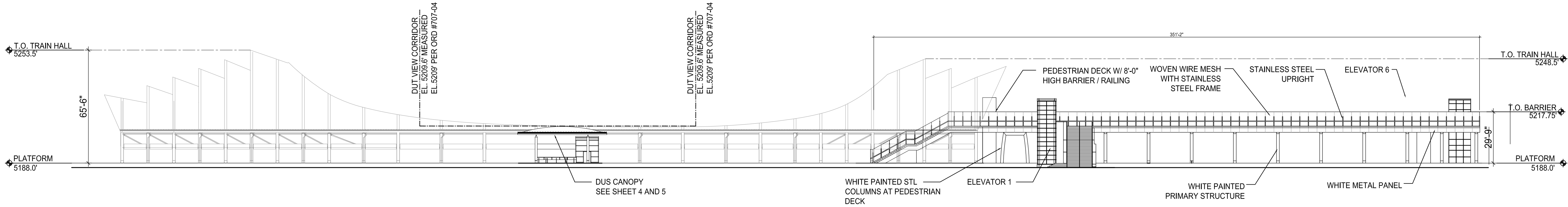


DUS CANOPY PLAN
3/32" = 1'-0"



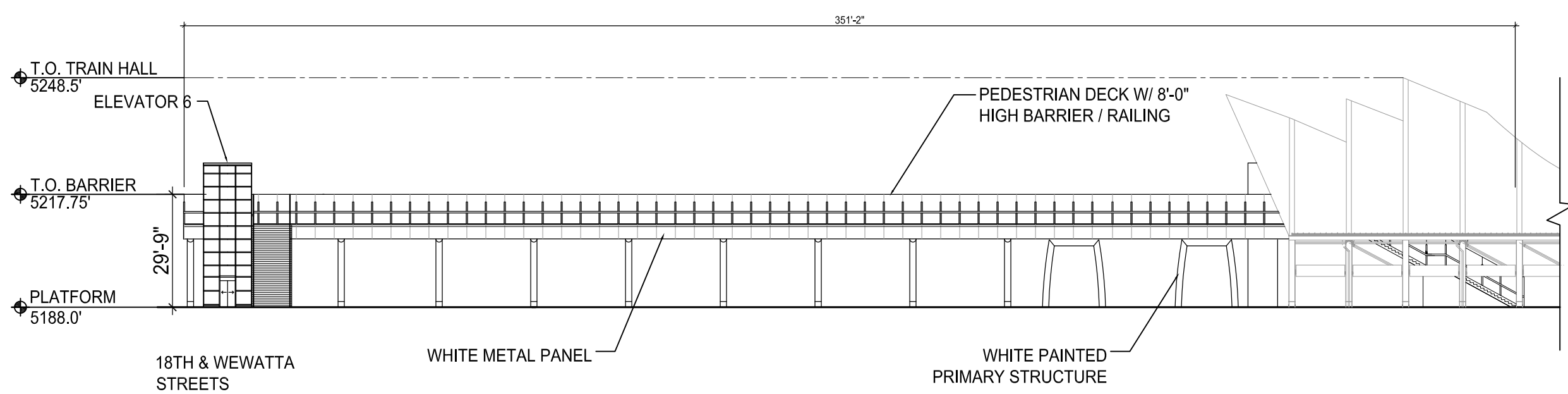
DUS CANOPY ROOF PLAN
3/32" = 1'-0"

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION - URBAN DESIGN PACKAGE 2A



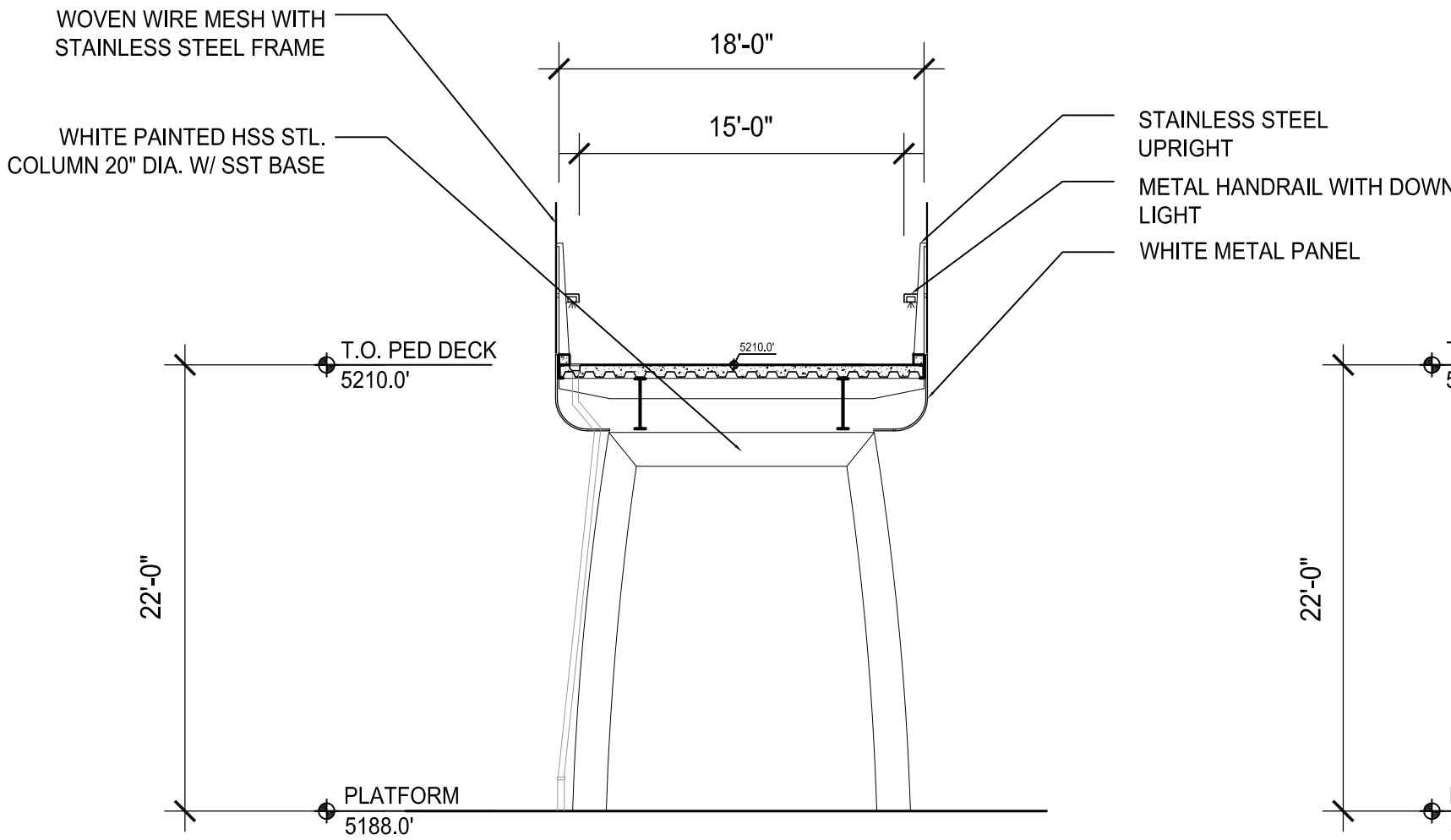
PEDESTRIAN DECK
EAST ELEVATION

1/32" = 1'-0"



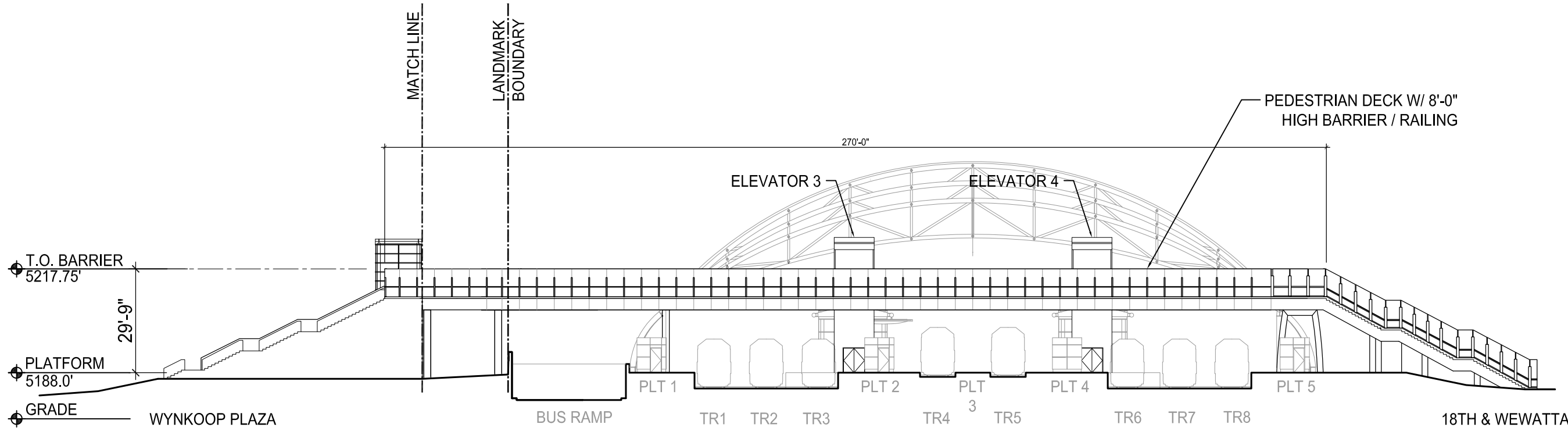
PEDESTRIAN DECK
WEST ELEVATION

1/32" = 1'-0"



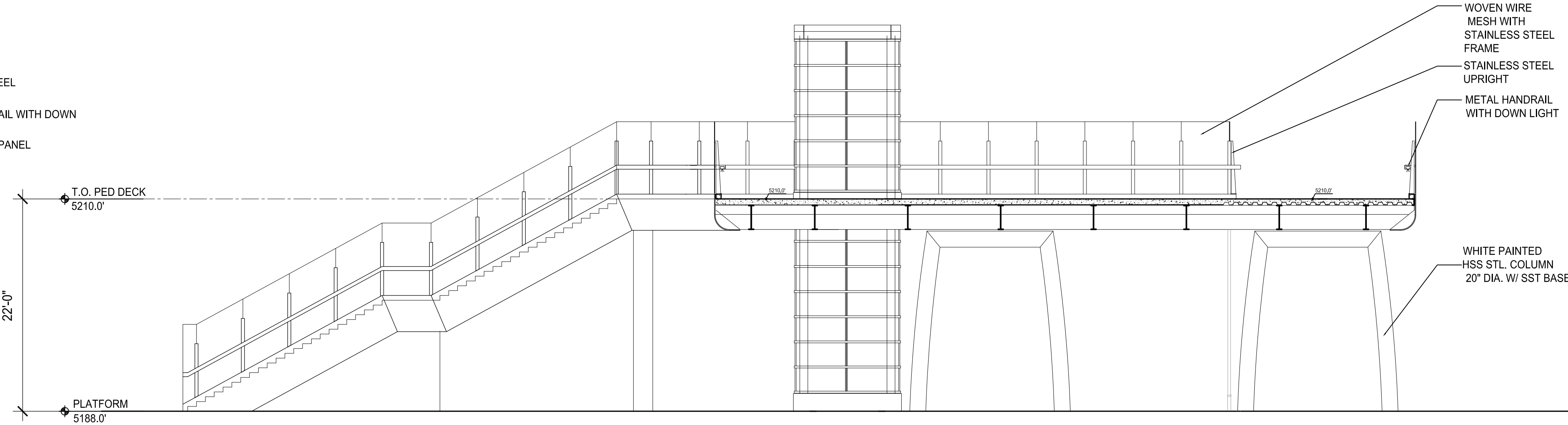
PEDESTRIAN DECK SECTION

1/8" = 1'-0"



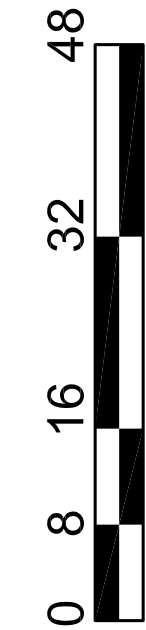
PEDESTRIAN DECK
NORTH ELEVATION

1/32" = 1'-0"

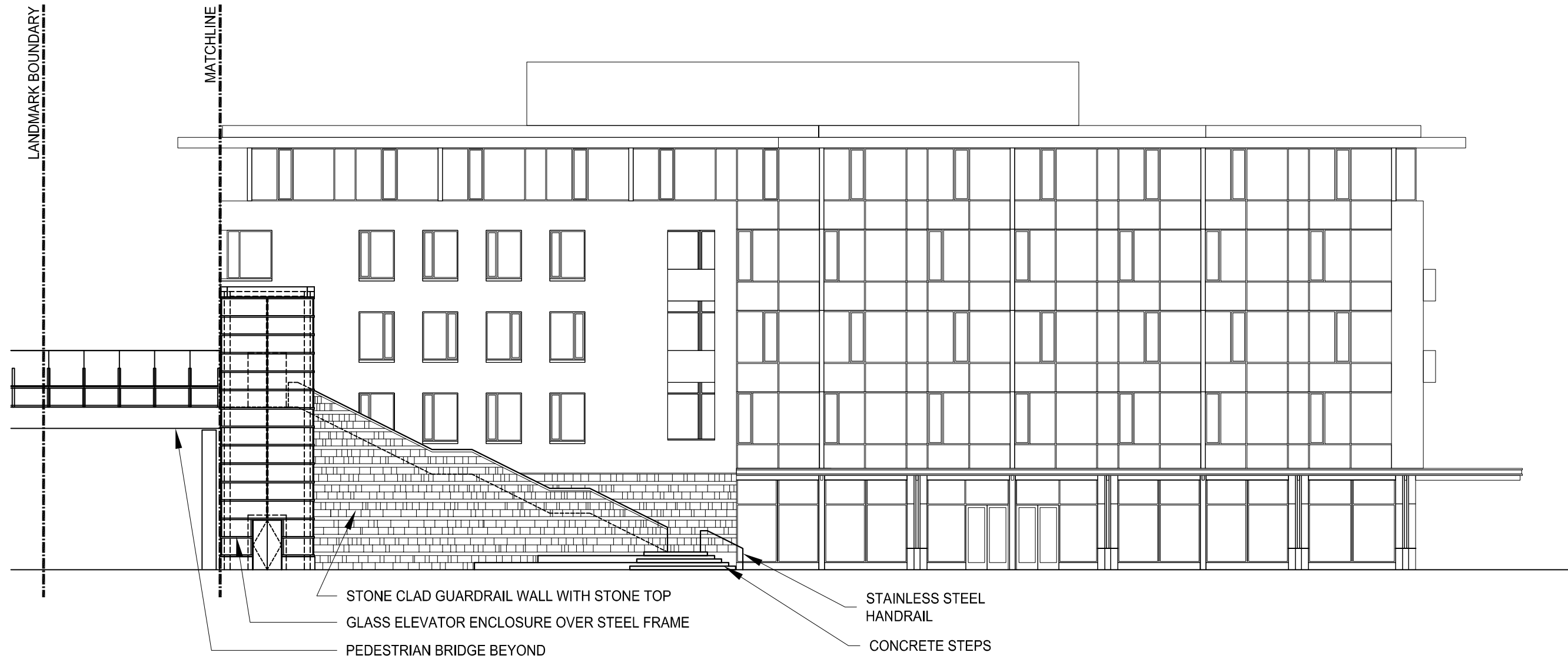


PEDESTRIAN DECK SECTION

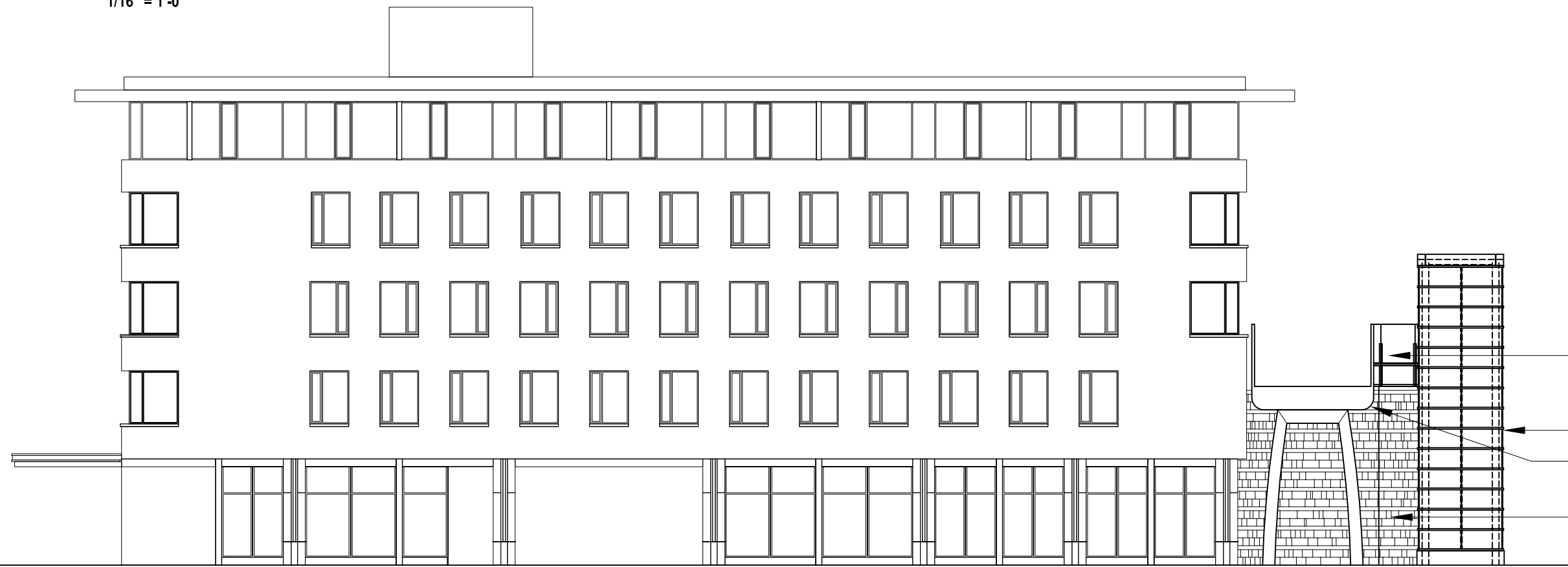
1/8" = 1'-0"



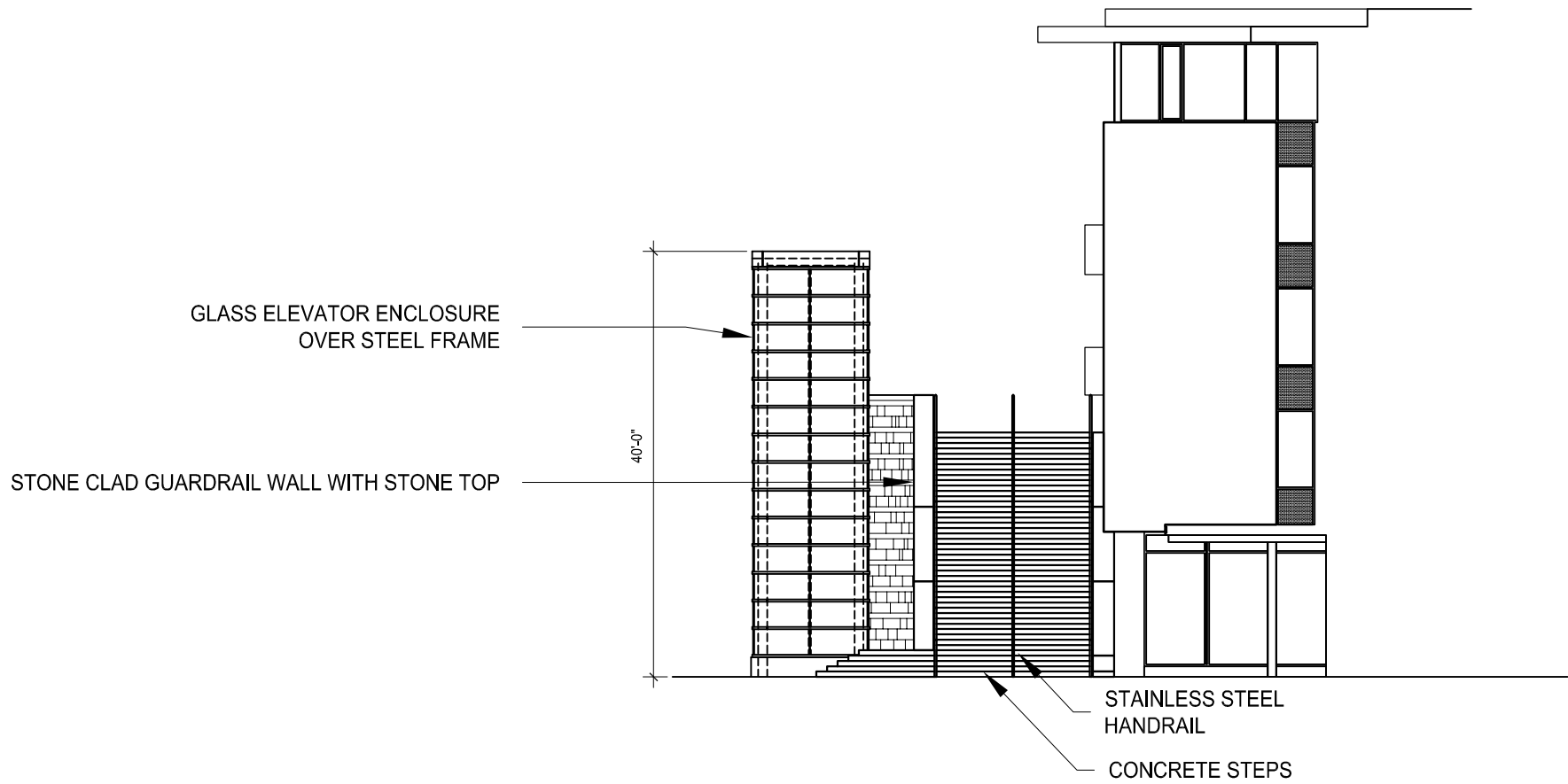
DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION - URBAN DESIGN PACKAGE 2A



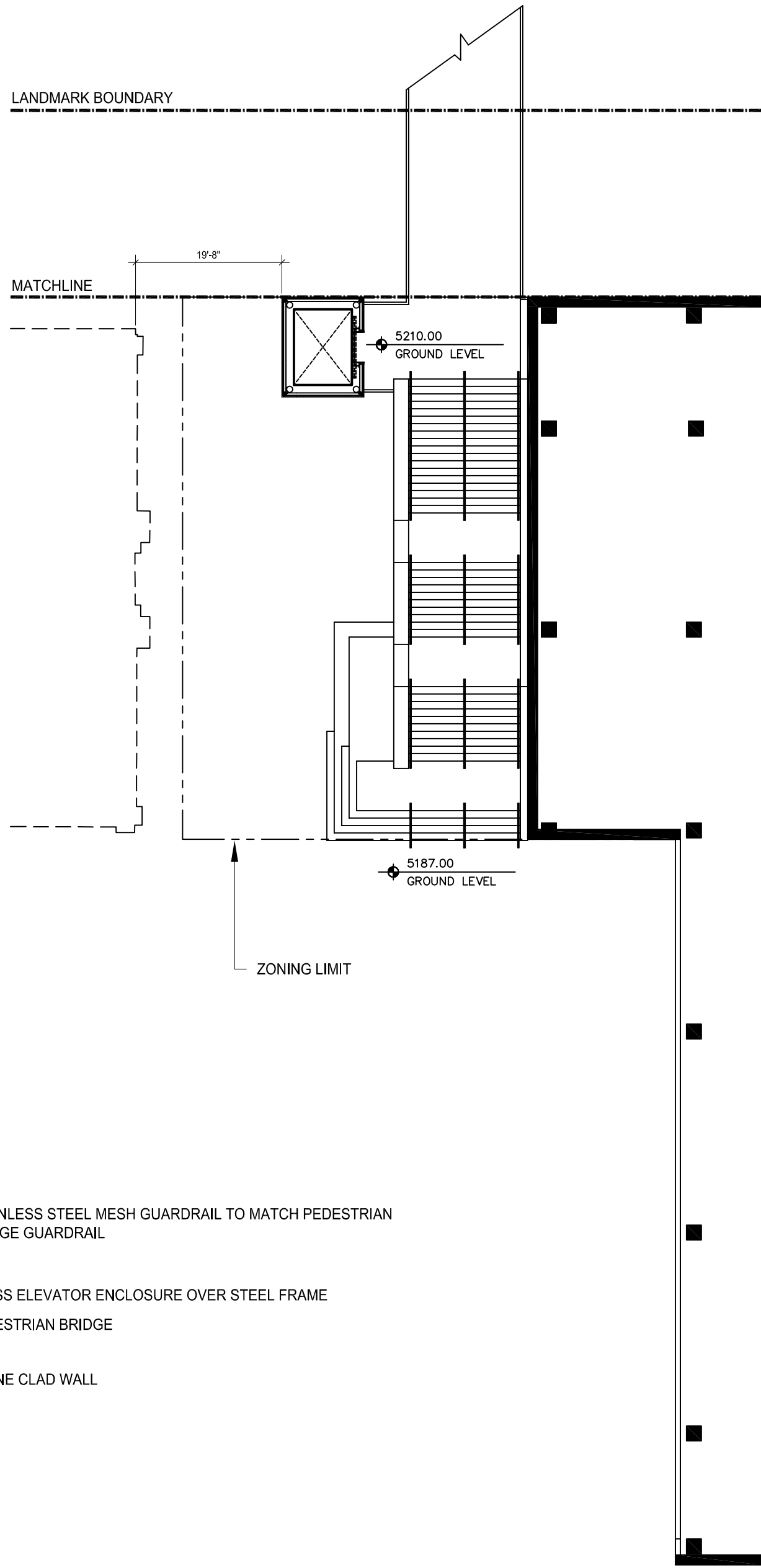
NORTH BUILDING PLAZA (SW)
ELEVATION
1/16" = 1'-0"



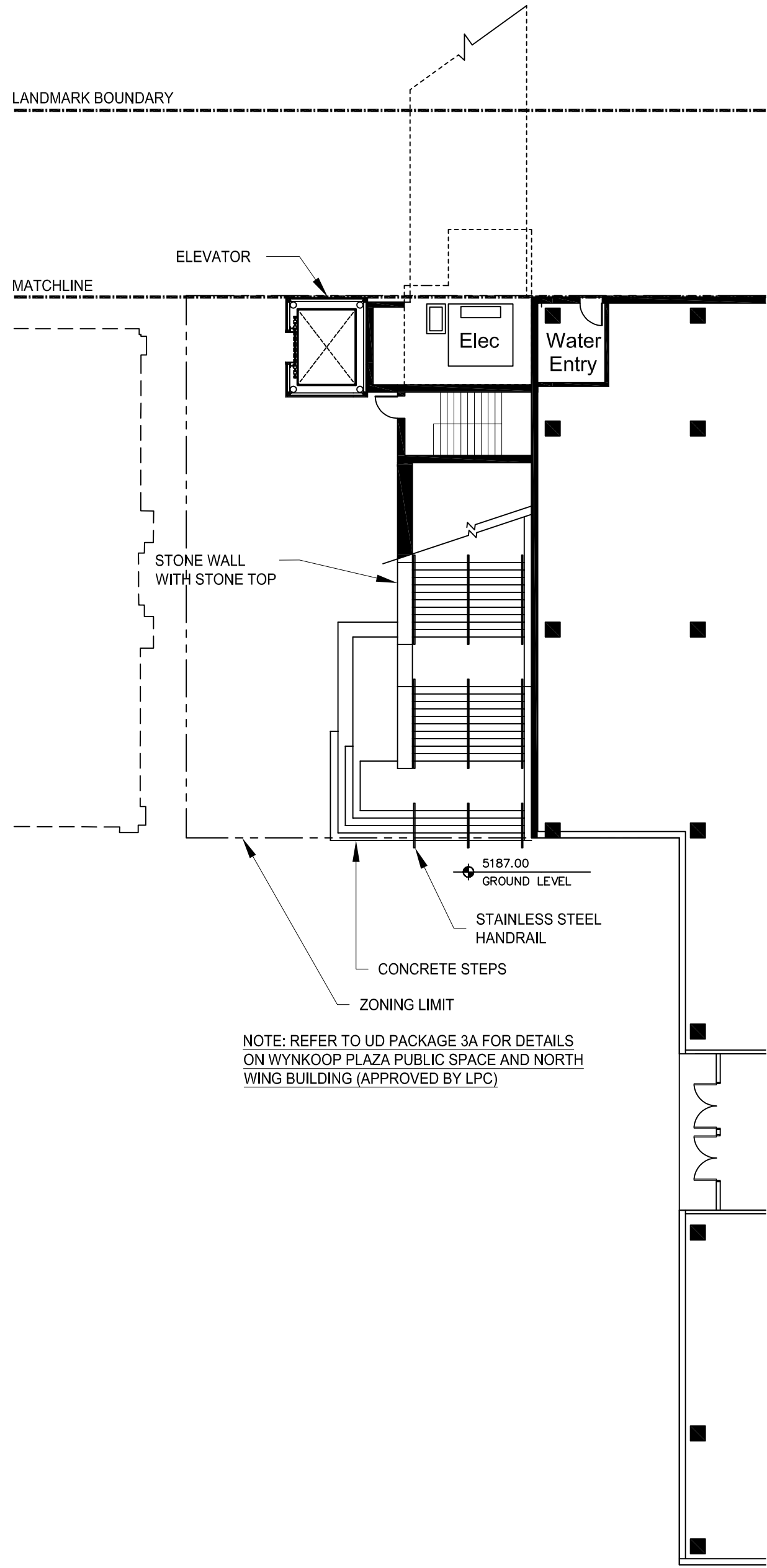
NORTH BUILDING EVA LANE (NW)
ELEVATION
1/16" = 1'-0"



NORTH BUILDING PARTIAL WYNKOOP
(SE) ELEVATION
1/16" = 1'-0"



NORTH BUILDING SECOND LEVEL
PARTIAL PLAN
1/16" = 1'-0"



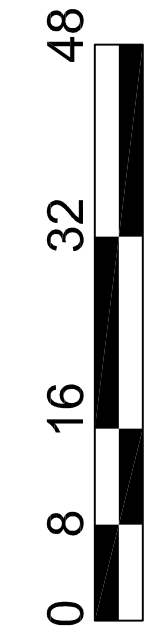
NORTH BUILDING FIRST LEVEL PARTIAL
PLAN
1/16" = 1'-0"

NOTE: REFER TO UD PACKAGE 3A FOR DETAILS
ON WYNKOOP PLAZA PUBLIC SPACE AND NORTH
WING BUILDING (APPROVED BY LPC)

AndersonMasonDale
Architects

DESIGN COMPONENTS - PED. BRIDGE LANDING AT WYNKOOP PLAZA

DENVER UNION STATION REDEVELOPMENT
SITE PLAN SUBMISSION
URBAN DESIGN PACKAGE 2A



SOM
SKIDMORE OWINGS & MERRILL LLP
14 WALL STREET
NEW YORK, NY 10005
T: 212.288.7300 F: 212.288.8600

AECOM USA, Inc. | **AECOM**
717 Seventeenth Street, Suite 500 - Denver, CO 80202
T 303.376.2900 F 303.376.2999
www.aecom.com

PROJECT NO.
207083
DATE: May 5, 2010
SHEET NUMBER:

7 of 7