DRAWING LOCATION: G:\PALING\22.0149-Ball Arena Master Plan and Speer Bridge Concept\PLANS\EXHIBITS\TIER III ENCROACHMENT\SPEER BRIDGE UTILITY.dwg

EXISTING DOWNTOWN CHILDREN'S PLAYGROUND

SPEER R.O.W.

EXIST. SANITARY SEWER MANHOLE RIM=5190.40±

EXIST. CURB & GUTTER

EXIST. SIDEWALK

EXIST. FENCE (TYP.)

EXIST. 54" RCP SANITARY SEWER

EXIST. STORM INLET TOC=5189.91± INV.(SW)=5186.66±

EXIST. SANITARY SEWER MANHOLE RIM=5193.03± RE: NOTE 1

EXIST. STORM MANHOLE RIM=5191.12± INV(NE)=5183.42± INV(SE)=5184.71± INV(SW)=5183.47± INV(NW)=5184.42±

EXIST. STORM INLET TOC=5192.09± INV.(NE)=5187.49±

CHERRY CREEK REGULATORY FLOODWAY LIMITS

EXIST. CHERRY CREEK MANNY'S BRIDGE

EXIST. STORM MANHOLE RIM=5192.02± INV.(NE)=5182.82± INV.(SE)=5184.22± INV.(SW)=5182.92± INV.(NW)=5184.22±

CHERRY CREEK REGULATORY FLOODWAY LIMITS

PROP. BRIDGE OVERHANG ABOVE CHERRY CREEK

PROP. 40.00' ROW ENCROACHMENT

EXIST. STORM SEWER

PROPERTY LINE

EXIST. SIGN (TYP.)

CHERRY CREEK

N SPEER BLVD (R.O.W. VARIES)

EXIST. CURB & GUTTER

EXIST. 27" RCP STORM SEWER

EXIST SANITARY SEWER MANHOLE RIM=5190.45±

EXIST. STORM MANHOLE RIM=5190.25±

61.53' PROPERTY LINE TO FLOW LINE

EXIST. STORM INLET TOC=5191.37± INV.(NW)=5186.62± INV.(SE)=5185.67±

EXIST. 33" RCP STORM SEWER

EXIST. TRANSFORMER

EXIST. 33" RCP STORM SEWER

EXIST. SIDEWALK

EXIST. TREE (TYP.)

PROPERTY LINE

PROP. LIMITS OF ENCROACHMENT

ABANDONED SANITARY SEWER RE: NOTE 1

EXIST. STORM MANHOLE RIM=5188.65± INV.(SE)=5185.34± INV.(NE)=5183.43± RE: NOTE 1

EXIST. LIGHT POLE (TYP.)

PROP. 158.81' ROW ENCROACHMENT

34.73' PROPERTY LINE TO BACK OF CURB

PROP. SPEER BRIDGE

SPEER R.O.W.

EXIST. ELEC. (TYP.)

EXIST. IRRIGATION. (TYP.)

EXIST. SIGN (TYP.)

EXIST. FIBER (TYP.)

EXIST. FIBER (TYP.)

EXISTING BUILDING 1628 14TH STREET

EXIST. FIRE HYDRANT (TYP.)

PROPOSED PERFORMANCE VENUE BUILDING

32.61' PROPERTY LINE TO BACK OF CURB

18.00'

88.00' MAX

18.00'

PROP. SPEER BRIDGE

EXIST. ELEC. (TYP.)

EXIST. 54" RCP SANITARY SEWER

EXIST. WATER MAIN (TYP.)

PROP. LIMITS OF ENCROACHMENT

N SPEER BLVD (R.O.W. VARIES)

30.63' PROPERTY LINE TO FLOW LINE

EXIST. SIGN (TYP.)

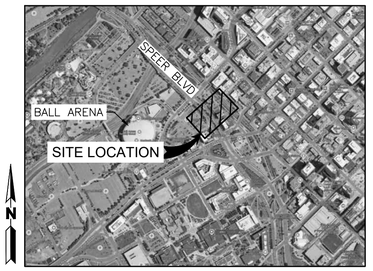
PROPOSED RESIDENTIAL BUILDING

5190 5191 5192 5193 5194 5179

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
	RIGHT-OF-WAY LINE	
	SECTION LINE	
	EASEMENT	
	RETAINING WALL	
	CURB & GUTTER	
5750	CONTOURS	5750
	UTILITY CROSSING	#
ST	STORM SEWER	ST
ST	STORM MANHOLE	ST
RD	ROOF DRAIN	RD
	STORM INLET	
	FLARED END SECTION	
SS	SANITARY SEWER	SS
SS	SANITARY MANHOLE	SS
	CLEAN OUT	
W	WATER LINE	W
	WATER VALVE	
	FIRE HYDRANT	
WM	WATER METER	
IR	IRRIGATION LINE	IR
IRR	IRRIGATION CONTROL	IRR
OHE	OVERHEAD ELECTRIC	
E	ELECTRIC LINE	E
	LIGHT POLE	
	POWER POLE	
ELEC	ELECTRIC METER	
T	TELEPHONE LINE	T
TEL	TELEPHONE PEDESTAL	T
CT	CABLE TV	CT
G	GAS LINE	G
	SIGN	
O.W.	MONITOR WELL	
DRIVE	DESCRIPTIONS	DRIVE

SPEER BRIDGE OVERALL GRADING & UTILITY PLAN



VICINITY MAP

NOT TO SCALE

N

20 10 0 20 40

SCALE: 1"=20'

ALL LINEAL DIMENSIONS ARE IN U.S. SURVEY FEET

NOTE:

1. UTILITY NOT FOUND ON CCD SANITARY PLAT MAP

COLORADO LICENSED
MELYSSA CATHERINE HARTZELL
45989
04/03/2025
PROFESSIONAL ENGINEER

04/04/25

SAR+ Kiewit

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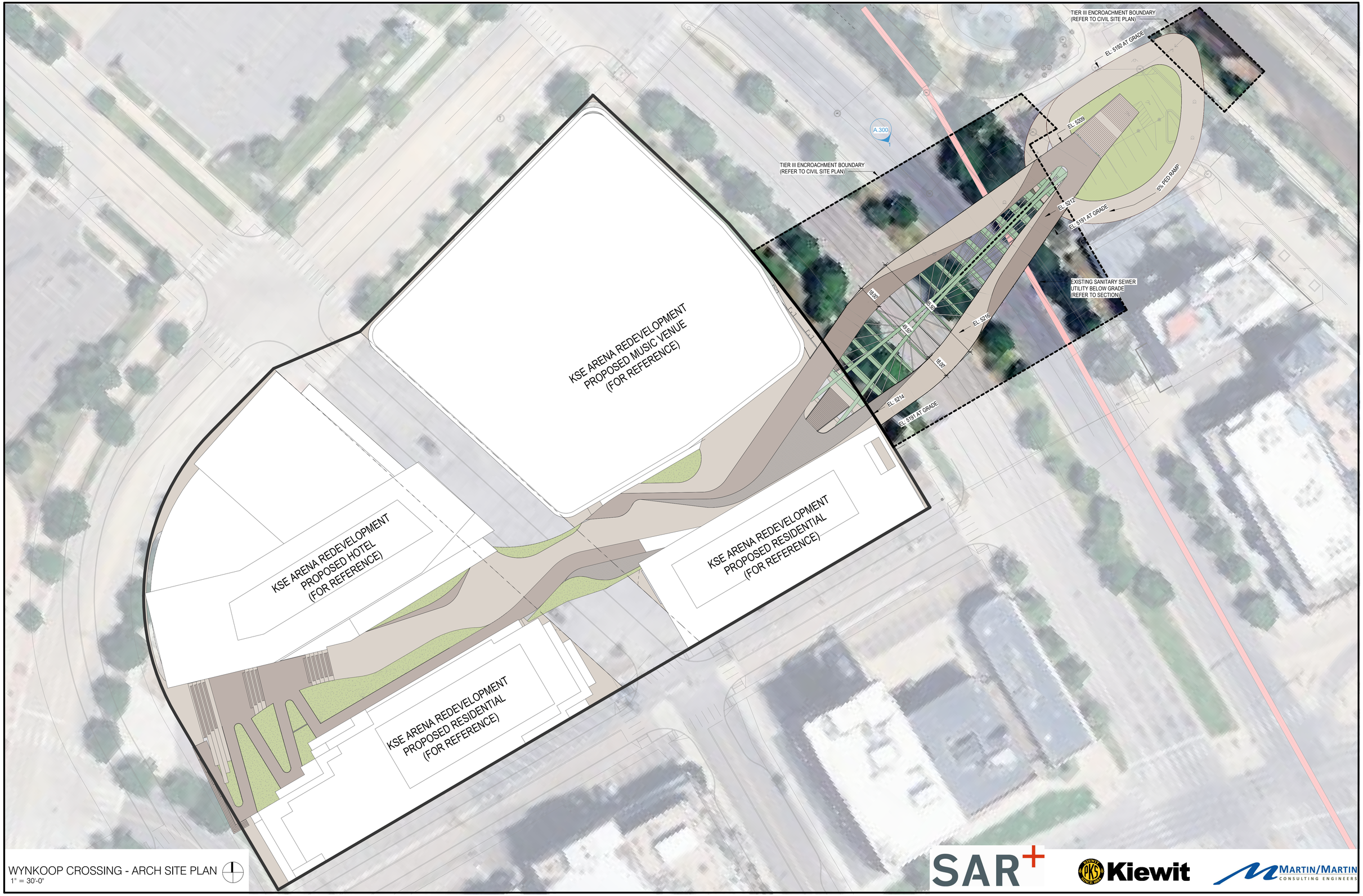
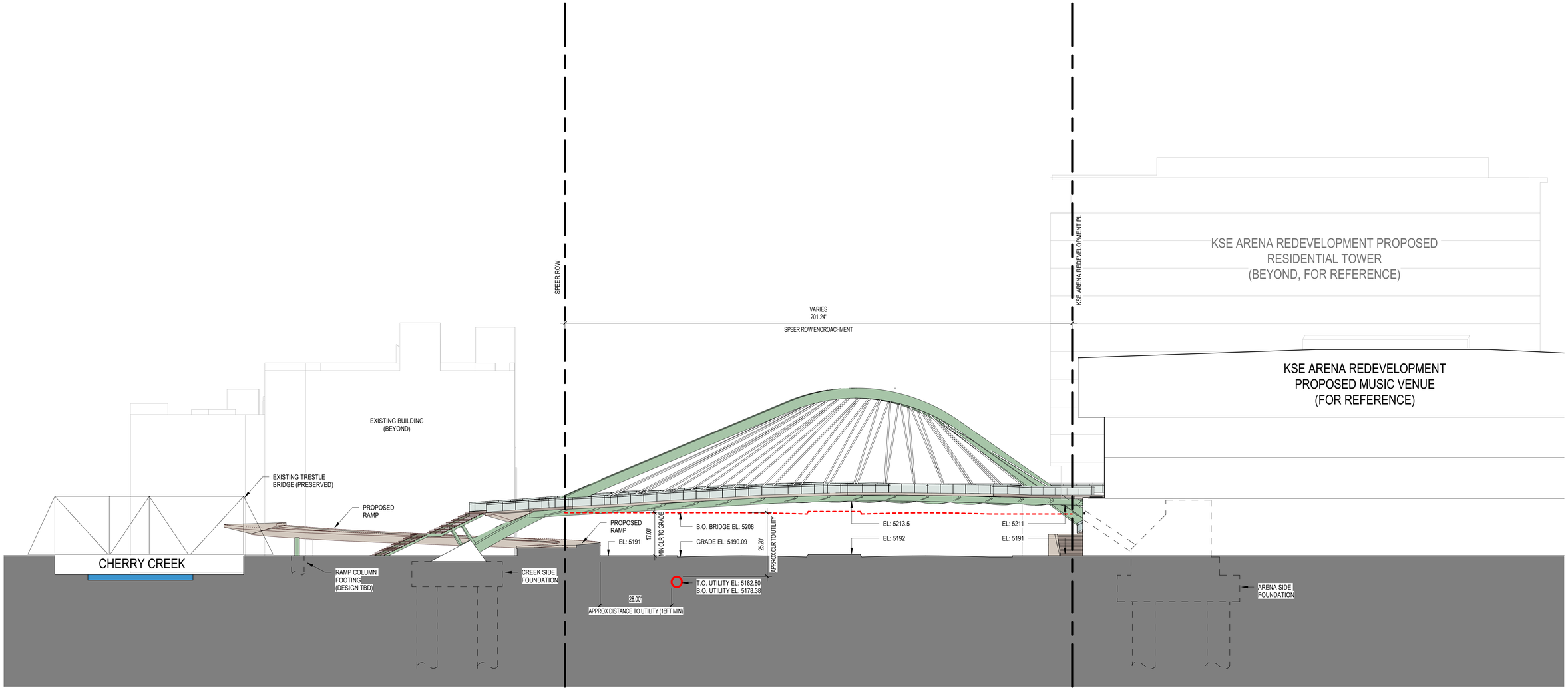


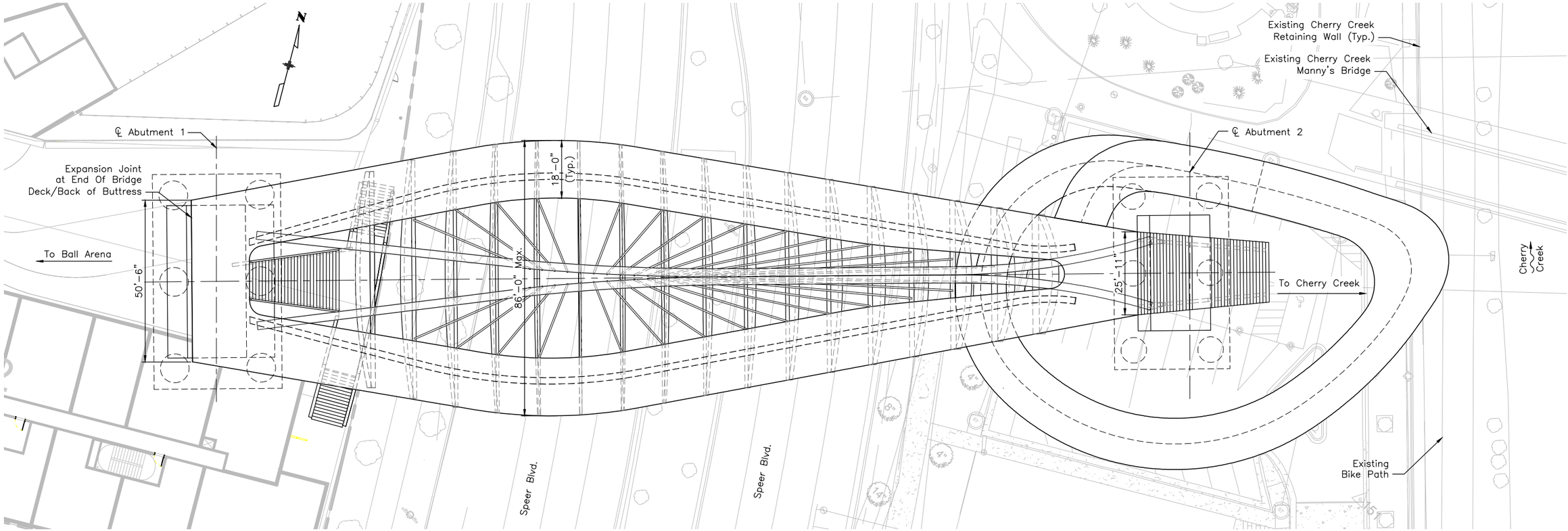
WYNKOOP CROSSING - ARCH SITE PLAN
1" = 30'-0"

SAR+ Kiewit MARTIN/MARTIN CONSULTING ENGINEERS

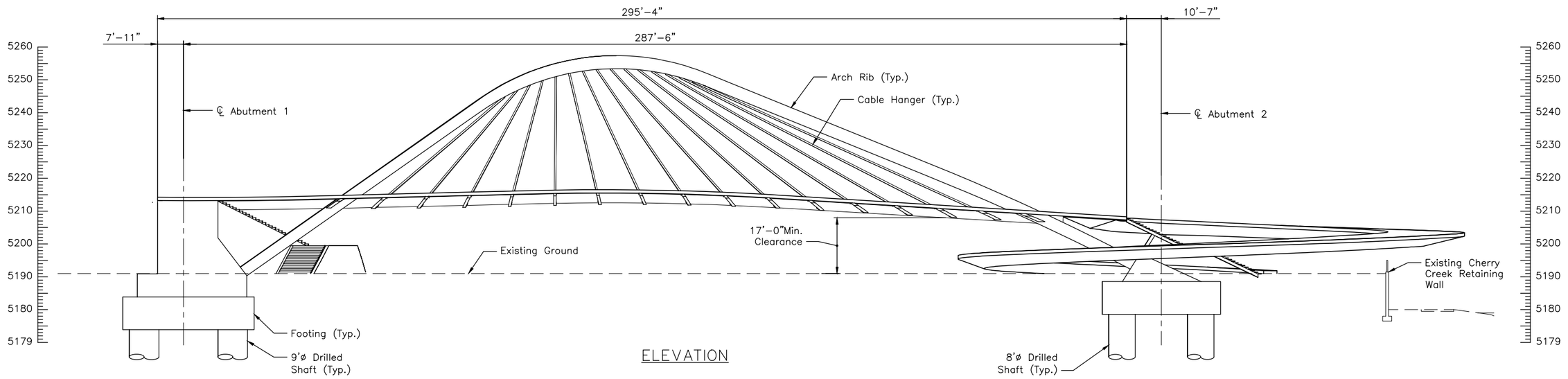


TIER III ELEVATION - NORTH
1" = 20'-0"

SAR+ Kiewit MARTIN/MARTIN CONSULTING ENGINEERS



PLAN



ELEVATION

General Plan & Elevation

Wynkoop Crossing
Ball Arena Property Infrastructure Phase 1

Kiewit

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12499 West Colfax Avenue
Lakewood, Colorado 80215
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martinmartin.com

DRAWING LOCATION: C:\users\christopher.jensen1\appdata\local\bentley\projectwise\workingdir\kiewit-us-pw.bentley.com_kiewit-us-pw-01\d0996493\BP1A_SHT_ST01.dwg

Wynkoop Crossing Pedestrian Bridge:

The Wynkoop Crossing Pedestrian Bridge will be located across N. Speer Boulevard between Auraria Pkwy/Blake St and Chopper Cir/Wewatta St near Ball Arena. The orientation of the main span will be approximately aligned with Wynkoop Street where it terminates at Cherry Creek.

The main span across Speer Boulevard will be a signature asymmetrical split steel arch rib with cable hangers supporting steel floor beams. The deck will be separated into 18–foot–wide sections on each side of the arch. The deck will be reinforced concrete supported on longitudinal steel girders. The space between the decks will be open to Speer Blvd below, crossed only by the full–width steel floor beams. The vertical clearance from Speer Blvd right–of–way to the underside of the bridge structure will be 17 feet minimum.

The bridge structure will be designed in accordance with the AASHTO LRFD Bridge Design Specifications and AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges, which define design loads and load factors for Service and Strength Limit States. The concrete deck will be supported from the steel arch rib by a system of cable hangers and steel floor beams. The steel arch rib will be primarily in compression, with some bending moments and shear forces introduced by live loads and other effects. Due to the unique configuration of this bridge, the following effects will be considered during design:

- Forces in the cable hangers will be "tuned" during design to provide balanced forces to each floor beam.
- Spacing of the hanger connections along the arch rib will also be optimized.
- The arch rib combined with the deck will be checked for buckling modes to confirm an adequate factor of safety.
- Details for welded connections will be checked against fatigue.
- Deck vibrations under wind and live load excitations will be evaluated.
- Effects of patterned live load distributions will be assessed.
- Floor beam sections will have variable inclinations to match cable angles.

The end of the bridge deck on the Arena side will land on a private parcel and connect with a plaza walkway above grade between two new buildings to be constructed as part of the Arena Redevelopment Phase 1. Stairs from grade along Speer Blvd will also connect to the bridge deck/plaza level. The bridge deck and arch rib will be supported by a reinforced concrete buttress with a below–grade concrete cap supported on large diameter drilled concrete piers.

The end of the main span on the Cherry Creek side will connect to a reinforced concrete curved helix approach ramp which starts at grade and wraps around to connect to the main bridge deck. There is also a stair which extends from ground level inside the helix ramp up to the bridge deck. The arch rib foundation will resolve into a thrust block on a below–grade concrete cap supported by large diameter drilled concrete piers. This portion of the structure will also be on a private parcel.

The ends of the steel arch rib will transfer both vertical and horizontal thrust forces into the foundations. Due to the magnitude of these forces and soils at the site, these will need to be supported on deep foundations. Drilled shafts offer many advantages over driven piles, such as less construction noise during installation and greater capacity to resist the lateral thrust forces. The split steel arch ribs will terminate at a reinforced concrete thrust block. Forces from the thrust block will be transmitted through a buried reinforced concrete pile cap to the drilled shafts in the foundation. At the Arena side, there will also be a significant compression thrust at the deck level which will be carried through a buttress wall into the pile cap supported on the drilled shafts. Due to the proximity of proposed building foundations to this bridge foundation, there is consideration for sharing some building loads with the bridge foundation.

Construction of the main span of the bridge over Speer Blvd will be supported on temporary falsework with a minimum vertical clearance of 16 feet over vehicular traffic. The construction of the bridge foundations at both ends will require temporary support of earthwork excavation (SOE) to allow equipment and materials to access and construct the drilled concrete piers and foundation caps. Temporary closure of lanes on Speer Blvd will be required during limited construction phases.

DRAWING LOCATION: C:\users\christopher.jensen1\appdata\local\bentley\projectwise\workingdir\kiewit-us-pw.bentley.com_kiewit-us-pw-01\d0996493\BP1A_SHT_ST02.dwg

Wynkoop Crossing
Ball Arena Property Infrastructure Phase 1

General Notes

MARTIN/MARTIN CONSULTING ENGINEERS
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Lakewood, Colorado 80215
303.431.6100
martinmartin.com

EXHIBIT A
LEGAL DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 68 WEST, 6TH PRINCIPAL MERIDIAN, IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST WESTERLY CORNER OF LOT 7, BLOCK 240, WEST DENVER, BEING A POINT ON THE NORTHEASTERLY RIGHT-OF-WAY OF SPEER BOULEVARD;

THENCE ALONG SAID NORTHEASTERLY RIGHT-OF-WAY THE FOLLOWING 2 COURSES:

1) ALONG THE NORTHWESTERLY LINE OF SAID LOT 7, BLOCK 240, (BASIS 0F BEARINGS) NORTH 59°32'29" EAST, A DISTANCE OF 21.99 FEET;

2) DEPARTING SAID NORTHWESTERLY LINE, NORTH 45°22'31" WEST, A DISTANCE OF 34.98 FEET;

THENCE SOUTH 59°36'34" WEST, A DISTANCE OF 219.19 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY OF SPEER BOULEVARD, BEING THE BEGINNING OF A NON-TANGENT CURVE CONCAVE SOUTHWESTERLY HAVING A RADIUS OF 1,150.00 FEET, THE RADIUS POINT OF SAID CURVE BEARS SOUTH 50°00'45" WEST;

THENCE SOUTHEASTERLY ALONG SAID SOUTHWESTERLY RIGHT-OF-WAY AND SAID CURVE THROUGH A CENTRAL ANGLE OF 08°27'19", AN ARC LENGTH OF 169.71 FEET;

THENCE NON-TANGENT TO SAID CURVE, NORTH 59°36'34" EAST, A DISTANCE OF 190.37 FEET TO THE SOUTHWESTERLY LINE OF SAID BLOCK 240 AND SAID NORTHEASTERLY RIGHT-OF-WAY;

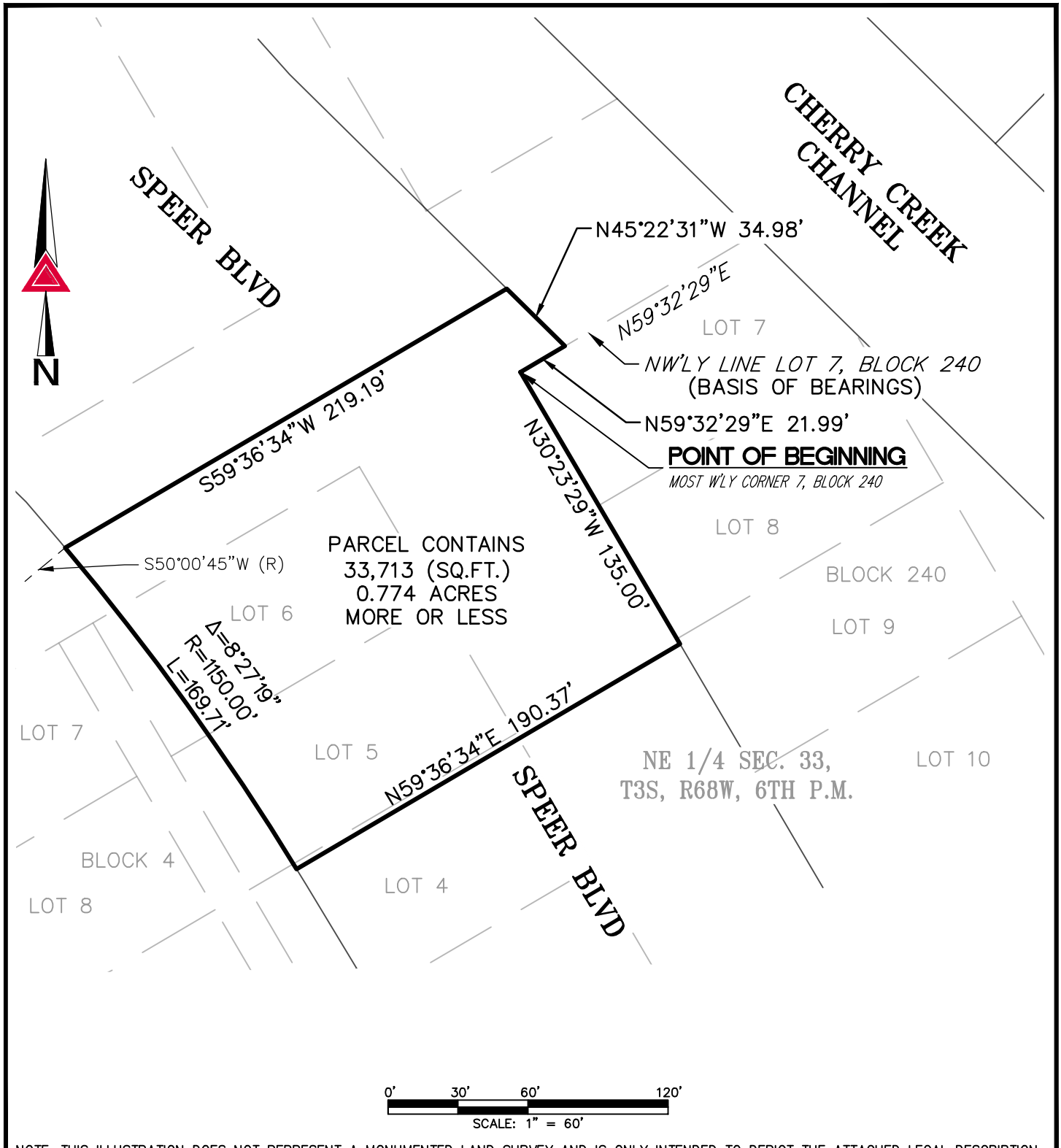
THENCE ALONG SAID SOUTHWESTERLY LINE AND SAID NORTHEASTERLY RIGHT-OF-WAY, NORTH 30°23'29" WEST, A DISTANCE OF 135.00 FEET TO THE **POINT OF BEGINNING**.

CONTAINING AN AREA OF 0.774 ACRES, (33,713 SQUARE FEET), MORE OR LESS.

ILLUSTRATION ATTACHED AND MADE A PART HEREOF.

JAMES E. LYNCH, PLS 37933
COLORADO LICENSED PROFESSIONAL LAND SURVEYOR
FOR AND ON BEHALF OF AZTEC CONSULTANTS, INC.
300 E. MINERAL AVENUE, SUITE 1, LITTLETON, CO 80122

ILLUSTRATION TO EXHIBIT A



NOTE: THIS ILLUSTRATION DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND IS ONLY INTENDED TO DEPICT THE ATTACHED LEGAL DESCRIPTION.

AZTEC CONSULTANTS, INC.
300 East Mineral Ave,Suite 1
Littleton, Colorado 80122
Phone: (303)713-1898
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PARCEL EXHIBIT
NE 1/4 SEC. 33, T3S, R68W, 6TH P.M.
CITY AND COUNTY OF DENVER, COLORADO

PATH: Q:\93124-01 - MILE HIGH STATION ALTA\DWG\EXHIBITS\BALL ARENA BRIDGE ENCROACHMENT 1.DWG
JOB NUMBER: 93123.01 DATE: 03/1/2025 DWG: RDS CHK: JEL 2 OF 2 SHEETS

EXHIBIT A
LEGAL DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 68 WEST, 6TH PRINCIPAL MERIDIAN, IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST WESTERLY CORNER OF LOT 7, BLOCK 240, WEST DENVER;

THENCE ALONG THE NORTHWESTERLY LINE OF SAID LOT 7, BLOCK 240, (BASIS OF BEARINGS) NORTH 59°32'29" EAST, A DISTANCE OF 116.48 FEET TO THE SOUTHWESTERLY RIGHT-OF-WAY OF CHERRY CREEK CHANNEL AND THE **POINT OF BEGINNING**;

THENCE DEPARTING SAID NORTHWESTERLY LINE AND ALONG SAID SOUTHWESTERLY RIGHT-OF-WAY, NORTH 45°28'17" WEST, A DISTANCE OF 23.63 FEET

THENCE DEPARTING SAID SOUTHWESTERLY RIGHT-OF-WAY, NORTH 60°16'25" EAST, A DISTANCE OF 41.56 FEET;

THENCE SOUTH 45°28'17" EAST, A DISTANCE OF 63.72 FEET;

THENCE SOUTH 44°31'46" WEST, A DISTANCE OF 40.00 FEET TO SAID SOUTHWESTERLY RIGHT-OF-WAY OF CHERRY CREEK CHANNEL;

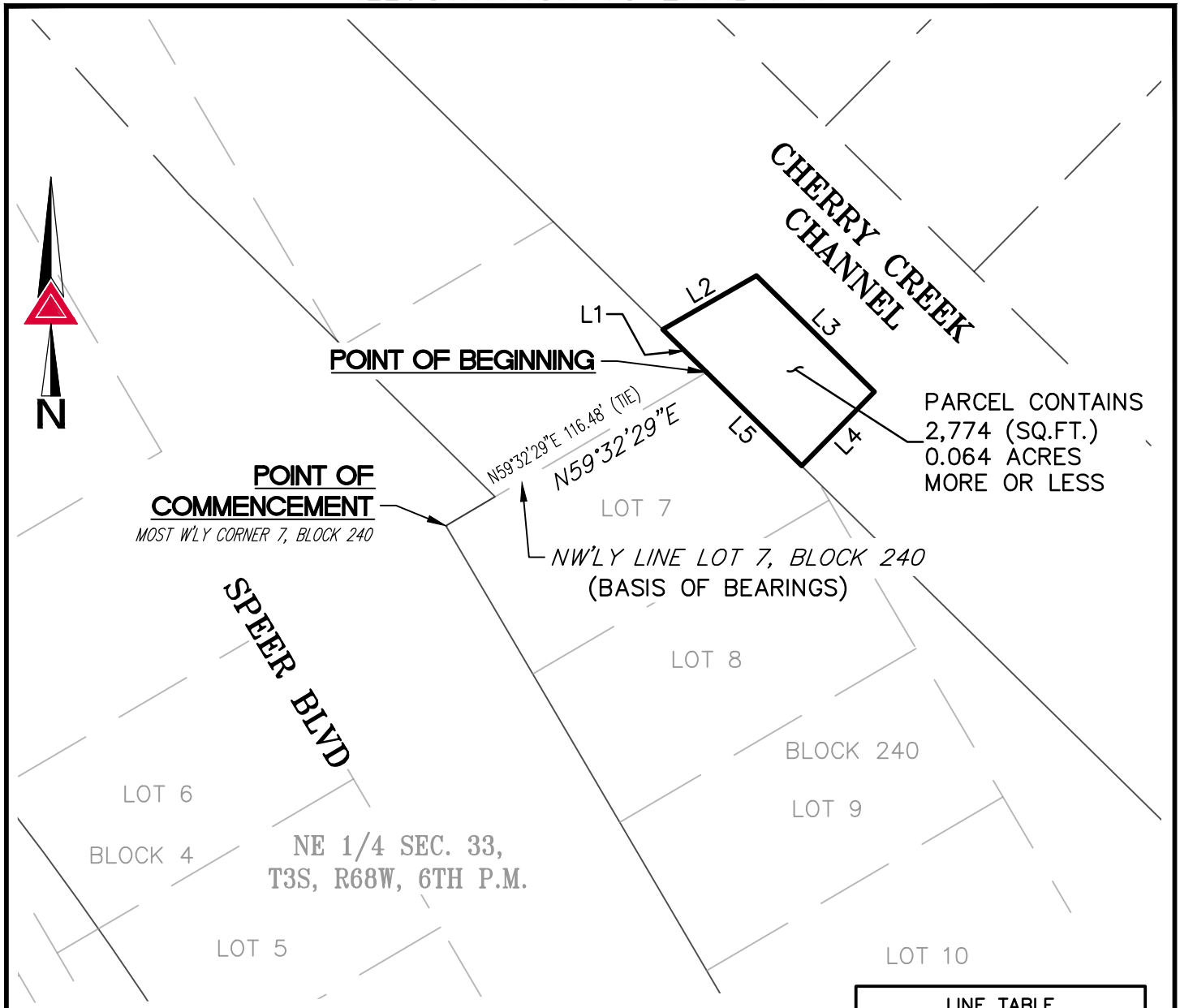
THENCE ALONG SAID SOUTHWESTERLY RIGHT-OF-WAY, NORTH 45°28'17" WEST, A DISTANCE OF 51.37 FEET TO THE **POINT OF BEGINNING**.

CONTAINING AN AREA OF 0.064 ACRES, (2,774 SQUARE FEET), MORE OR LESS.

ILLUSTRATION ATTACHED AND MADE A PART HEREOF.

JAMES E. LYNCH, PLS 37933
COLORADO LICENSED PROFESSIONAL LAND SURVEYOR
FOR AND ON BEHALF OF AZTEC CONSULTANTS, INC.
300 E. MINERAL AVENUE, SUITE 1, LITTLETON, CO 80122

ILLUSTRATION TO EXHIBIT A



LINE TABLE		
LINE	BEARING	LENGTH
L1	N45°28'17"W	23.63'
L2	N60°16'25"E	41.56'
L3	S45°28'17"E	63.72'
L4	S44°31'46"W	40.00'
L5	N45°28'17"W	51.37'

NOTE: THIS ILLUSTRATION DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND IS ONLY INTENDED TO DEPICT THE ATTACHED LEGAL DESCRIPTION.

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www.aztecconsultants.com

PARCEL EXHIBIT
NE 1/4 SEC. 33, T3S, R68W, 6TH P.M.
CITY AND COUNTY OF DENVER, COLORADO

PATH: Q:\93124-01 - MILE HIGH STATION ALTA\DWG\EXHIBITS\BALL ARENA BRIDGE ENCROACHMENT 2.DWG
JOB NUMBER: 93123.01 DATE: 03/1/2025 DWG: RDS CHK: JEL 2 OF 2 SHEETS