LAKE HAVASU CATALYST PROJECT

100% CONSTRUCTION DOCUMENTS

TEAM INFORMATION:

OWNER/DEVELOPER:
CITY OF LAKE HAVASU
MIKE KEANE
PARKS AND REC. DIRECTOR
100 PARK AVE.
LAKE HAVASU CITY, AZ 86403
E: KeaneM@lhcaz.gov

LANDSCAPE ARCHITECT:
DIG STUDIO INC.
CHAD ATTERBURY, PLA
600 N. 4TH ST., SUITE D
PHOENIX, ARIZONA 85004
P: 602.595.4101
E: chad@digstudio.com

ARCHITECT:
LAST ARCHITECTS
BRAD LANG
3655 N 5th AVE. 207
PHOENIX, AZ 85013
P: 480.570.5296
E: brad@lastarchitects.com

CIVIL & STRUCTURAL ENGINEER:
MICHAEL BAKER INTERNATIONAL
JIM MARTIN
2929 N. CENTRAL AVE, 8TH FLOOR
PHOENIX, AZ 85012
P: 602.308.1333
E: Jim.Martin@mbakerintl.com

ELECTRICAL ENGINEER:
WRIGHT ENGINEERING
CLIFF TOLMAN
165 E. CHILTON DR.
CHANDLER, ARIZONA 85225
P: 480.497.5829
E: ctolman@wrightengineering.us

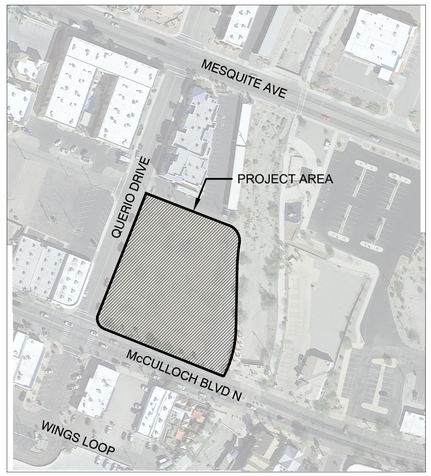
LAYOUT NOTES

1. VERIFY EXISTING SITE INFORMATION INCLUDING, BUT NOT LIMITED TO STREET GRADES, UTILITIES, PROPERTY LINES, LIMITS OF ROADWAYS, CURBS AND GUTTERS TAKEN FROM THE CIVIL ENGINEER'S DRAWINGS.
2. ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND ORDINANCES.
3. TAKE ALL DIMENSIONS FROM BACK OF CURB, FACE OF WALL OR BUILDING, AND CENTERLINE OF TREES UNLESS OTHERWISE NOTED.
4. ALL DIMENSIONS CALLED OUT AS 'EQUAL' ARE EQUIDISTANT MEASUREMENTS.
5. WRITTEN DIMENSIONS SUPERCEDE SCALED DIMENSIONS. DO NOT SCALE DRAWINGS, IF THERE IS A QUESTION REGARDING DIMENSIONS, CONTACT DIG STUDIO FOR VERIFICATION.
6. ALL ANGLES TO MATCH THOSE NOTED ON DRAWING AND ALL LINES OF PAVING TO BE PARALLEL UNLESS OTHERWISE NOTED. MAINTAIN HORIZONTAL ALIGNMENT OF ADJACENT ELEMENTS AS NOTED ON DRAWINGS.
7. REFERENCE TO NORTH REFERS TO TRUE NORTH. REFERENCE TO SCALE IS FOR FULL SIZED DRAWINGS ONLY. DO NOT SCALE FROM DRAWINGS.
8. CONCRETE SLABS OR FOOTINGS SHALL BE DOWELED INTO ABUTTING WALLS, FOUNDATIONS AND FOOTINGS WHERE SHOWN ON THE PLAN.
9. PROVIDE EXPANSION JOINTS IN CONCRETE PAVING A MAXIMUM DISTANCE OF 30 ON CENTER, EACH WAY, AND AT ALL INTERSECTIONS, WHERE NEW CONCRETE ABUTS EXISTING CONCRETE PAVING, BUILDINGS, CURBS, WALLS, AND COLUMNS UNLESS OTHERWISE NOTED.
10. PROVIDE CONTROL JOINTS EVENLY SPACED BETWEEN EXPANSION JOINTS AS SHOWN ON DRAWINGS, EXCEPT WHERE SPECIAL SCORE JOINT PATTERN IS SPECIFIED.
11. SLEEVES AND CONDUITS SHALL BE INSTALLED A MINIMUM OF 18 INCHES BELOW FINISHED GRADE AND SHALL EXTEND 12 INCHES BEYOND BACK OF CURBS, WALLS, AND PAVING.
12. COORDINATE AND FIELD VERIFY ALL SLEEVING LOCATIONS FOR ALL UTILITY, ELECTRICAL, AND IRRIGATION PRIOR TO CONSTRUCTION.
13. PROPOSED TREES IN THE RIGHT-OF-WAY SHALL BE PRE-APPROVED BY THE CITY FORESTER'S OFFICE, OUTSIDE OF 33' CORNER SIGHT TRIANGLES AND 10' FROM EDGE OF DRIVEWAYS, ALLEYS AND HYDRANTS.

DEFERRED SUBMITTAL

1. PREFABRICATED CONTAINTER RESTROOM - 40' DUAL GENDER WITH ACCESSIBLE FAMILY RESTROOM - FALCON STRUCTURES

VICINITY MAP: NTS



SHEET INDEX:

BID ADDITIVE ALTERNATE NUMBER 2 EXHIBIT
(BID ADDITIVE ALTERNATE AREAS SHOWN ON C-9)

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
t 602.595.4101
DIGSTUDIO.COM

REGISTERED LANDSCAPE ARCHITECT
CHAD V. HICKS
STATE OF ARIZONA 6/01/23
EXP. 6/30/2023

100% CONSTRUCTION DOCUMENTS

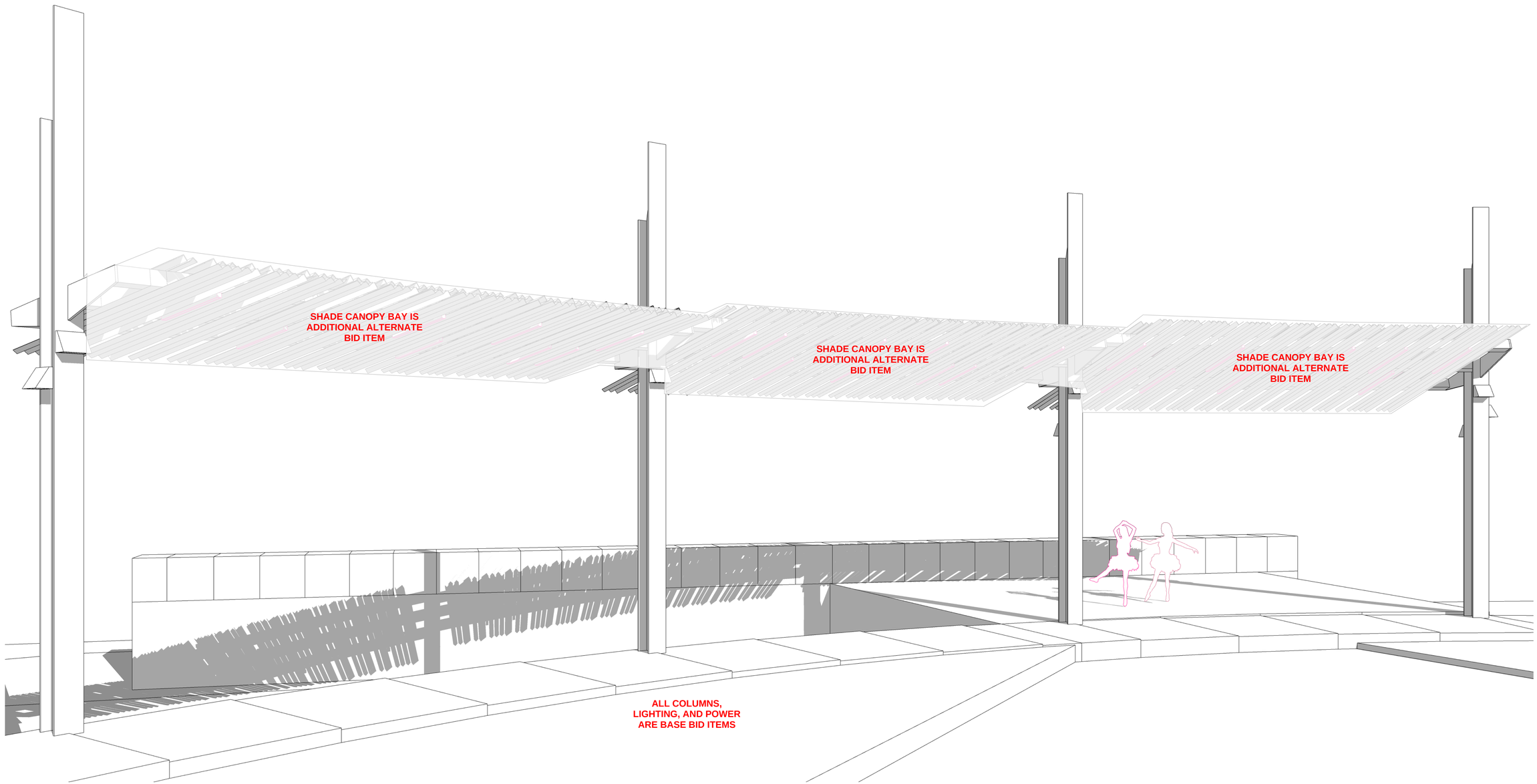
LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

DRAWN:	JL/PK/NPK
DESIGN:	DIG
CHECKED:	JH/CA
DATE:	6.19.2023

SHEET NO:
COVER SHEET
L001



1 | Perspective View East Canopy Looking Southeast from Inside Hub

NOTE: CANOPY LIGHTS SHOWN IN COLOR FOR DIAGRAMMATIC PURPOSES ONLY

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REGISTERED ARCHITECT
48485
WARREN
LANG
EXPIRES 09/30/2023

Permit
CONSTRUCTION
DOCUMENTS

LAKE HAVASU CATALYST PROJECT

2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

DRAWN:
DESIGN: LAST Architects
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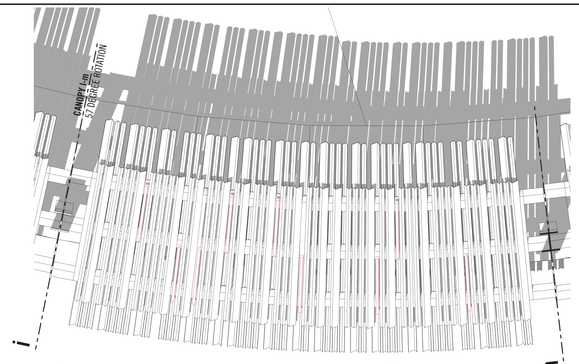
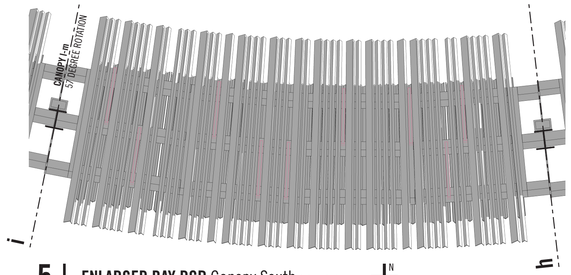
DATE: June 19, 2023
SHEET NO:

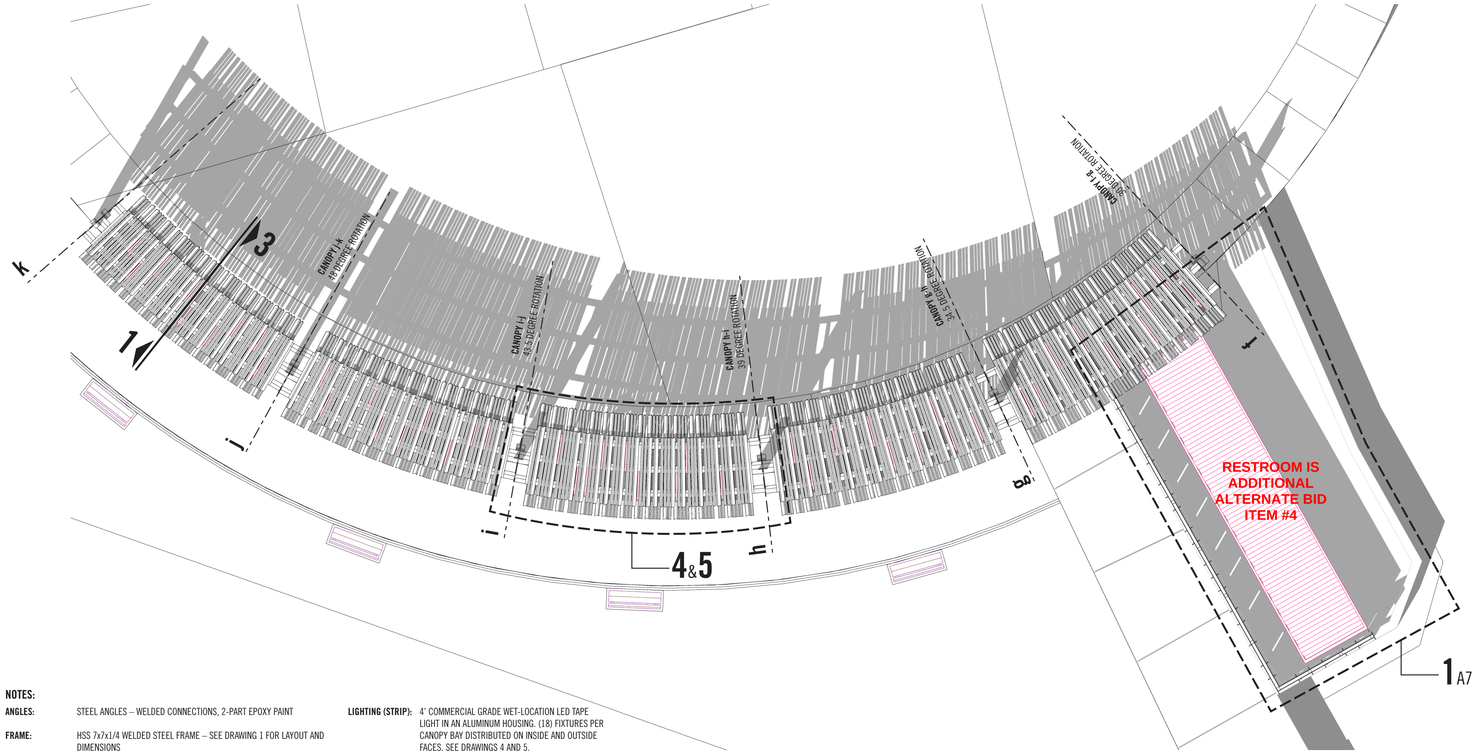
A2
EAST CANOPY
Perspective View



4 | ENLARGED BAY PLAN Canopy South 1/4" = 1'-0"



5 | ENLARGED BAY RCP Canopy South 1/4" = 1'-0"



2 | OVERALL PLAN Canopy South 1/8" = 1'-0"

NOTES:

ANGLES: STEEL ANGLES – WELDED CONNECTIONS, 2-PART EPOXY PAINT

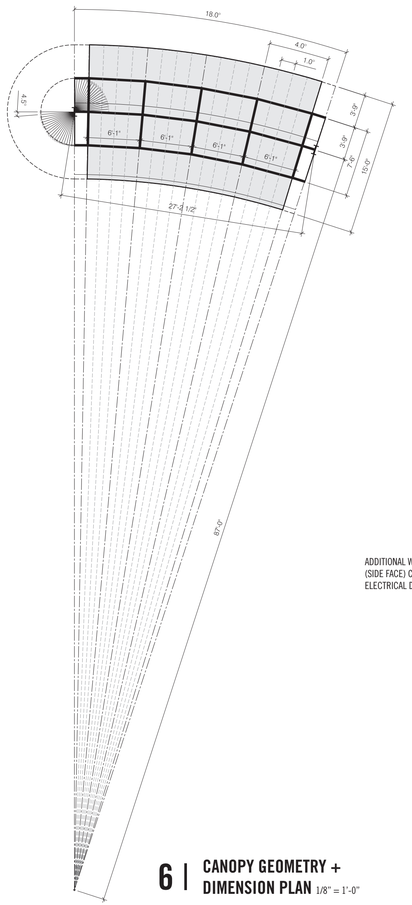
FRAME: HSS 7x7x1/4 WELDED STEEL FRAME – SEE DRAWING 1 FOR LAYOUT AND DIMENSIONS

UNDERSIDE: 5x3x1/4 AND 2.5x2.5x1/4 ANGLES RANDOMLY DISTRIBUTED. (12) 15'-0" ANGLES PER FRAME BAY – (48) PER CANOPY BETWEEN COLUMNS. (1/3) 5x3x1/4's AND (2/3) 2.5x2.5x1/4's.

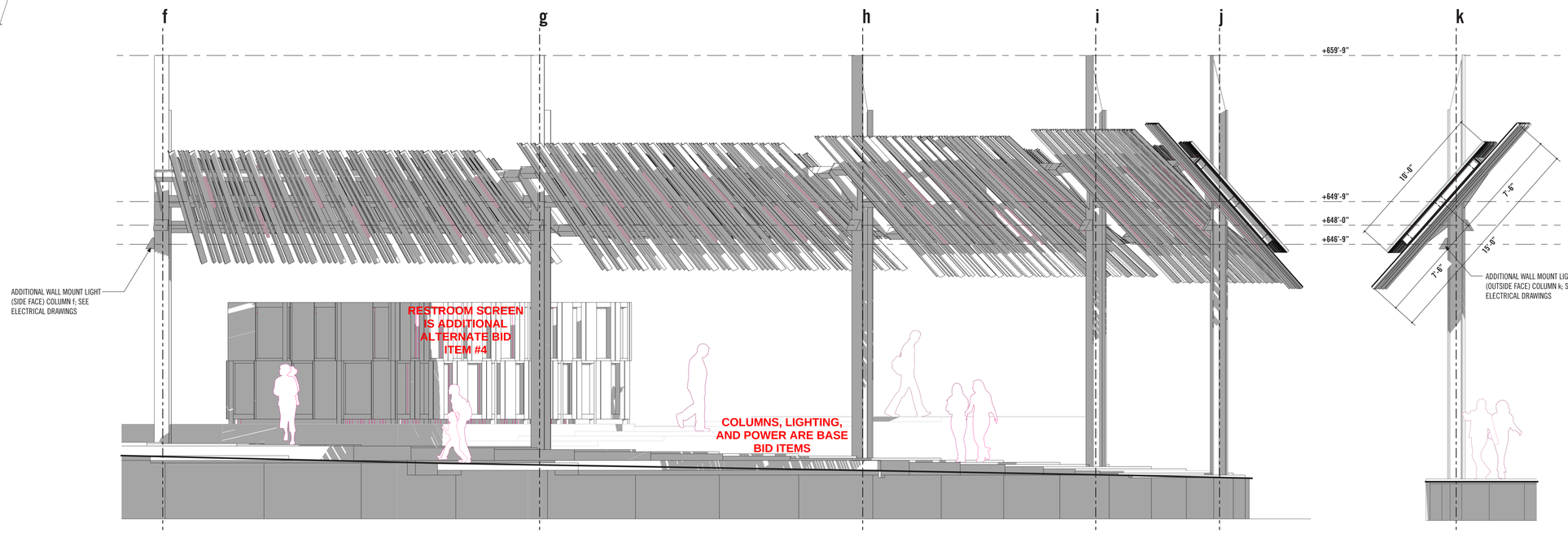
TOPSIDE: 5x3x1/4 AND 2.5x2.5x1/4 ANGLES RANDOMLY DISTRIBUTED. (12) 10'-0" ANGLES PER FRAME BAY – (48) PER CANOPY BETWEEN COLUMNS. (1/3) 5x3x1/4's AND (2/3) 2.5x2.5x1/4's.

LIGHTING (STRIP): 4' COMMERCIAL GRADE WET-LOCATION LED TAPE LIGHT IN AN ALUMINUM HOUSING. (18) FIXTURES PER CANOPY BAY DISTRIBUTED ON INSIDE AND OUTSIDE FACES. SEE DRAWINGS 4 AND 5.

LIGHTING (CLMN): (1) COLUMN/WALL MOUNT DOWNLIGHT PER COLUMN. SEE DRAWINGS 1 AND 3 FOR ADDITIONAL FIXTURES AT SPECIFIED LOCATIONS



6 | CANOPY GEOMETRY + DIMENSION PLAN 1/8" = 1'-0"



3 | CANOPY SECTION Transverse East 1/4" = 1'-0"

1 | CANOPY SECTION Transverse West 1/4" = 1'-0"

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REGISTERED ARCHITECT
48485
WARREN
LANG
STATE OF ARIZONA
EXPIRES 09/30/2023

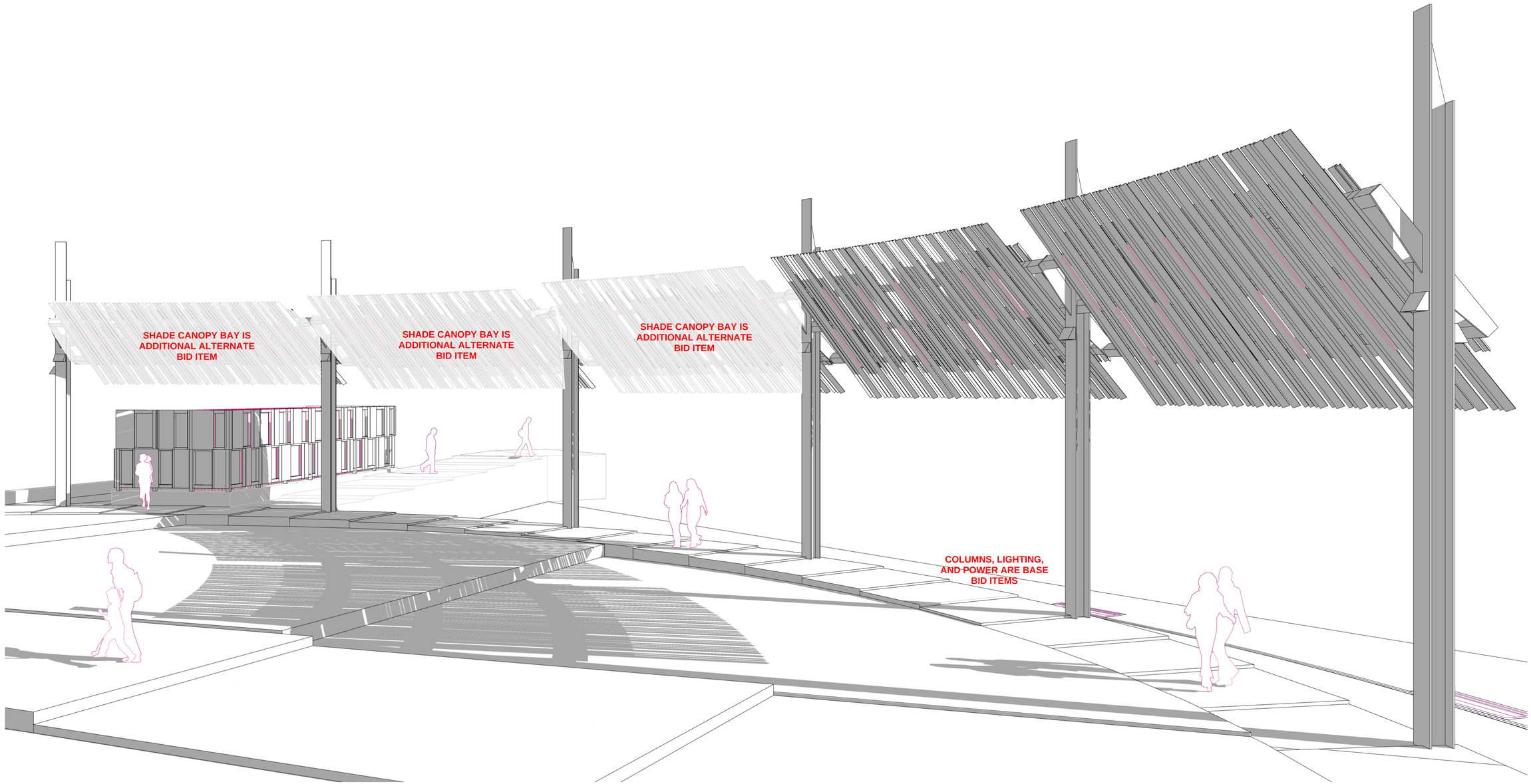
Permit
CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

DRAWN:
DESIGN: LAST Architects
CHECKED:
DATE: June 19, 2023
SHEET NO:

A3
WEST CANOPY



1 | Perspective View South Canopy Looking Southeast from Inside Hub

NOTE: CANOPY LIGHTS SHOWN IN COLOR FOR DIAGRAMMATIC PURPOSES ONLY

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48485
WARREN LANG
EXPIRES 09/30/2023

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CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT

2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

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DRAWN:
DESIGN: **LAST** Architects
CHECKED:
DATE: **June 19, 2023**
SHEET NO:

A4
SOUTH CANOPY
Perspective View

NOTES:

ANGLES: STEEL ANGLES – WELDED CONNECTIONS, 2-PART EPOXY PAINT

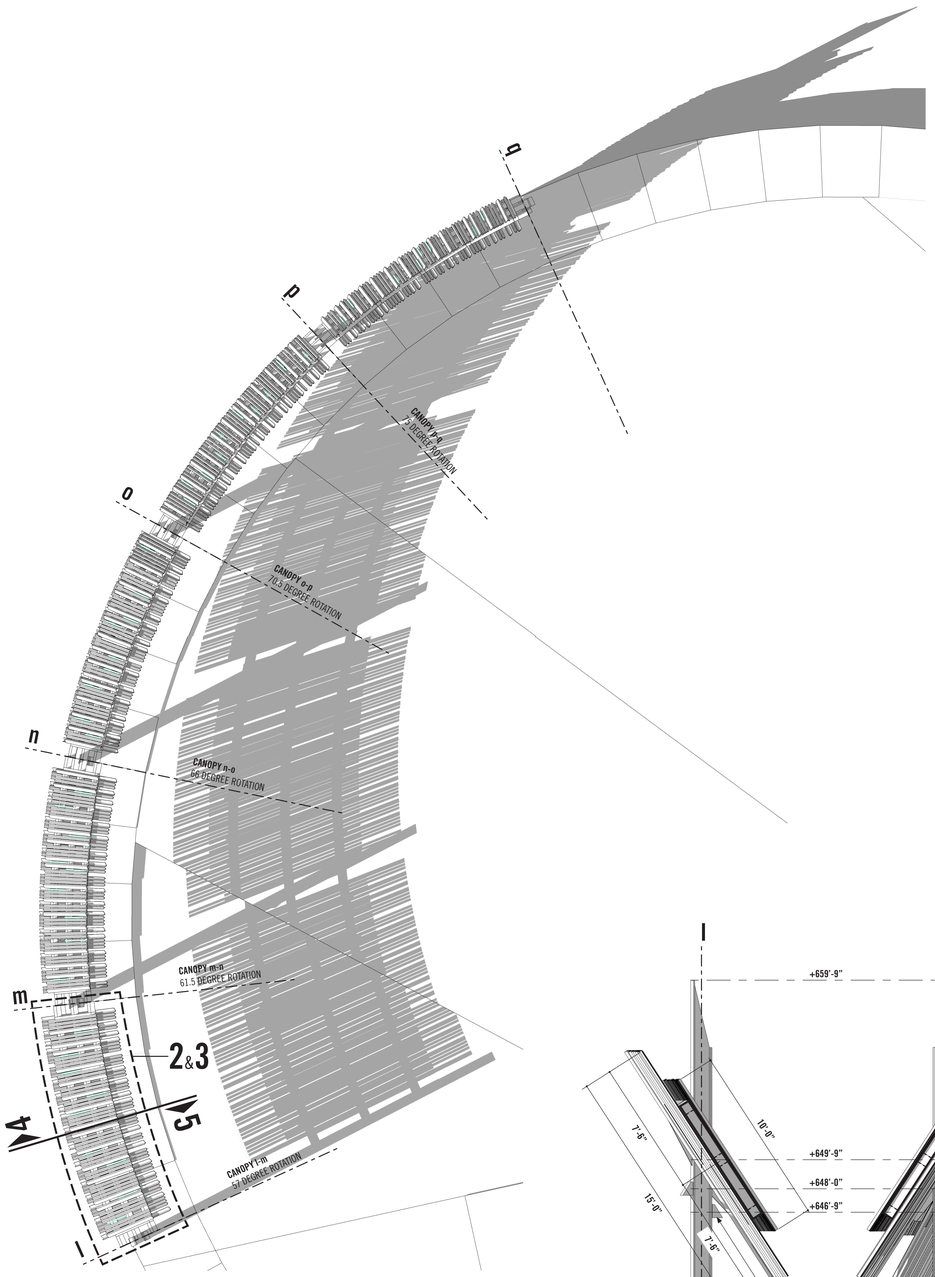
FRAME: HSS 7x7x1/4 WELDED STEEL FRAME – SEE DRAWING 1 FOR LAYOUT AND DIMENSIONS

UNDERSIDE: 5x3x1/4 AND 2.5x2.5x1/4 ANGLES RANDOMLY DISTRIBUTED. (12) 15'-0" ANGLES PER FRAME BAY – (48) PER CANOPY BETWEEN COLUMNS. (1/3) 5x3x1/4's AND (2/3) 2.5x2.5x1/4's.

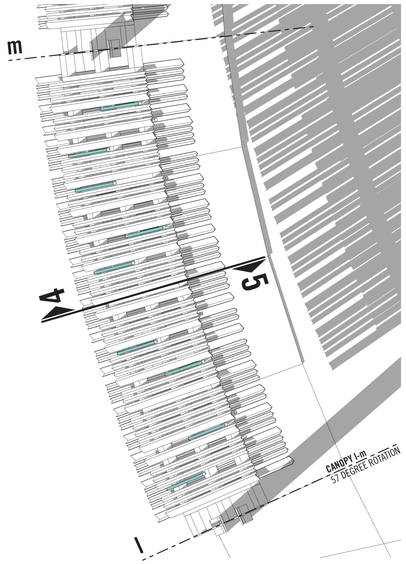
TOPSIDE: 5x3x1/4 AND 2.5x2.5x1/4 ANGLES RANDOMLY DISTRIBUTED. (12) 10'-0" ANGLES PER FRAME BAY – (48) PER CANOPY BETWEEN COLUMNS. (1/3) 5x3x1/4's AND (2/3) 2.5x2.5x1/4's.

LIGHTING (STRIP): 4' COMMERCIAL GRADE WET-LOCATION LED TAPE LIGHT IN AN ALUMINUM HOUSING. (18) FIXTURES PER CANOPY BAY DISTRIBUTED ON INSIDE AND OUTSIDE FACES. SEE DRAWINGS 2 AND 3.

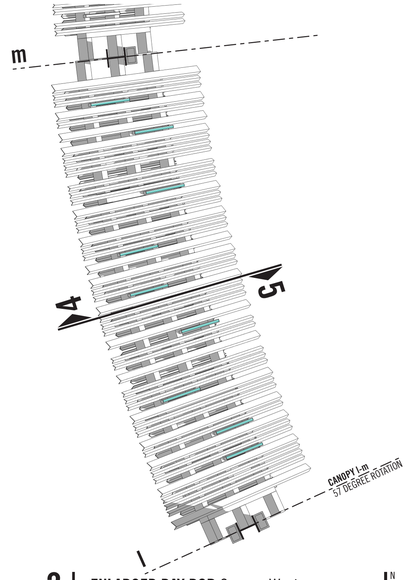
LIGHTING (CLMN): (1) COLUMN/WALL MOUNT DOWNLIGHT PER COLUMN. SEE DRAWINGS 4 AND 5 FOR ADDITIONAL FIXTURES AT SPECIFIED LOCATIONS



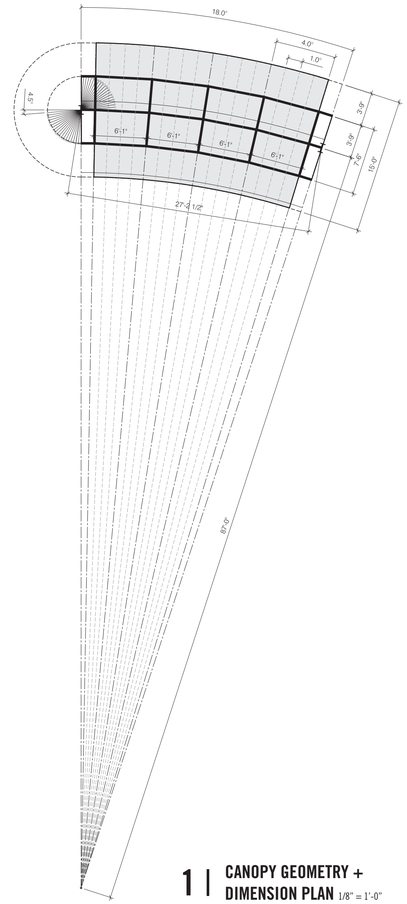
6 | **OVERALL PLAN** Canopy West 1/8" = 1'-0"



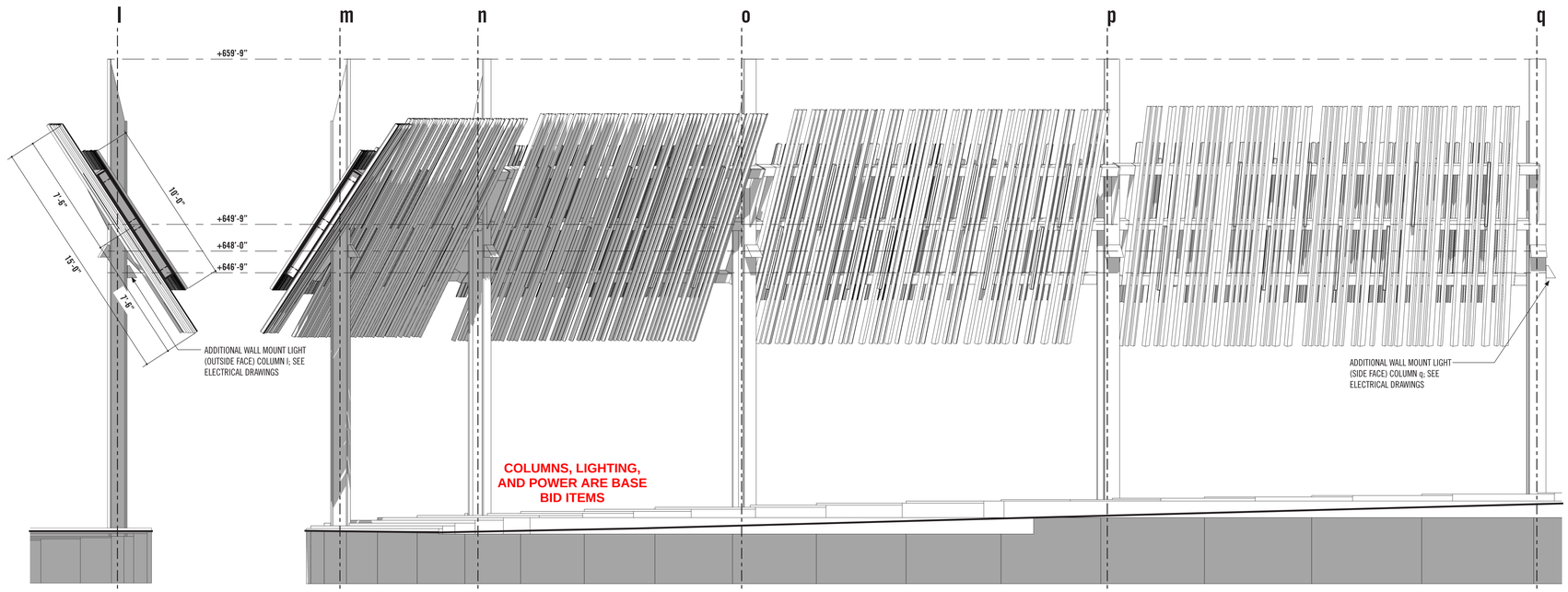
3 | **ENLARGED BAY PLAN** Canopy West 1/4" = 1'-0"



2 | **ENLARGED BAY RCP** Canopy West 1/4" = 1'-0"



1 | **CANOPY GEOMETRY + DIMENSION PLAN** 1/8" = 1'-0"



5 | **CANOPY SECTION** Transverse South 1/4" = 1'-0"

4 | **CANOPY SECTION** Transverse North 1/4" = 1'-0"

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WARREN
LANG
ARIZONA U.S.A.
EXPIRES 09/30/2023

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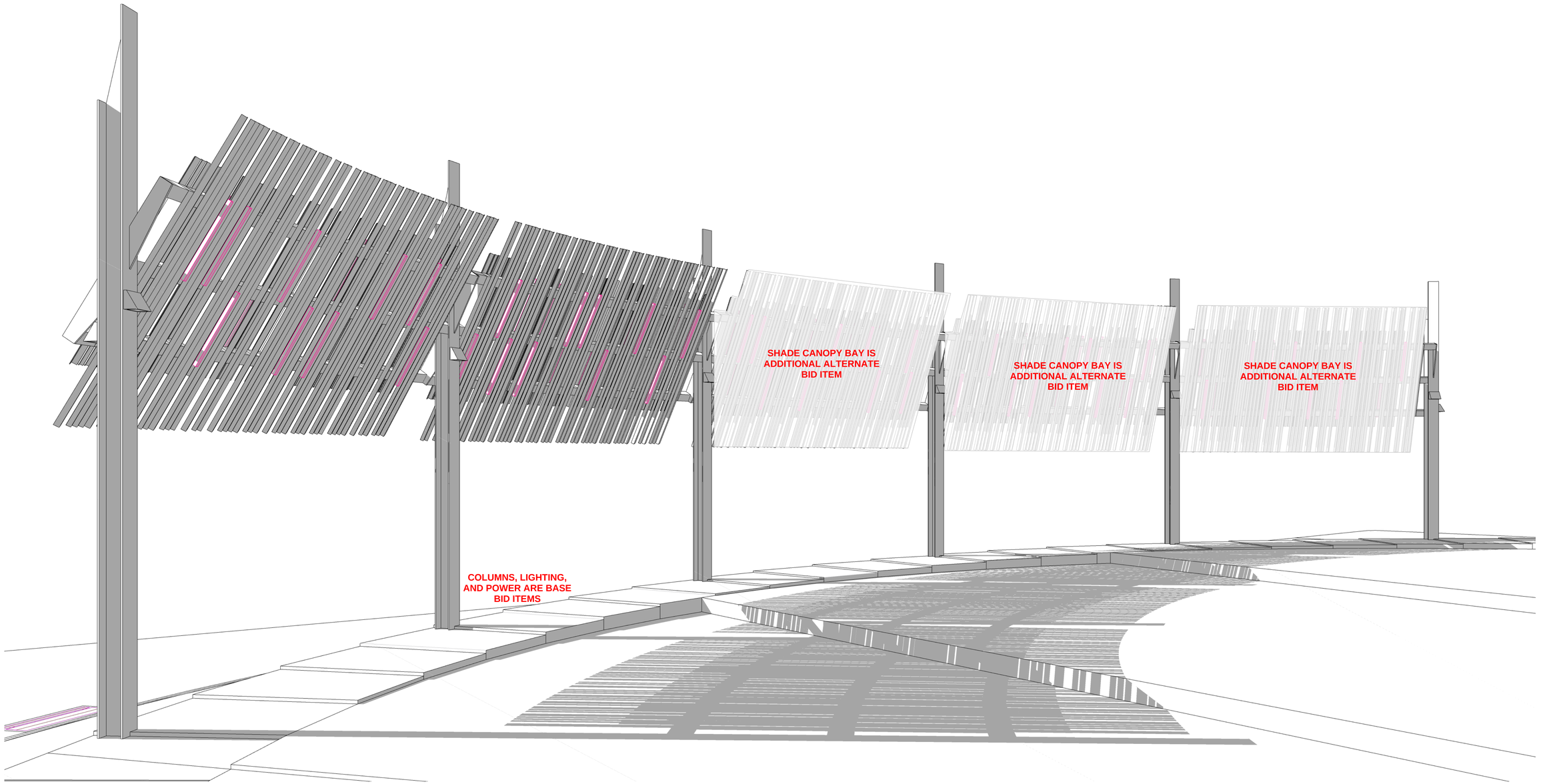
CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

DRAWN:
DESIGN: LAST Architects
CHECKED:
DATE: June 19, 2023
SHEET NO:

A5
WEST CANOPY



1 | Perspective View West Canopy Looking North from Inside Hub

NOTE: CANOPY LIGHTS SHOWN IN COLOR FOR DIAGRAMMATIC PURPOSES ONLY

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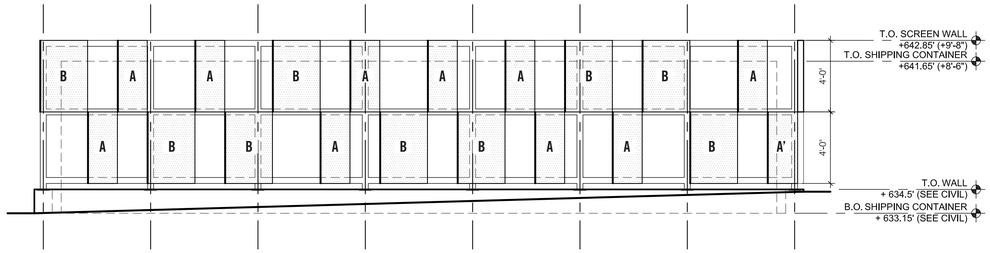
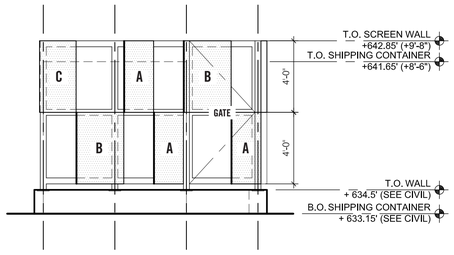
A6
WEST CANOPY
Perspective View



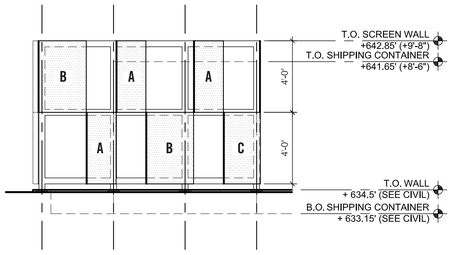
8 | SCREEN WALL ELEVATION OUTSIDE – WEST 1/4" = 1'-0"

RESTROOM SCREEN IS ADDITIONAL ALTERNATE BID ITEM



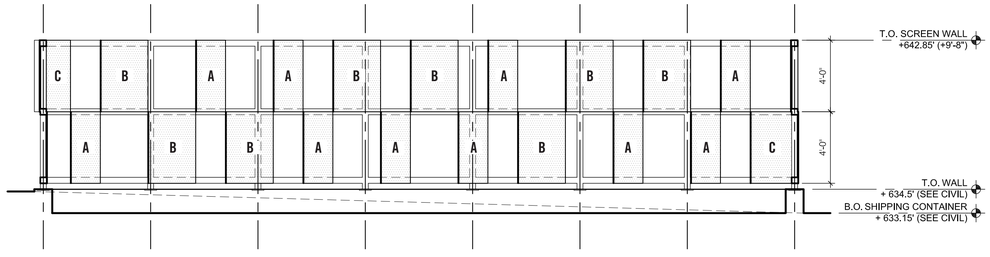
7 | SCREEN WALL ELEVATION OUTSIDE – NORTH 1/4" = 1'-0"

RESTROOM SCREEN IS ADDITIONAL ALTERNATE BID ITEM



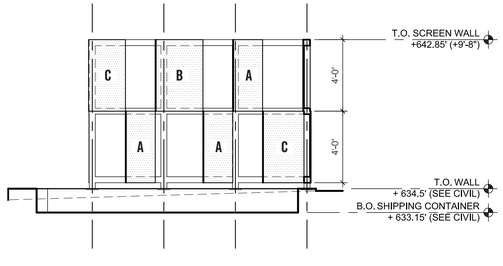
4 | SCREEN WALL ELEVATION OUTSIDE – SOUTH 1/4" = 1'-0"

RESTROOM SCREEN IS ADDITIONAL ALTERNATE BID ITEM



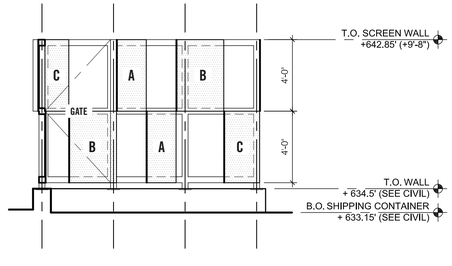
6 | SCREEN WALL ELEVATION INSIDE – WEST 1/4" = 1'-0"

RESTROOM SCREEN IS ADDITIONAL ALTERNATE BID ITEM



5 | SCREEN WALL ELEVATION INSIDE – SOUTH 1/4" = 1'-0"

RESTROOM SCREEN IS ADDITIONAL ALTERNATE BID ITEM



3 | SCREEN WALL ELEVATION INSIDE – NORTH 1/4" = 1'-0"

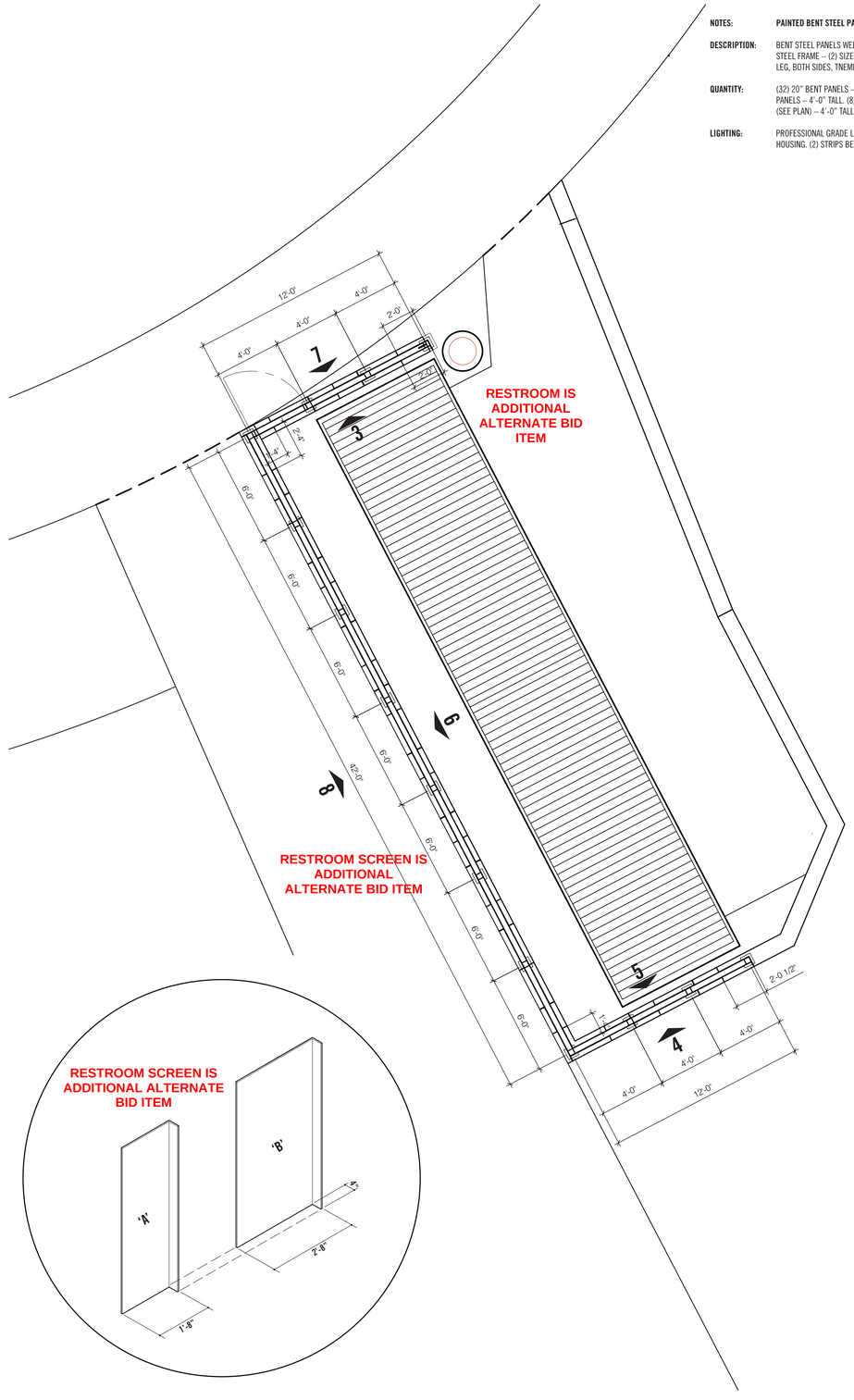
RESTROOM SCREEN IS ADDITIONAL ALTERNATE BID ITEM

NOTES: PAINTED BENT STEEL PANEL SCREEN WALL

DESCRIPTION: BENT STEEL PANELS WELDED TO HSS 4x4x1/4 TUBE STEEL FRAME – (2) SIZES; 20" w/ 4" LEG AND 32" w/ 4" LEG, BOTH SIDES, TNEMEC PAINTED FINISH.

QUANTITY: (32) 20" BENT PANELS – 4'-0" TALL. (24) 32" BENT PANELS – 4'-0" TALL. (8) VARIABLE WIDTH BENT PANELS (SEE PLAN) – 4'-0" TALL.

LIGHTING: PROFESSIONAL GRADE LED STRIP LIGHT IN ALUMINUM HOUSING. (2) STRIPS BETWEEN EACH POST – TYPICAL.



2 | PANELS SCREEN WALL 1/2" = 1'-0"

1 | LAYOUT PLAN RESTROOM SCREEN WALL 1/4" = 1'-0"

N

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CHECKED:
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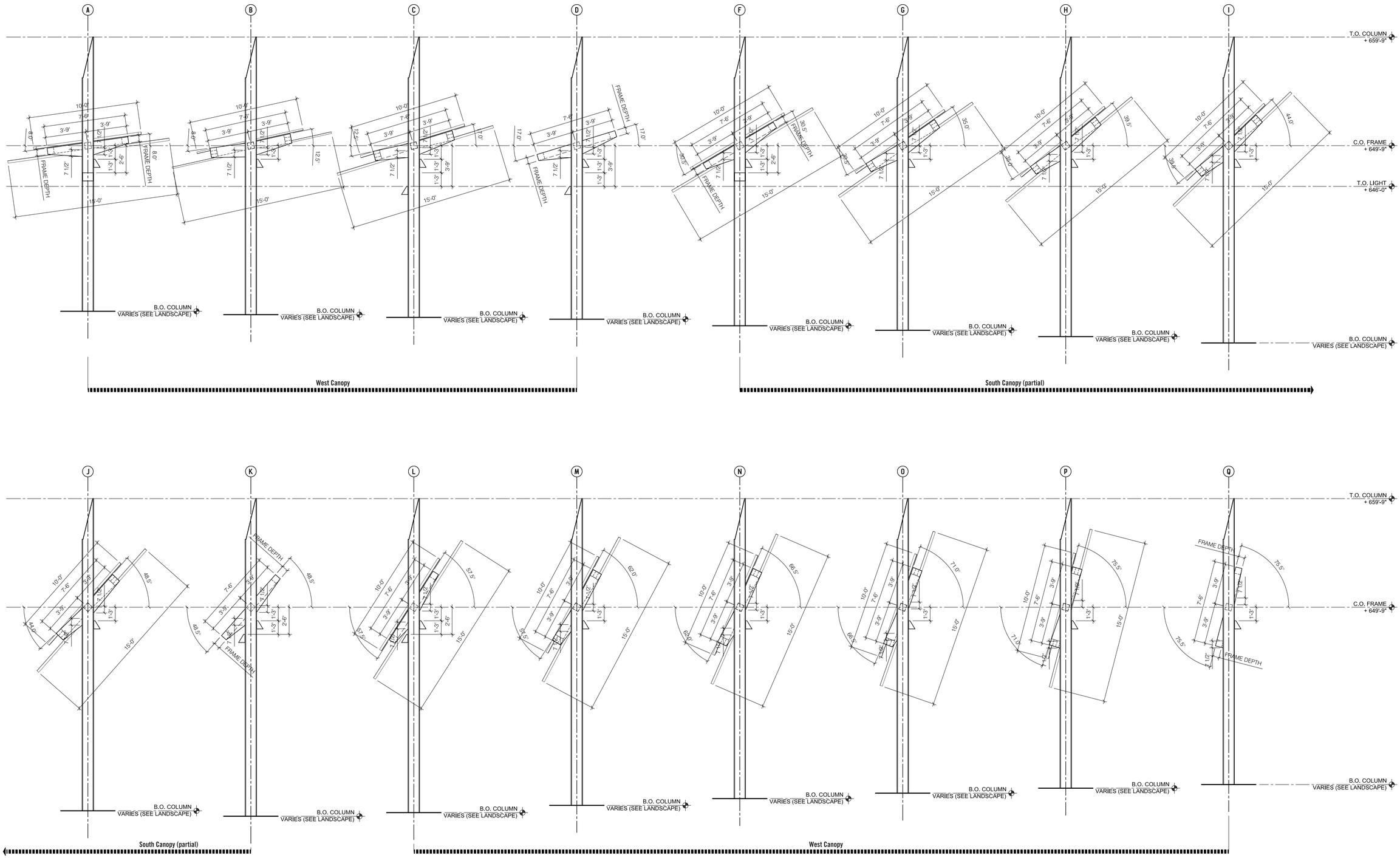
A7
RESTROOM SCREEN WALL
Plan + Elevations



1 | Column Elevations East, South, and West Canopies 1/4" = 1'-0"

COLUMNS, LIGHTING, AND POWER ARE BASE BID ITEMS

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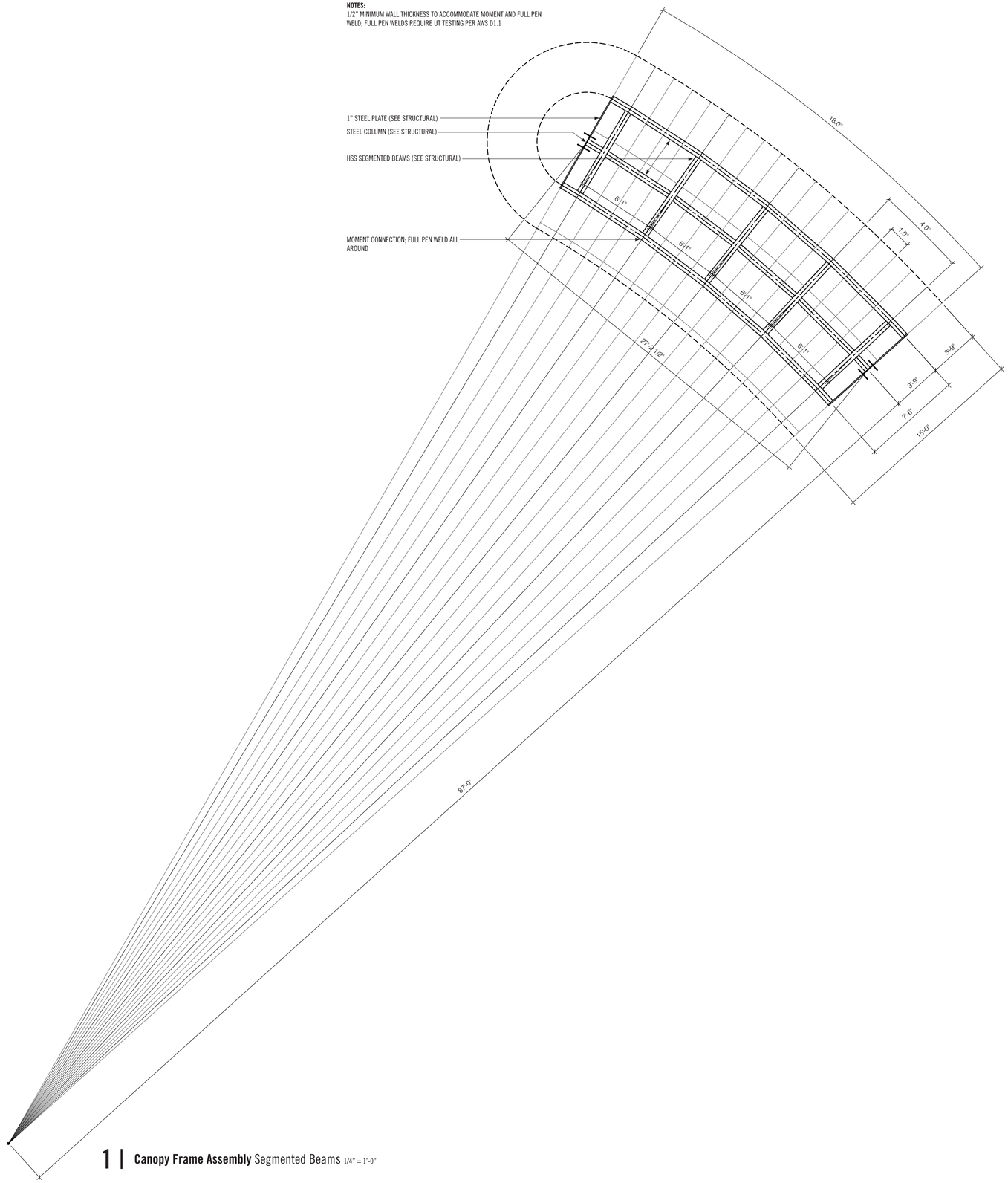
SHEET NO:
A8
CANOPY COLUMNS
Elevations

NOTES:
1/2" MINIMUM WALL THICKNESS TO ACCOMMODATE MOMENT AND FULL PEN WELD; FULL PEN WELDS REQUIRE UT TESTING PER AWS D1.1



1 | **Canopy Frame Assembly** Segmented Beams 1/4" = 1'-0"

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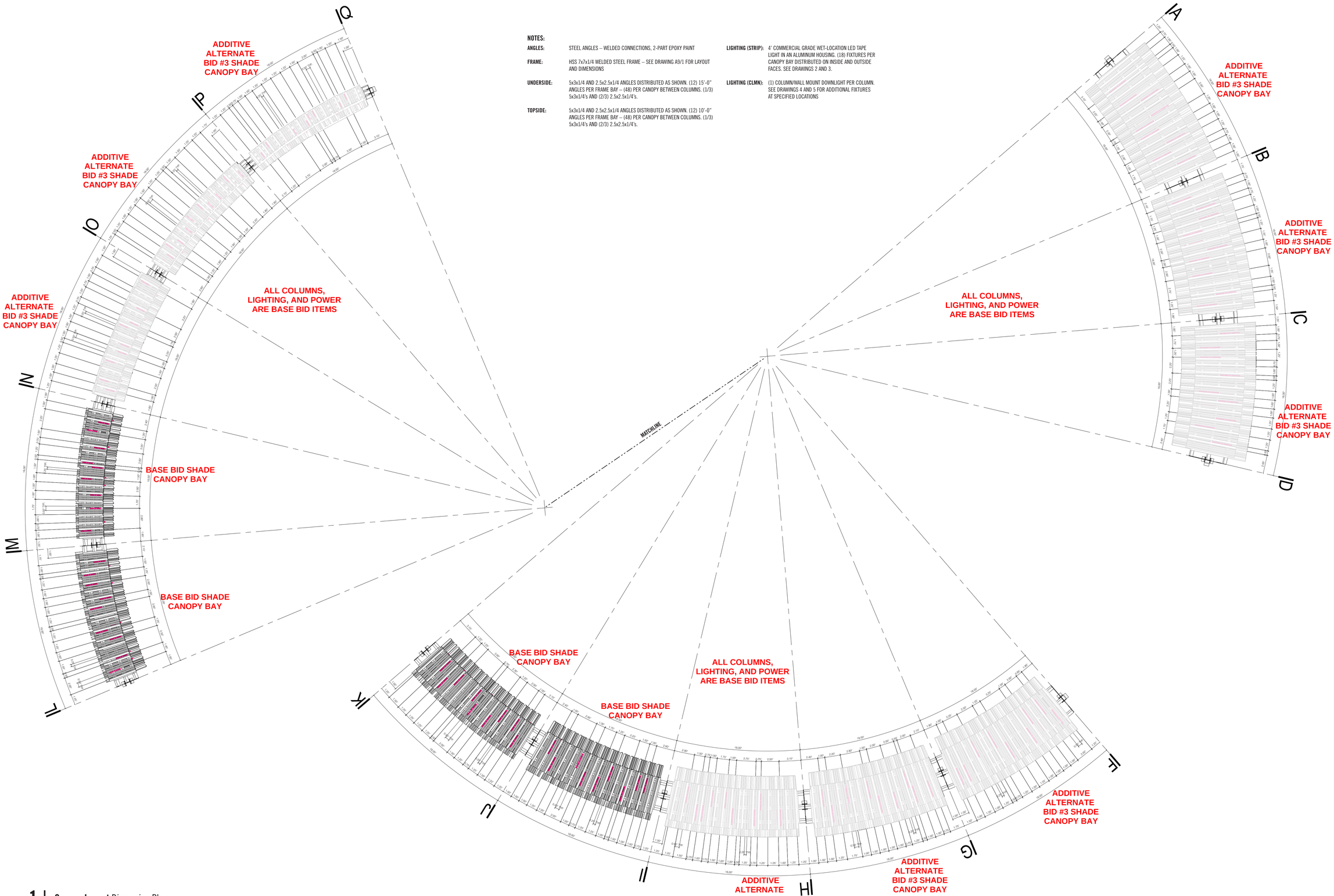
A9
CANOPY FRAME
Layout



NOTES:

ANGLES: STEEL ANGLES – WELDED CONNECTIONS, 2-PART EPOXY PAINT

FRAME: HSS 7x7x1/4 WELDED STEEL FRAME – SEE DRAWING A9/1 FOR LAYOUT AND DIMENSIONS

UNDERSIDE: 5x3x1/4 AND 2.5x2.5x1/4 ANGLES DISTRIBUTED AS SHOWN. (12) 15'-0" ANGLES PER FRAME BAY – (48) PER CANOPY BETWEEN COLUMNS. (1/3) 5x3x1/4's AND (2/3) 2.5x2.5x1/4's.

TOPSIDE: 5x3x1/4 AND 2.5x2.5x1/4 ANGLES DISTRIBUTED AS SHOWN. (12) 10'-0" ANGLES PER FRAME BAY – (48) PER CANOPY BETWEEN COLUMNS. (1/3) 5x3x1/4's AND (2/3) 2.5x2.5x1/4's.

LIGHTING (STRIP): 4' COMMERCIAL GRADE WET-LOCATION LED TAPE LIGHT IN AN ALUMINUM HOUSING. (18) FIXTURES PER CANOPY BAY DISTRIBUTED ON INSIDE AND OUTSIDE FACES. SEE DRAWINGS 2 AND 3.

LIGHTING (CLMN): (1) COLUMN/WALL MOUNT DOWNLIGHT PER COLUMN. SEE DRAWINGS 4 AND 5 FOR ADDITIONAL FIXTURES AT SPECIFIED LOCATIONS

1 | Canopy Layout Dimension Plan 1/8" = 1'-0"

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
+ 602.595.4101
DIGSTUDIO.COM

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www.lastarchitects.com

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LANG
ARIZONA U.S.A.
EXPIRES 09/30/2023

Permit
CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

DRAWN:
DESIGN: LAST Architects
CHECKED:
DATE: June 19, 2023
SHEET NO:

A10
CANOPY LAYOUT
Plan

NOTES:

ANGLES: STEEL ANGLES – WELDED CONNECTIONS, 2-PART EPOXY PAINT

FRAME: HSS 7x7x1/4 WELDED STEEL FRAME – SEE DRAWING A9/1 FOR LAYOUT AND DIMENSIONS

UNDERSIDE: 5x3x1/4 AND 2.5x2.5x1/4 ANGLES DISTRIBUTED AS SHOWN. (12) 15'-0" ANGLES PER FRAME BAY – (48) PER CANOPY BETWEEN COLUMNS. (1/3) 5x3x1/4's AND (2/3) 2.5x2.5x1/4's.

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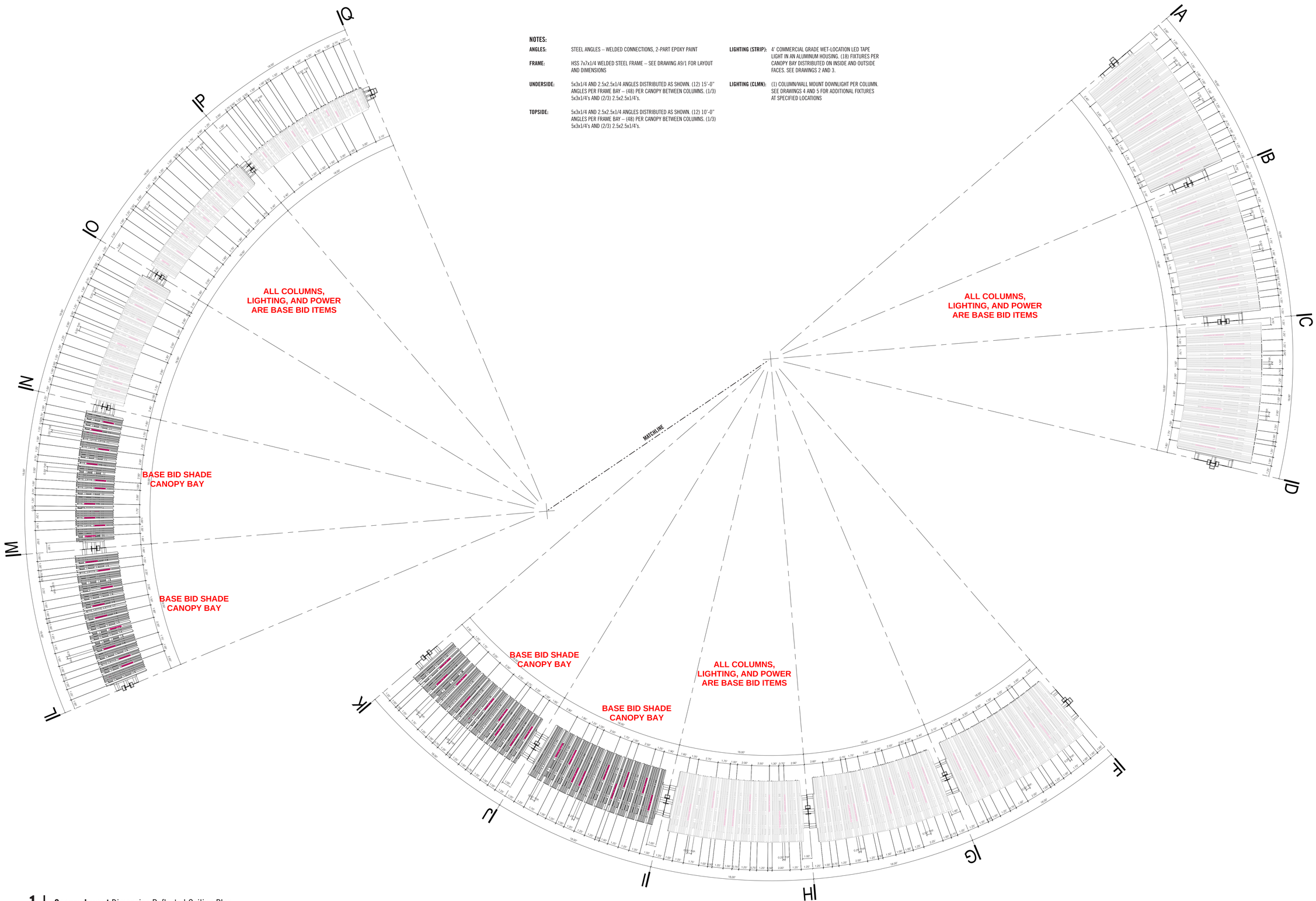
LIGHTING (CLMN): (1) COLUMN/WALL MOUNT DOWNLIGHT PER COLUMN. SEE DRAWINGS 4 AND 5 FOR ADDITIONAL FIXTURES AT SPECIFIED LOCATIONS



1 | **Canopy Layout** Dimension Reflected Ceiling Plan 1/8" = 1'-0"

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EXPIRES 09/30/2023

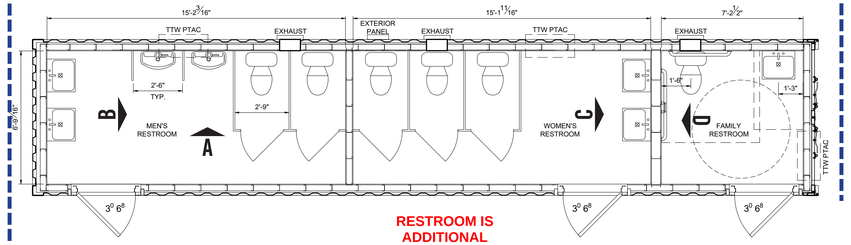
Permit
CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

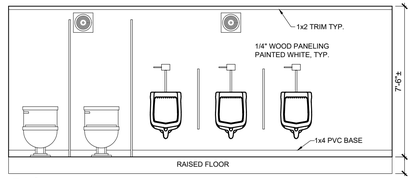
DRAWN:
DESIGN: LAST Architects
CHECKED:
DATE: June 19, 2023
SHEET NO:

A11
CANOPY LAYOUT
Reflected Ceiling Plan

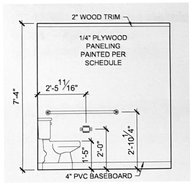


RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

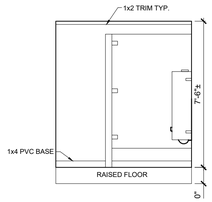
3 | PREFABRICATED BATHROOM FLOOR PLAN 40' NTS



A | INTERIOR ELEVATION FIXTURE WALL (Sim)

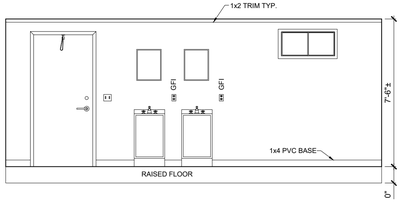


D | INTERIOR ELEVATION PARTITION WALL – FAMILY



RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

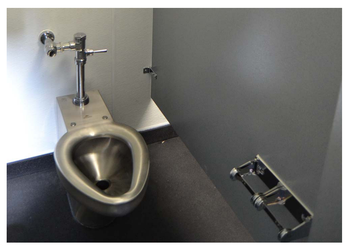
B | INTERIOR ELEVATION PARTITION WALL (Sim)



C | INTERIOR ELEVATION SINK WALL (Sim)

RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

2 | EXAMPLE FINISH ALKYD ENAMEL



RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

1 | FIXTURE OPTION STAINLESS STEEL

BASIS OF DESIGN: **FALCON STRUCTURES** | 40-Ft Private Stall Shipping Container Bathroom

7717 GILBERT RD.
MANOR, TX 78653
(512) 231-1010
www.falconstructures.com
sales@falconstructures.com

SPECIFICATIONS:
QUANTITY | Per Option
EXTERIOR PAINT | Alkyd Enamel – Color TBD
WALLS | Steel Wall Panels Over Spray Foam Insulation
FLOORING | Epoxy Coating
MECHANICAL | Mini PTAC Units; Ventilation Fans - See 3 | Prefabricated Bathroom Floor Plan
ELECTRICAL | Per Falcon Structures
PLUMBING | Per Falcon Structures, Stainless Steel Fixtures
OPENINGS | Exterior Security Light Adjacent to the Exterior 3'-0" Personnel Door per Floor Plan

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Permit
CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

DRAWN:
DESIGN: **LAST** Architects
CHECKED:
DATE: **June 19, 2023**
SHEET NO:

A12
PRE-FABRICATED RESTROOM
Basis of Design

Penal-Ware® 1652FALRB Series

18" Lavatory with Rectangular Bowl - ADA 2010 Compliant - Front Access

1652FALRB-1-DMS-04-M

Fixture May Show Some Available Options

Please visit ***www.acorneng.com*** for most current specifications.

18" Lavatory with Rectangular Bowl - ADA 2010 Compliant - Front Access

Fixture is designed to be installed on a finished wall through a removable bottom secured with tamper-resistant screws. Features include an integral self-draining soap dish and mounting hardware. Wall anchors are by others. Optional Wall Sleeve is recommended to provide wall openings. Lavatory complies with ANSI, UFAS, CBC and ADA 2010 requirements for accessibility. Compliance is subject to the interpretation and requirements of the local code authority.

Cabinet is fabricated from 14 gage, type 304 stainless steel and is seamless welded construction with exposed surfaces polished to a satin finish. Cabinet interior is sound deadened with fire-resistant material.

Lavatory Rectangular Bowl is 14" x 12" x 4-1/2" deep and includes an integral fast drain. Standard P-trap waste outlet is 1-1/2" O.D. plain end and extends 3" beyond the rear of the fixture.

Optional Lavatory Valve is an pneumatically operated, pushbutton Air-Control valve using atmospheric air. Pushbutton is vandal-resistant and requires less than 5 pounds to activate valve. Valve is metering, non-hold open type. Valve timing is adjustable from 5 to 60 seconds. Valve includes a 0.5 GPM flow control and can be remotely located up to 10 feet from the operating pushbutton. Valve and Bubbler conforms with lead free requirements of NSF61, Section 9 and CHSC 116875.

Suffix Option -DMB, Deck Mounted Bubbler optionally available, provides a drinking bubbler that meets ADA requirements and lead free requirements of NSF61, Section 9 and CHSC 116875. This option also includes a separate pushbutton and non-metering Air-Control valve with .7 GPM flow control.

GUIDE SPECIFICATION

Provide and install an Acorn Penal-Ware, 18" wide ADA Compliant Lavatory with Rectangular Bowl, Front Access (specify model number and options). Unit shall conform with ANSI, UFAS, CBC and ADA 2010 requirements for accessibility. Fixture shall be fabricated from 14 gage, type 304 stainless steel. Construction shall be seamless welded and exposed surfaces shall have a satin finish. Provide Air-Control pneumatically operated, metering, non-hold open valve with ADA compliant pushbutton. Valve and Bubbler conform with lead free requirements of NSF61, Section 9 and CHSC 116875. Cabinet bottom shall be removable and secured with tamper-resistant screws. Cabinet interior shall be sound deadened with fire-resistant material. Fixture shall be furnished with necessary fasteners for proper installation.

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Penal-Ware® 1652FALRB: 18" Lavatory with Lavy Rectangular Bowl - ADA Compliant - Front Access

WALL THICKNESS AND TYPE (Must Specify)
Thickness: _____ Type: ❑ Concrete ❑ Block ❑ Steel

MODEL AND OPTIONS SELECTION:

BASE MODEL NUMBER
☑ 1652FALRB 18" Lavy w/ Rectangular Bowl - ADA Compliant - Front Access

FIXTURE MOUNTING AND WASTE (Must Specify)
☑ -1 Off-Floor, Wall Outlet

SPOUT SELECTION (Must Specify)
❑ -DMB Deck Mounted Bubbler, Specify:
❑ -BP Penal Bubbler ❑ -BC Code Bubbler
❑ -DMS Deck Mounted Spout
❑ -BPH Hemispherical Penal Bubbler

VALVE SELECTION (Must Specify)
Air-Control (Pneumatic)
❑ -03-M Single Temp, Metering
❑ -04-M Hot & Cold, Metering

Master-Trol® (Electronic)
❑ -EVS1 Single Temp
❑ -EVS2 Hot & Cold
❑ -EVSP1 Single Temp, Piezo Button
❑ -EVSP2 Hot & Cold, Piezo Buttons

Master-Trol® PLUS (Electronic)
❑ -MTP1 Single Temp
❑ -MTP2 Hot & Cold
❑ -MTPP1 Single Temp, Piezo Button
❑ -MTPP2 Hot & Cold, Piezo Buttons
-MTP VALVE OPTION
❑ -PFB Power Failure Bypass (Provides drinking water in the event of power failure)

Time-Trol® (Electronic)
❑ -MVC1 Single Temp
❑ -MVC1-BAT Single Temp Battery Powered (Batteries Not Included)
❑ -MVC2 Hot & Cold
❑ -MVC2-BAT Hot & Cold Battery Powered (Batteries Not Included)

Programmable (Electronic) w/9VDC Plug-In Transformer
❑ -PPZ1 Single Temp Programmable Piezo Button
❑ -PPZ2 Hot & Cold Programmable Piezo Button

Valve By Others
❑ -9 Punched for Valve by Others

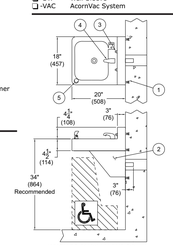
DECK PUNCHING (1-5/16" Diameter)
❑ -H1 Single Hole Centered
❑ -H24 Two Holes 4" Centerset
❑ -H28 Two Holes 8" Centerset (will eliminate soap depression)
❑ -H34 Three Holes 4" Centerset
❑ -H38 Three Holes 8" Centerset (will eliminate soap depression)

VALVE OPTIONS
❑ -BRS Brass Body Valve
❑ -C1 Cycle Interrupt for Time-Trol® Valves
❑ -PBH Hemispherical Pushbutton
❑ -TF Transformer, 120VAC to 24VAC (-MVC option only)

CABINET OPTIONS
❑ -FMT Fixture Mounted Trim
❑ -TB Toothbrush Holder ❑ Left ❑ Right
❑ -TG 12 Gage Cabinet
❑ -TH Towel Hook ❑ Single ❑ Double ❑ Left ❑ Right

LAVATORY WASTE OPTIONS
❑ -LWE Lavy Waste Extension (3" Standard) Specify Length Beyond Fixture: _____
❑ -OF Lavatory Overflow

PRODUCT OPTIONS
❑ -DMB Deck Mounted Drinking Bubbler (Cold water only) N/A with -03-M tempered supply
❑ -BP Penal Style ❑ -BC Code Style
❑ -BPH Penal Hemispherical Style
❑ -EG Enviro-Glaze, Specify Color: _____
❑ -MT Metal Template (Only 1 Required Per Project)
❑ -SW Wall Sleeve
❑ -VAC AcornVac System



1652FALRB-DMS-04-M-DMB-BC

NOTES:
1. Wall Mounting Anchors (By Others)
2. Removable Trap Enclosure
3. Lavy Valve Pushbuttons
4. -DMS Deck Mounted Spout
5. -DMB Deck Mounted Bubbler

Please visit ***www.acorneng.com*** *for most current specifications.* ⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Important: Installation instructions and current rough-in are furnished with each fixture. Do not rough in without certified dimensions.
Dimensions are subject to manufacturer's tolerance of plus or minus 1/4" and change without notice. Acorn assumes no responsibility for use of void or superseded data. © Copyright 2009 Acorn Engineering Company

Selection Summary	Approved for Manufacturing
Model No. & Option_____	Company_____Title_____
Quantity_____	Signature_____ Date_____

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RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

4 | LAVATORY

SLOAN.

REGAL® MANUAL FLUSHOMETER
REGAL 186-0.125

CODE NUMBER
3982604

DESCRIPTION
0.125 gpf, Polished Chrome Finish, Single Flush, Regal® Exposed Manual Urinal Flushometer.

DETAILS
- Flush Volume: 0.125 gpf (0.5 Lpf)
- Finish: Polished Chrome (CP)
- Valve: Diaphragm
- Valve Body Material: Semi-red Brass
- Fixture Type: Urinal
- Fixture Connection: Top spud
- Rough-In Dimension: 11 ½" (292mm)
- Spud Coupling: ¾" (19mm)
- Supply Pipe: ¾" (19mm)

FEATURES
- ADA Compliant Metal Oscillating Non-Hold-Open Handle
- Control Stop Plug
- Sweat Solder Adapter with Cover Tube
- Cast Wall Flange with Set Screw
- Vacuum Breaker Flush Connection
- Spud Coupling Wall and Spud Flange for 3/4" Top Spud
- Non-Hold-Open Handle and No External Volume Adjustment to Ensure Water Conservation
- 3/4" I.P.S. Wheel Handle Bak-Chek® Angle Stop

Variation Not Shown: Front of Valve Handle

COMPLIANCES & CERTIFICATIONS

(ADA Compliant, BAA Compliant, BREEAM Materials Credit, BREEAM Water Credit, cUPC Certified, cUPC Green Certified, EPD, Green Globes Materials & Resources Credit, Green Globes Water Credit, LEED Materials & Resources EPD Credit, LEED V4 Water Efficiency Credit, Satisfies LEED Credits, WaterSense Listed)

RECOMMENDED SPECIFICATION
Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi- Red Brass. Valve shall be in compliance with the applicable sections of ASSE 1037 and ANSI/ASME 112.19.2.

VALVE OPERATING PRESSURE (FLOWING)
15–80 PSI (103–552 kPa). Specific fixtures may require greater minimum flowing pressure - consult manufacturer requirements.

DOWNLOADS
- Regal XL Exposed Installation Instructions
- Control Stop Repair and Maintenance Guide
- Flush Connections Flanges Repair and Maintenance Guide
- Tail Piece Repair and Maintenance Guide
- Regal Flushometers Repair and Maintenance Guide
- Flushometer Pressure gauges
- Additional Downloads

NOTES
All information contained within this document subject to change without notice.

Looking for other variations of the REGAL 186 product? View the general spec sheet with all options.

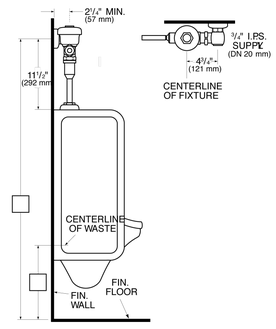
Sloan 10500 Seymour Ave, Franklin Park, IL 60131
Phone: 800.982.5839 • Fax: 800.447.8329 • sloan.com

SLOAN.

REGAL® MANUAL FLUSHOMETER
REGAL 186-0.125

Find a compatible urinal for this flushometer.
Find a compatible water closet for this flushometer.

ROUGH-IN



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RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

3 | FLUSH VALVE

Dura-Ware® 2158 Series

ADA Compliant High Efficiency Urinal

2158-T-1

Fixture May Show Some Available Options

Please visit ***www.acorneng.com*** for most current specifications.

ADA Compliant High Efficiency Urinal

Dura-Ware High Efficiency Urinals are engineered to combine attractive looks with versatility, and intended for mounting onto a finished wall from the front. Units feature a contoured interior to facilitate cleaning. Urinals mounted at 17" rim height comply with ANSI, ADA, UFAS accessibility requirements. Compliance is subject to the interpretation and requirements of the local code authority.

Fixture bowl is fabricated of 16 gage type 304 stainless steel and the housing fabricated of 18 gage type 304 stainless steel with exterior surfaces polished to a satin finish.

Urinal is a high efficiency type requiring a 1/8 GPF (0.47 Liters per Flush) to 1/2 GPF (1.8 Liters per Flush) flush valve and supplied with 3/4" NPT flushing inlet connection and stainless steel bee hive dome strainer with 1-1/2" O.D. P-Trap assembly.

Installation is Front Mount and the fixture includes an open bottom to facilitate mounting directly to a reinforced wall from within the housing.

GUIDE SPECIFICATION

Provide Acorn Dura-Ware Stainless Steel Urinal (specify model number and options). Urinal mounted at 17" rim height to comply with ANSI, ADA and UFAS accessibility requirements. Interior to have a contoured surface to facilitate cleaning. Fixture shall be fabricated of 18 gage with 16 gage bowl type 304 stainless steel with exposed surfaces polished to a satin finish.

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Dura-Ware® 2158: Dura-Ware Urinal - ADA Compliant

MODEL NUMBER AND OPTIONS SELECTION

WALL THICKNESS AND TYPE
Thickness: _____ Type: ❑ Concrete ❑ Block ❑ Steel

BASE MODEL NUMBER
☑ -2158 Dura-Ware Urinal

SUPPLY SELECTION (Must Specify)
❑ -T Top *(Exposed)*
❑ -W Wall *(Concealed)*

FIXTURE MOUNTING & WASTE (Must Specify)
☑ -1 Off-Floor, Wall Outlet

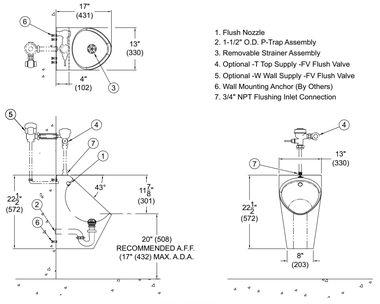
FLUSH VALVE GPF's (Must Specify)
❑ -0.125 GPF
❑ -0.5 GPF

FLUSH VALVE OPTIONS (Must Specify)
Refer to Acorn Dura-Ware Supplementary for Box Cover(s) and Access Panel(s)

❑ -FV Flush Valve, Mechanical *(N/A for ADA)*
❑ -FVBO Flush Valve By Others
❑ -FVH Flush Valve Hydraulic *(Concealed F.V.)*
❑ -FVL Flush Valve, ADA Lever Handle *(Concealed F.V.)*

PRODUCT OPTIONS (Must Specify)
❑ -EG Enviro-Glaze *(Interior and Exterior)*: Color: _____
❑ -HP High Polish Finish

Please ***visit www.acorneng.com*** for most current specifications.



1. Flush Nozzle
2. 1-1/2" O.D. P-Trap Assembly
3. Removable Strainer Assembly
4. Optional -T Top Supply -FV Flush Valve
5. Optional -W Wall Supply -FV Flush Valve
6. Wall Mounting Anchor (By Others)
7. 3/4" NPT Flushing Inlet Connection

MODEL #2158-T/W-1

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Important: Installation instructions and current rough-in are furnished with each fixture. Do not rough in without certified dimensions.
Dimensions are subject to manufacturer's tolerance of plus or minus 1/4" and change without notice. Acorn assumes no responsibility for use of void or superseded data. © Copyright 2009 Acorn Engineering Company

Selection Summary	Approved for Manufacturing
Model No. & Option_____	Company_____Title_____
Quantity_____	Signature_____ Date_____

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RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

2 | URINAL

Penal-Ware® 1630 Series

Stainless Steel Mop Sink

1630

Fixture May Show Some Available Options

Please visit *www.acorneng.com* for most current specifications.

Mop Sink

Fixture is fabricated of 16 gage, type 304 stainless steel and is seamless welded construction with satin finish on exposed exterior surfaces. Unit is arranged to be installed onto a floor and against finished wall.

Mop Sinks are 8" deep with an integral basin and is sound deadened with a fire resistant material. Integral drain includes a removable flat grid strainer and provides for an inside gasket connection to 3" IPS pipe. The mop sink is pitched to the drain outlet to provide positive drainage and includes an apron on three sides.

Optional Tiling Flanges extend 1" above the shoulder and can be specified for up to 3 sides. When the -TF Tiling Flange option is specified, an apron will not be provided on the specified sides.

Accessories to complete the installation of the mop sink include:
- Chrome Finish Faucet
- 36" Hose -To reduce splashing. Includes hose wall hanger
- Mop Hanger -Provides easy storage of the mop over the sink
- Rubber drain gasket -Eases drain connection
- Stainless Steel Wall Guards -Protects sensitive walls from splashing water
- Tiling Flanges -Simplifies field installation.
- A beehive dome strainer is optionally available.

GUIDE SPECIFICATION

Provide and install Acorn Penal-Ware Stainless Steel Mop Sink (specify model number and options). Fixture shall be fabricated of 16 gage, type 304 stainless steel. Unit shall be of seamless welded construction with all welds ground smooth. All exposed surfaces shall have a satin finish. Basin shall be double wall construction with aprons on three sides and shall provide a inside gasket waste connection to 3" IPS pipe and include a removable grid strainer.

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Penal-Ware®: 1630 Stainless Steel Mop Sink

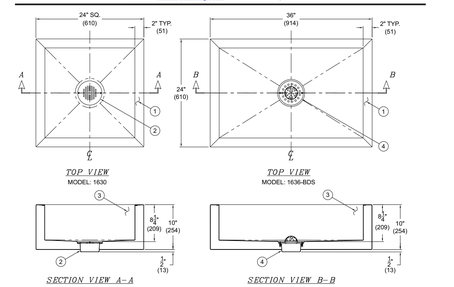
MODEL AND OPTIONS SELECTION:

BASE MODEL NUMBER (Must Specify)
❑ 1630 Mop Sink, 24" x 24" x 10" Deep
❑ 1636 Mop Sink, 36" x 24" x 10" Deep

INTEGRAL TILING FLANGES
❑ -TF1 Tiling Flange, Rear Side
❑ -TF2 Tiling Flange, Two Adjacent Sides
❑ Rear & Right Side
❑ Rear & Left Side
❑ -TF3 Tiling Flange, Three Sides (Rear, Right and Left Sides)

PRODUCT OPTIONS (Must Specify)
❑ -BDS Beehive Dome Strainer
❑ -KDG3 Rubber Drain Gasket for 3" Waste Pipe
❑ -KFC Chrome Utility Faucet, Hot & Cold, 8" Centerset (not Vandal Resistant; Shipped Loose)
❑ -KH36 36" Long Hose with Wall Hanger
❑ -KMH 3 Mop Hanger Stainless Steel Bracket
❑ -KWG24 Stainless Steel Wall Guard, 12" x 24" Specify Quantity: _____ (Shipped Loose)
❑ -KWG36 Stainless Steel Wall Guard, 12" x 36" Specify Quantity: _____ (Shipped Loose)
❑ -TA Threshold Anchors

Please visit ***www.acorneng.com*** for most current specifications.



NOTES:
1. SLOPED SHOULDERS TO DRAIN EXCESS WATER TO INSIDE
2. STD. 3" IPS DRAIN ASSEMBLY
3. APRONS ON THREE SIDES
4. 3" IPS DRAIN ASSEMBLY w/ OPTIONAL -BDS BEEHIVE DOME STRAINER

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Important: Installation instructions and current rough-in are furnished with each fixture. Do not rough in without certified dimensions.
Dimensions are subject to manufacturer's tolerance of plus or minus 1/4" and change without notice. Acorn assumes no responsibility for use of void or superseded data. © Copyright 2009 Acorn Engineering Company

Selection Summary	Approved for Manufacturing
Model No. & Option_____	Company_____Title_____
Quantity_____	Signature_____ Date_____

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Tel: (800) 488-8999 • (626) 336-4561 • Fax: (626) 961-2200 • www.acorneng.com • E-mail: info@acorneng.com

RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

1 | MOP SINK

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
+ 602.595.4101
DIGSTUDIO.COM

LAST ARCHITECTS
514 E Grant Street
Phoenix, AZ 85004
(480) 315-5295
www.lastarchitects.com

REGISTERED ARCHITECT
48485
WARREN LANG
ARIZONA U.S.A.
EXPIRES 09/30/2023

Permit
CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST
PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

DRAWN:
DESIGN: LAST Architects
CHECKED:
DATE: June 19, 2023
SHEET NO:

A13
FIXTURES
Specifications

Penal-Ware® 1810 Series
Framed Mirror

1812 | 1810
Fixture May Show Some Available Options

Please visit *www.acorneng.com* for most current specifications.

Framed Mirror

Acorn Framed Security Mirror is designed for use in all security areas where Mirrors are subject to breakage and theft.

Model 1810 Framed Security Mirror is chase mounted. Mirror features a seamless 14 gage, type 304 stainless steel frame. Frame is polished to a satin finish. Back of frame is provided with special welded anchor nuts and is furnished with 1/4" studs, nuts and washers for indicated wall thickness.

Model 1811 Framed Mirror is front mounted. Mirror frame has countersunk screw holes and is furnished with six 1/4" tamper-resistant screws.

Model 1812 Handicapped Framed Security Mirror is similar in construction to Model 1810, except that length of Mirror is increased to 22-1/2".

Model 1813 Handicapped Framed Mirror is similar in construction to Model 1811, except that length of Mirror is increased to 22-1/2".

Acorn Stainless Steel Mirror is the highest quality obtainable and is standardly furnished for all mirrors. It is reinforced with 1/2" thick fiberboard backing. Mirror is type 400 stainless steel polished to a mirror finish.

Optional Plexiglas® Mirror is 1/4" thick. It is reinforced with 1/4" thick fiberboard backing. Construction is similar to Tempered Glass Mirror. Plexiglas is almost unbreakable, having about fourteen times the strength of glass. The reflective qualities are excellent however, the surface is subject to scratching and care must be used when cleaning.

Optional Laminated Glass Mirror is 1/4" thick. It is reinforced with 1/4" thick fiberboard backing with a special waterproof tape which seals the edges from moisture and insulates the Mirror from shock. Under impact the laminated glass mirror may break or shatter however the pieces remain together held in place by an integral bonding interlayer minimizing risk to injury by glass fragments. Mirror surface is highly reflective and easily cleaned as ordinary glass.

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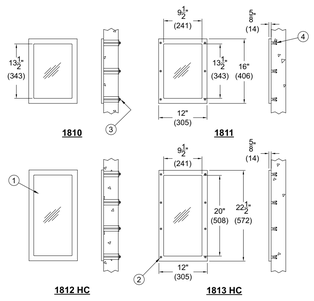
Penal-Ware®: 1810 Framed Mirror

WALL THICKNESS AND TYPE (Must Specify)
Thickness _____ Type: __ Concrete __ Block __ Steel

MODEL NUMBER AND OPTIONS SELECTION
BASE MODEL NUMBER
❑ -1810 Framed Mirror, Rear Mount 12" x 16"
❑ -1811 Framed Mirror, Front Mount 12" x 16"
❑ -1812 HC Framed Mirror, Rear Mount 12" x 22-1/2"
❑ -1813 HC Framed Mirror, Front Mount 12" x 22-1/2"

Product Options
❑ -MPG Mirror, Plexiglas®
❑ -MLG Mirror, Laminated Glass
❑ -SW Wall Sleeve

Please visit *www.acorneng.com* for most current specifications.



1810 SERIES

NOTES:
1. Stainless Steel Mirror.
2. Tamper Resistant Screws.
3. Wall Mounting Hardware.
4. Wall Mounting Anchors (By Others).

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Important: Installation instructions and current rough-in are furnished with each fixture. Do not rough in without certified dimensions.
Dimensions are subject to manufacturer's tolerance of plus or minus 1/4" and change without notice. Acorn assumes no responsibility for use of void or superseded data. © Copyright 2006 Acorn Engineering Company.

Selection Summary	Approved for Manufacturing
Model No. & Option_____	Company_____ Title_____
Quantity_____	Signature_____ Date_____

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RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

3 | MIRROR

SLOAN.

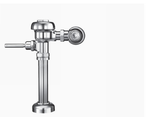
REGAL® MANUAL FLUSHOMETER
REGAL 111-1.28

CODE NUMBER
3080050

DESCRIPTION
1.28 gpf, Polished Chrome Finish, Single Flush, Regal® Exposed Manual Water Closet Flushometer.

DETAILS
- Flush Volume: 1.28 gpf (4.8 Lpf)
- Finish: Polished Chrome (CP)
- Valve: Diaphragm
- Valve Body Material: Semi-red Brass
- Fixture Type: Water Closet
- Fixture Connection: Top spud
- Rough-In Dimension: 11 ½" (292mm)
- Spud Coupling: 1 ½" (38mm)
- Supply Pipe: 1" (25mm)

FEATURES
- ADA Compliant Metal Oscillating Non-Hold-Open Handle
- 1" I.P.S. Screwdriver Bak-Chek® Angle Stop
- Control Stop Plug
- Sweat Solder Adapter with Cover Tube
- Cast Wall Flange with Set Screw
- Vacuum Breaker Flush Connection
- Non-Hold-Open Handle and No External Volume Adjustment to Ensure Water Conservation



COMPLIANCES & CERTIFICATIONS

(ADA Compliant, BAA Compliant, BREEAM Materials Credit, BREEAM Water Credit, cUPC Certified, cUPC Green Certified, EPD, Green Globes Materials & Resources Credit, Green Globes Water Credit, LEED Materials & Resources EPD Credit, LEED V4 Water Efficiency Credit, Satisfies LEED Credits, WaterSense Listed)

RECOMMENDED SPECIFICATION
Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi- Red Brass. Valve shall be in compliance with the applicable sections of ASSE 1037 and ANSI/ASME 112.19.2.

VALVE OPERATING PRESSURE (FLOWING)
15–80 PSI (103–552 kPa). Specific fixtures may require greater minimum flowing pressure - consult manufacturer requirements.

DOWNLOADS
- Regal XL Exposed Installation Instructions
- Control Stop Repair and Maintenance Guide
- Flush Connections Flanges Repair and Maintenance Guide
- Tail Piece Repair and Maintenance Guide
- Regal Flushometers Repair and Maintenance Guide
- Flushometer Pressure gauges
- Additional Downloads

NOTES
All information contained within this document subject to change without notice.

Looking for other variations of the REGAL 111 product? View the general spec sheet with all options.

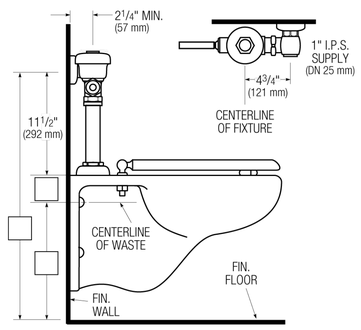
Find a compatible urinal for this flushometer.
Find a compatible water closet for this flushometer.

Sloan 10500 Seymour Ave, Franklin Park, IL 60131
Phone: 800.982.5839 • Fax: 800.447.8329 • sloan.com

SLOAN.

REGAL® MANUAL FLUSHOMETER
REGAL 111-1.28

ROUGH-IN



Sloan 10500 Seymour Ave, Franklin Park, IL 60131
Phone: 800.982.5839 • Fax: 800.447.8329 • sloan.com

RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

2 | FLUSH VALVE

Dura-Ware® 2120 Series
Siphon Jet Toilet - On Floor - Floor Outlet

2120-W-3-CN
Fixture May Show Some Available Options

Please visit ***www.acorneng.com*** for most current specifications.

Siphon Jet Toilet - On Floor - Floor Outlet

Fixture is arranged to be installed on finished wall from the front side. It is fabricated from 16 gage, type 304 stainless steel and is seamless welded construction. Exterior has a satin finish with an integral contoured seat. The inside of the toilet bowl also has a satin finish. Wall flange is reinforced for maximum strength.

Toilet is Siphon Jet type with elongated bowl manufactured to comply with ASME A112.19.3-2008 and CSA B45.4-2008 standards. Toilet requires a minimum of 25 PSI flow pressure and uses a minimum water consumption of 1.28 GPF. Trap has a minimum 3-1/2" seal, will pass a 2-1/8" ball and is fully enclosed. Toilet has a 1-1/2" NPT flushing inlet connection and a 7-1/2" gasketed waste with 6" mounting centers. Connecting hardware provided by installer.

Flush Valve supply is additionally available for exposed or concealed flush valve styles in 1.28 GPF, 1.6 GPF or 3.5 GPF with 1-1/2" NPT connection.

GUIDE SPECIFICATION

Provide and install Acorn Dura-Ware Siphon Jet Toilet (specify model number and options). Fixture shall be fabricated from 16 gage, type 304 stainless steel. Construction shall be seamless welded and exposed surfaces shall have a satin finish with an integral contoured toilet seat. Toilet shall be concealed siphon jet type with an elongated bowl and a self-draining flushing rim. Toilet shall be ASME A112.19.3-2008 and CSA B45.4-2008 compliant. Toilet requires a minimum of 25 PSI flow pressure and uses a minimum water consumption of 1.28 GPF. Toilet trap shall have a minimum 3-1/2" seal that shall pass a 2-1/8" diameter ball and be fully enclosed. Toilet waste outlet shall be 7-1/2" Gasketed Waste with 6" mounting centers. Connecting hardware provided by installer.

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Tel: (800) 488-8999 • (626) 336-4561 • Fax: (626) 961-2200 • www.acorneng.com • E-mail: info@acorneng.com

MGI SpecBuilder™ ——— Configure products and create specs with ease. ——— Get Started ➔: www.mgispecbuilder.com

Dura-Ware®: 2120 Siphon Jet Toilet - On Floor - Floor Outlet

WALL THICKNESS AND TYPE (Must Specify)
Thickness: _____ Type: ❑ Concrete ❑ Block ❑ Steel

MODEL NUMBER AND OPTIONS SELECTION:

BASE MODEL NUMBER
☑ 2120 Siphon Jet Toilet

SUPPLY (Must Specify)
❑ -T Top (Exposed)
❑ -W Wall (Concealed)

FIXTURE MOUNTING AND WASTE (Must Specify)
☑ -3 On-Floor, Floor Outlet

FLUSH VALVE GPFs (Must Specify)
❑ -1.28 GPF (HET)
❑ -1.6 GPF (Not Available in California)
❑ -3.5 GPF (Not Available in California)

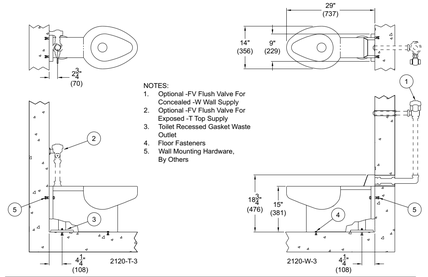
FLUSH VALVE OPTIONS (Must Specify)
REFER TO ACORN DURA-WARE ACCESSORIES FOR FLUSH VALVE COVER #2802, BOX #2803-1 AND PANEL #2898
❑ -FV Flush Valve, Mechanical (N/A for ADA)
❑ -FVBO Flush Valve by Other
❑ -FVH Flush Valve, Hydraulic (N/A for Top Supply)
❑ -FVL Flush Valve, ADA Lever Handle
❑ -MVCFV Time-Trol Flush Valve (N/A for Top Supply)

TOILET SEAT OPTIONS
❑ -HPS High Polish Integral Seat
❑ -HS-OFLC Hinged Seat, Open Front Less Cover
❑ -HS-OFWC Hinged Seat w/ Cover
❑ -PFS Punched for Seat by Others

TOILET OPTIONS
❑ -FT Flood-Trol (N/A with Top Supply)
❑ -FTA Flood-Trol Auto-Reset (N/A with Top Supply)
❑ -FTE Flood-Trol Electronic
❑ -FVT Flush Thru Wall Connector
❑ -TSC Toilet Shipping Cover

PRODUCT OPTIONS
❑ -ADA 18" Integral Seat Height
❑ -BCN Blind Cap Nuts (4)
❑ -BL Bedpan Lugs
❑ -CN Cap Nuts (4)
❑ -EG Enviro-Glaze Color Specify:_____ Toilet Interior & Exterior
❑ -EGE Enviro-Glaze Color Specify:_____ Toilet Exterior Only
❑ -FG 14 Gage Housing
❑ -TF Transformer, 120VAC to 24VAC (-MVCFV option)
❑ -VAC AcornVac System

Please visit ***www.acorneng.com*** for most current specifications.



NOTES:
1. Optional -FV Flush Valve For Concealed -W Wall Supply
2. Optional -FV Flush Valve For Exposed -T Top Supply
3. Toilet Recessed Gasket Waste Outlet
4. Floor Fasteners
5. Wall Mounting Hardware, By Others

Important: Installation instructions and current rough-in are furnished with each fixture. Do not rough in without certified dimensions.
Dimensions are subject to manufacturer's tolerance of plus or minus 1/4" and change without notice. Acorn assumes no responsibility for use of void or superseded data. © Copyright 2009 Acorn Engineering Company.

Selection Summary	Approved for Manufacturing
Model No. & Option_____	Company_____ Title_____
Quantity_____	Signature_____ Date_____

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RESTROOM IS ADDITIONAL ALTERNATE BID ITEM

1 | WATER CLOSET

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
+ 602.595.4101
DIGSTUDIO.COM

LAST ARCHITECTS
511 E Coast Hwy
Phoenix, AZ 85004
(480) 305-5295
www.lastarchitects.com

REGISTERED ARCHITECT
48485
WARREN LANG
ARIZONA U.S.A.
EXPIRES 09/30/2023

Permit
CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST
PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

DRAWN:
DESIGN: LAST Architects
CHECKED:
DATE: June 19, 2023

SHEET NO:
A14
FIXTURES
Specifications

GENERAL STRUCTURAL NOTES

BUILDING CODE:
2018 EDITION OF BUILDING CODE AND STANDARDS REFERENCED THEREIN.

LOADS:
CANOPY ROOFS:
ROOF LIVE LOAD = 20 PSF (REDUCIBLE).
ROOF DEAD LOAD = 20 PSF.
NET AND UPLIFT = 10 PSF. (DESIGN BASED ON 0.6D — 0.6W)

LATERAL:

WIND:
ULTIMATE DESIGN WIND SPEED (3-SECOND GUST)
V ULT = 99 MPH, EXPOSURE C
RISK CATEGORY II

SEISMIC:
RISK CATEGORY, II.
SEISMIC IMPORTANCE FACTOR, I = 1.00.
MAPPED SHORT PERIOD SPECTRAL ACCELERATION, Ss = 0.189.
MAPPED ONE SECOND SPECTRAL ACCELERATION, S1 = 0.113.
SOIL SITE CLASS, D.
DESIGN SHORT PERIOD SPECTRAL ACCELERATION, Sds = 0.201.
DESIGN ONE SECOND SPECTRAL ACCELERATION, Sd1 = 0.178.
SEISMIC DESIGN CATEGORY, C.

FOR DEFLECTION/CAMBER CRITERIA OF STRUCTURAL MEMBERS ENGINEERED BY OTHERS, SEE SPECIFIC MEMBER'S SECTION BELOW

FOUNDATIONS:
GEOTECHNICAL REPORT BY NINYO & MOORE; JOB NO. 606984001 DATED JUNE 9, 2022. CANOPY STRUCTURE SHALL BE SUPPORTED ON DEEP FOUNDATION SYSTEM – CAST-IN-PLACE DRILLED SHAFTS USING AN ALLOWABLE SKIN FRICTION = 8D<4000 PSF OR 80 KSF FOR GP-GM MATERIAL AND IGNORING UPPER 24 INCHES TO ACCOUNT FOR SURFACE DISTURBANCE.

Table 2 – Drilled Shaft Lateral Analysis Parameters

Material	Recommended Soil Type to Model	Depth Range (ft)	Effective Unit Weight (pcf)	Angle of Internal Friction, phi (degrees)	Undrained Shear Strength, Cohesion, c (psf)	Modulus of Subgrade Reaction, K (pci)	Soil Strain Ratio, ε_{50}
Poorly Graded Gravel with Silt (GP-GM)	Gravel (Reese)	Varies	125	35	0	225	N/A
Poorly Graded Sand (SP), Silty Sand (SM)	Sand (Reese)	Varies	115	28	0	90	N/A

CONCRETE:

SPECIFIED 2B DAY COMPRESSIVE STRENGTH F'c:

FOUNDATIONS (DESIGN BASED ON 2,500 PSI) ——————————————— 3,000 PSI

GENERAL:

ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE REFERENCED EDITION OF THE ACI STANDARDS. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED UNLESS NOTED OTHER CASE. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED. NO OTHER ADMIXTURES PERMITTED WITHOUT APPROVAL. FOR CONCRETE WITHOUT PLASTICIZER, MAXIMUM SLUMP 4 1/2" AT POINT OF PLACEMENT U.N.O. IF PLASTICIZER IS USED, ANOTHER FINAL SLUMP MAY BE ALLOWED UPON STRUCTURAL ENGINEER'S APPROVAL.

FOR REINFORCING INFORMATION, SEE REINFORCING SECTION OF G.S.N., PLANS, SCHEDULES AND DETAILS.

UNLESS NOTED OTHERWISE ON THE DRAWINGS, THE EMBEDMENT OF CONDUITS, PIPES, SLEEVES, ETC. OF ANY MATERIAL SHALL NOT BE PERMITTED WITHIN ANY CONCRETE STRUCTURAL ELEMENT (IE: FOOTINGS, PIERS, COLUMNS, BEAMS, ELEVATED SLABS, ETC.) WITHOUT EXPRESSED APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.

FLY ASH — IF PERMITTED BY ARCHITECTURAL SPECIFICATIONS. SHALL BE LIMITED TO 25% OF TOTAL CEMENTITIOUS MATERIALS BY WEIGHT. FLY ASH SHALL BE INCLUDED IN THE CALCULATION OF W/C RATIOS SPECIFIED ABOVE. FLY ASH ADDITIVES SHALL NOT BE USED ON SLABS WITH A BURNISHED OR ACID FINISH.

TEST DATA FOR EACH CONCRETE MIX SHALL BE SUBMITTED FOR REVIEW PER CHAPTER 5 OF ACI 318. REFERENCE FIGURE R5.3 FOR SUBMITTAL REQUIREMENTS AND OPTIONS. CONCRETE MIX DESIGNS THAT ARE SUBMITTED WITHOUT THE APPROPRIATE TEST DATA CANNOT BE REVIEWED.

CLEAR DISTANCE SHALL BE FROM FACE OF STRUCTURE TO EDGE OF REINFORCING, AND SHALL NOT BE LESS THAN STATED, NOR GREATER THAN CLEAR DIMENSION PLUS 3/8". ALL OTHERS SHALL BE PLUS OR MINUS 1/4" TYPICAL UNLESS NOTED OTHERWISE.

FIELD BENDING OR STRAIGHTENING OF DEFORMED BARS SHALL BE LIMITED TO #5 BARS AND SMALLER AND SHALL BE FIELD BENT OR STRAIGHTENED ONLY ONCE. ANY BEND SHALL BE LIMITED TO 90 DEGREES. IF FIELD BENDING OR STRAIGHTENING OF #6 BARS OR LARGER IS REQUIRED, OR IF A SECOND BEND IS REQUIRED FOR #5 BARS AND SMALLER, HEAT SHALL BE APPLIED FOR BENDING OR STRAIGHTENING. CONTRACTOR SHALL SUBMIT PROCEDURE FOR APPLYING HEAT TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BENDING OR STRAIGHTENING BARS.

REINFORCING:

ALL REINFORCING PER CRSI SPECIFICATIONS AND HANDBOOK. ASTM A615 (Fy - 60 KSI / GRADE 60) DEFORMED BARS FOR ALL BARS #5 AND LARGER. ASTM A615 (Fy = 40 KSI / GRADE 40) DEFORMED BARS FOR ALL BARS #4 AND SMALLER. WHERE SHOWN ON DRAWINGS ALL GRADE 60 REINFORCING TO BE YIELDED SHALL BE ASTM A706. WELDED CAGE REINFORCING PER ASTM A1064, WIRE PER ASTM A1064. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH STRUCTURAL ENGINEER. REFERENCED ACI STANDARDS AND DETAILING MANUAL APPLY. CLEAR CONCRETE COVERAGES AS FOLLOWS:

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH
3" EXPOSED TO EARTH OR WEATHER #6 OR LARGER ----------2"

#5 AND SMALLER ——————————————————— 1 1/2"

ALL OTHER PER REFERENCED EDITION OF ACI 31B

ALL DIMENSIONS REFERENCED IN DRAWINGS AS CLEAR DIMENSIONS

STRUCTURAL STEEL:

GENERAL:
ALL STEEL CONSTRUCTION PER REFERENCED AISC STEEL CONSTRUCTS ON MANUAL. ALL WIDE FLANGE STEEL SHALL BE ASTM A992 (Fy = 50 KSI). ALL PIPE STEEL SHALL BE ASTM A500 (Fy = 42 PSI) OR ASTM A53. TYPE E OR S. GRADE B (Fy=35 KSI). ALL TUBE STEEL SHALL BE ASTM A500 (Fy=46 KSI). ALL MISCELLANEOUS STEEL UNLESS NOTED OTHERWISE SHALL BE ASTM A36 (Fy=36 KSI). THE TERMS PIPE AND ROUND HOLLOW STRUCTURAL ARE USED SYNONYMOUSLY THROUGHOUT THESE DOCUMENTS

ALL STRUCTURAL ROLLED STEEL MEMBERS WITH Fy GREATER THAN 36 IRSI ARE TO BE IDENTIFIED WITH AN ASTM SPECIFICS ON MARK OR TAG PER IBC SEC. 2203.1.

UNLESS NOTED OTHERWISE, ALL BOLTS SHALL BE ASTM A307. A325 BOLTS MAY BE SUBSTITUTED FOR A307 BOLTS AT THE CONTRACTOR'S OPTION, REVERSE SUBSTITUTION IS NOT PERMITTED. ALL BOLTS SHALL BE INSTALLED WITH STEEL WASHERS AT SHORT SLOTTED HOLES USING SNUG TIGHT INSTALLATION, UNLESS NOTED OTHERWISE.

STEEL ERECTION NOTE:
PER OSHA, STEEL MEMBERS AND DIAGONAL BRACING CANNOT BE RELEASED FROM HOISTING CABLES UNTIL ALL BOLTS OR WELDS AT MEMBER ENDS ARE COMPLETE.

HIGH STRENGTH BOLTS:
ALL HIGH STRENGTH BOLTS SHALL BE ASTM F3125 — GRADE A325 (PREVIOUSLY A325N) AND SHALL BE INSTALLED AS BEARING TYPE CONNECTIONS WITH READS INCLUDED IN SHEAR PLANE. THE TERMS ASTM F3125 — GRADE A325 AND ASTM A325N ARE USED SYNONYMOUSLY THROUGHOUT THESE DOCUMENTS. INSTALL WASHERS AND TIGHTEN "SNUG TIGHT" PER AISC SPECIFICATIONS.

NO DIRECT TENSION INDICATOR TIGHTENING DEVICES OR ALTERNATE DESIGN FASTENERS ARE PERMITTED WITH "SNUG TIGHT" APPLICATIONS WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER. FOR ADDITIONAL INFORMATION, SEE ABOVE.

WELDING:
UNLESS NOTED OTHERWISE, ALL SHOP AND FIELD WELDS PER REFERENCED EDITION OF THE AWS STANDARDS. ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING DOCUMENTED CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES. CERTIFICATES SHALL BE ISSUED BY AN ACCEPTED TESTING AGENCY. ALL WELDING DONE BY E70 SERIES LOW HYDROGEN RODS UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS, USE E90 SERIES. THESE DRAWINGS DO NOT DISTINGUISH BETWEEN SHOP AND FIELD WELDS; THE CONTRACTOR MAY SHOP WELD OR FIELD WELD AT THEIR DISCRETION. SHOP WELDS AND FIELD WELDS SHALL BE SHOW ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW.

HIGH STRENGTH THREADED STUDS SHALL BE AUTOMATIC WELDED CONFORMING TO ALL REQUIREMENTS OF THE REFERENCED EDITION OF THE "RECOMMENDED PRACTICES FOR STUD WELDING". CONFORMANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL QUALITY CONTROL TESTING PROVISIONS OF THE AFOREMENTIONED PUBLICATIONS

SHOP DRAWINGS:
SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS IN ADDITION TO ITEMS REQUIRED BY ARCHITECTURAL SPECIFICATIONS. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO DESIGN TEAM (SEOR AND AOR) FOR REVIEW, UNLESS NOTED OTHERWISE IN ARCHITECTURAL SPECIFICATIONS. ELECTRONIC SUBMITTALS ARE ALSO ACCEPTABLE.
THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL. ITEMS NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS SHALL BE FLAGGED UPON CONTRACTOR'S REVIEW.
VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS. MANUFACTURER OR FABRICATOR SHALL CLOUD ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DOCUMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANCES, APPROVALS AND THE COORDINATION OF THE WORK WITH ALL RELATED TRADES AND SUPPLIERS. ANY OF THE AFOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES, SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW, UNLESS NOTED ACCORDINGLY.

THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANYTIME BEFORE OR AFTER SHOP DRAWING REVIEW.

THE SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED OR SHOWN INCORRECTLY AND ARE NOT FLAGGED BY THE STRUCTURAL ENGINEER OR ARCHITECT SHALL NOT BE CONSIDERED CHANGES TO CONTRACT DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ITEMS ARE CONSTRUCTED TO CONTRACT DOCUMENTS.

THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR SUBMITTING AUTHORITY.

REVISING IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR.

GENERAL NOTES:

THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. EXCEPT WHERE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCT ON EQUIPMENT, ETC. THE STRUCTURAL ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES. SEQUENCES FOR PROCEDURE OF CONSTRUCTION OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).

VERIFY ALL DIMENSIONS AND ELONGATIONS WITH THE ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS. BUILDING DIMENSIONS AND ELEVATIONS, WHERE SHOWN, WERE PROVIDED BY THE ARCHITECT AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND COORDINATE ALL DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK. ANY DISCREPANCIES SHALL BE RESOLVED THROUGH THE ARCHITECT. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL ITEMS WITH THE APPROPRIATE TRADE DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS, BUT APPLY UNLESS NOTED, OTHERWISE:

SPECIAL INSPECTIONS – STRUCTURAL ONLY (SSI):

SPECIAL INSPECTION IS TO BE PROVIDED FOR THE ITEMS LISTED BELOW IN ADDITION TO THE INSPECTIONS CONDUCTED BY THE BUILDING JURISDICTION. SSI SHALL NOT RELIEVE THE OWNER OR THEIR AGENT FROM REQUESTING THE BUILDING JURISDICTION INSPECTIONS REQUIRED BY SECTION 110 OF THE INTERNATIONAL BUILDING CODE. SSI, UNDER CHAPTER 17 OF THE BUILDING CODE, IS REQUIRED FOR THE FOLLOWING ITEMS;

CONCRETE CONSTRUCTION:
1. CONCRETE:
A. DURING TAKING OF TEST SPECIMENS.
B. CONTINUOUS INSPECTION DURING PLACEMENT OF ALL REINFORCED CONCRETE, UNLESS NOTED OTHERWISE.
C. CONTINUOUS INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING THE PLACEMENT OF CONCRETE AROUND BOLTS.
(EXCEPTION: NO INSPECTION IS REQUIRED FOR PLACEMENT OF CONCRETE AROUND FOUNDATION ANCHOR BOLTS)
2. REINFORCING STEEL:
INSPECTION OF IN-PLACE REINFORCING FOR CONFORMANCE PRIOR TO THE CLOSING OF FORMS OR THE DELIVERY OF CONCRETE TO JOBSITE FOR THE FOLLOWING:
A. REINFORCING FOR ALL CONCRETE REQUIRED TO HAVE INSPECTION NOTED ABOVE.
B. REINFORCING FOR CONCRETE FOUNDATIONS.
OTHER SPECIAL INSPECTIONS:
GEOTECHNICAL INSPECTIONS – CAST IN PLACE DEEP FOUNDATIONS
1. CONTINUOUS OBSERVATION OF DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH BORE LOCATION.
2. CONTINUOUS VERIFICATION OF PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, LENGTHS, EMBEDMENT AND ADEQUATE END-BEARING STRATA CAPACITY.
3. REFER TO SOILS REPORT AND GEOTECHNICAL ENGINEER FOR CAISSON PREPARATION REQUIREMENTS AND RECOMMENDATIONS INCLUDING OTHER INSPECTION CRITERIA.

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
+ 602.595.4101
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LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

GENERAL STRUCTURAL NOTES

NO	DATE	BY	REVISION

CALL TWO WORKING DAYS BEFORE YOU DIG
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(OUTSIDE MARICOPA COUNTY)

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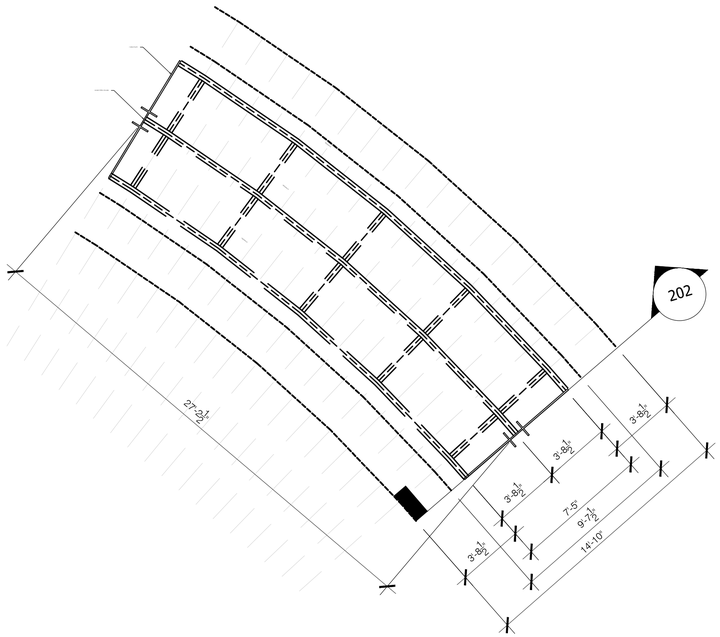
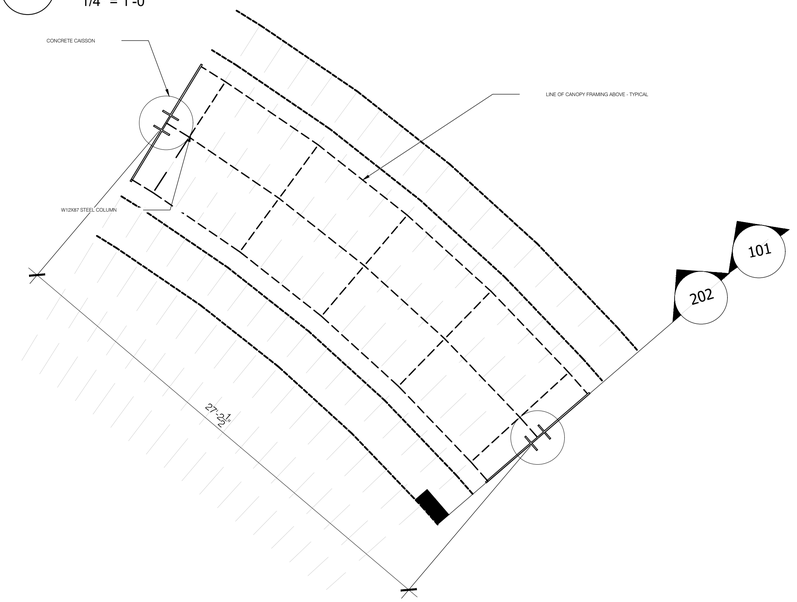
DATE: 06.19.2023
SHEET NO:
S101



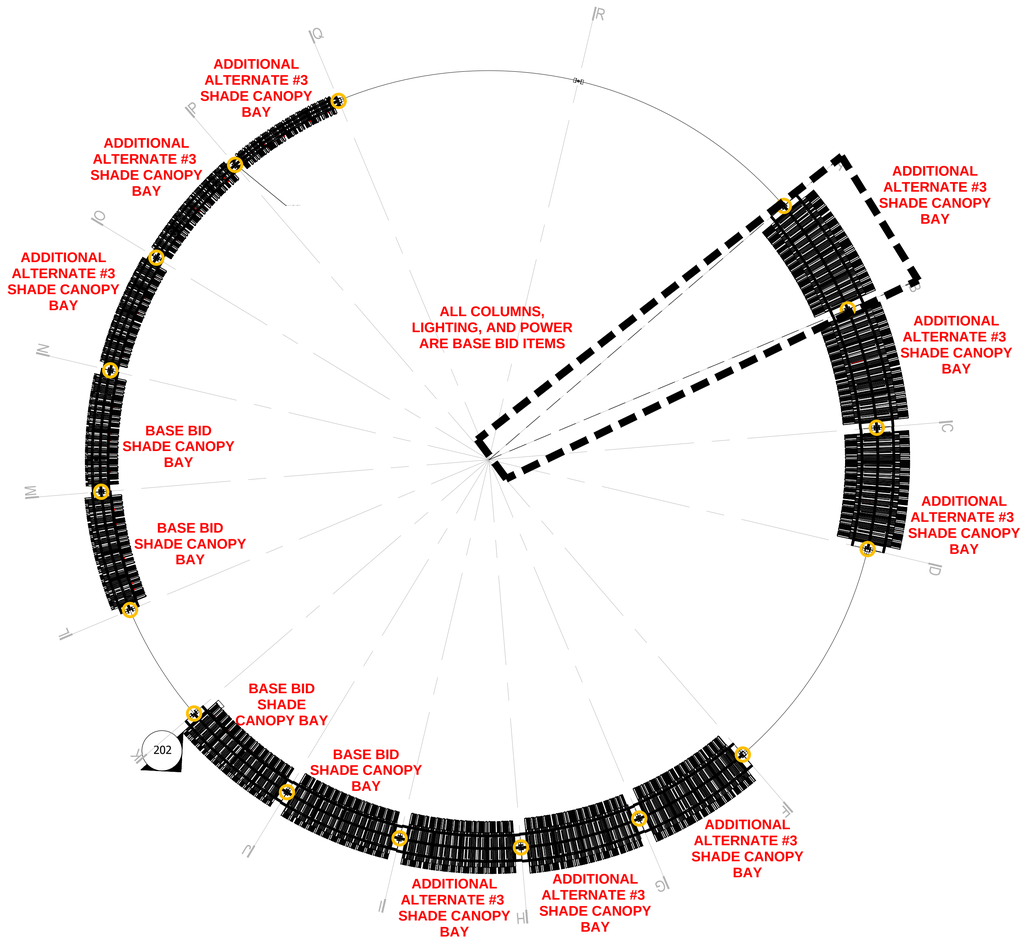
ROOF FRAMING PLAN - STEEL CANOPY

1/4" = 1'-0"



FOUNDATION PLAN - STEEL CANOPY

1/4" = 1'-0"



OVERALL PLAN VIEW - STEEL CANOPIES

1/16" = 1'-0"

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LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

FOUNDATION AND FRAMING PLANS

NO	DATE	BY	REVISION

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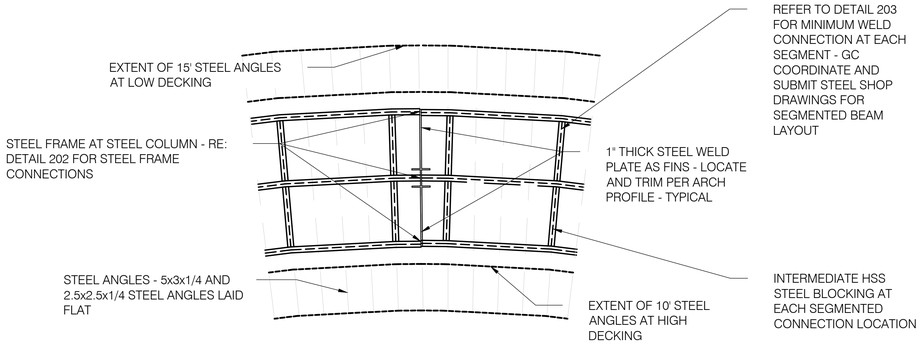
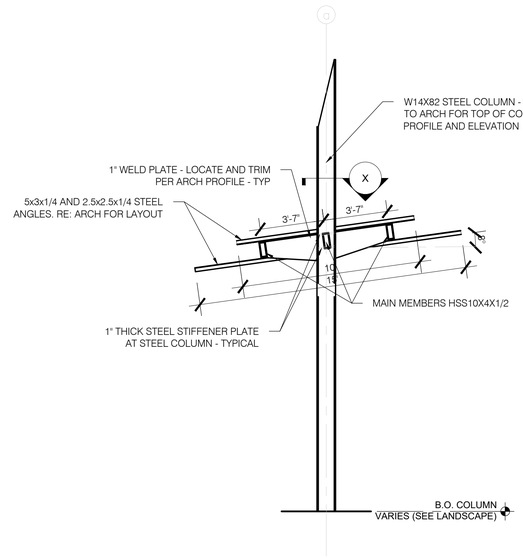
SHEET NO:

S201



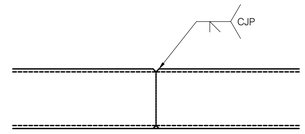
201 PLAN - STEEL FRAME BEAMS AT STEEL COLUMN

NTS



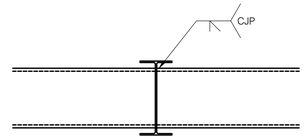
202 ELEVATION - STEEL PLATE AT STEEL COLUMN

NTS



203 WIDE FLANGE STEEL COLUMN IN CONCRETE CAISSON

NTS



X-X SECTION X-X

NTS

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LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

STRUCTURAL DETAILS

NO	DATE	BY	REVISION

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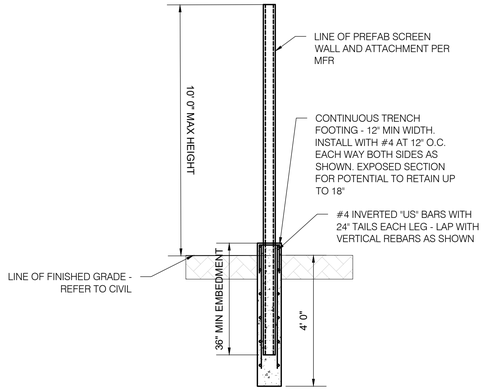
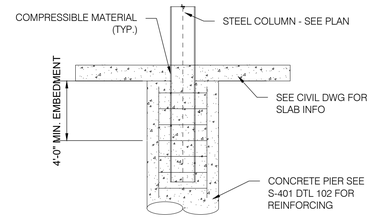
S301

REFER TO CIVIL DRAWINGS FOR LOCATION AND PLACEMENT OF SCREEN WALL



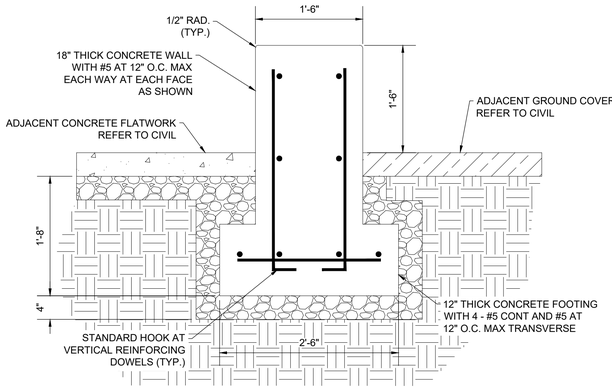
103 SCREEN WALL FENCE FOOTING

NTS **RESTROOM SCREEN IS ADDITIONAL ALTERNATE BID ITEM**



101 WIDE FLANGE STEEL COLUMN IN CONCRETE CAISSON

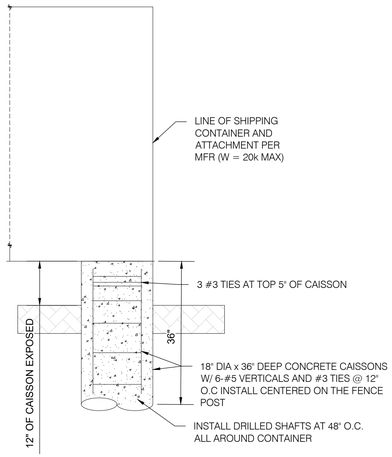
NTS **ALL COLUMNS, LIGHTING, AND POWER ARE BASE BID ITEMS**



105 SEAT WALL

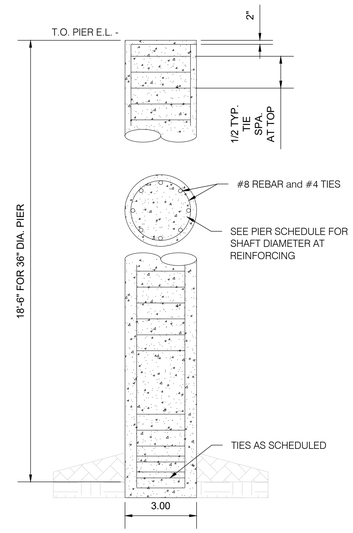
NTS

REFER TO CIVIL DRAWINGS FOR LOCATION AND PLACEMENT OF SHIPPING CONTAINER



104 SHIPPING CONTAINER / RESTROOM FOUNDATION

NTS **RESTROOM IS ADDITIONAL ALTERNATE BID ITEM**



102 WIDE FLANGE STEEL COLUMN IN CONCRETE CAISSON

NTS **ALL COLUMNS, LIGHTING, AND POWER ARE BASE BID ITEMS**

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LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

STRUCTURAL DETAILS

NO	DATE	BY	REVISION

CALL TWO WORKING DAYS BEFORE YOU DIG
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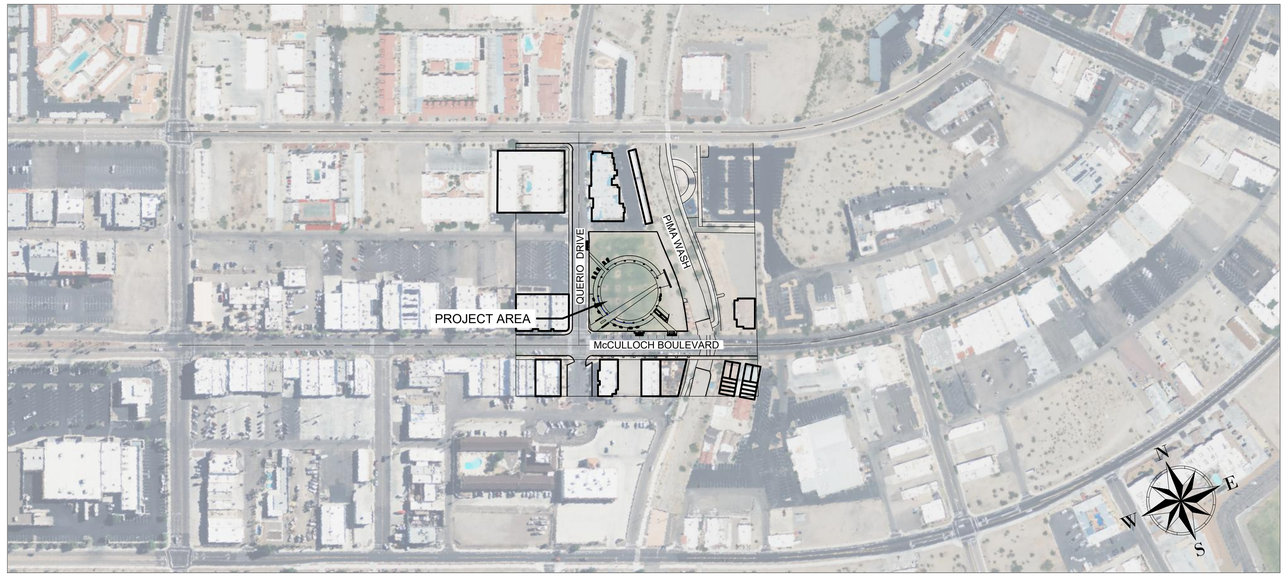
SHEET NO:

S401

IMPROVEMENT PLANS
FOR
LAKE HAVASU CATALYST PROJECT

LAKE HAVASU CITY, ARIZONA

BEING A PORTION OF SECTION 11, TOWNSHIP 13 NORTH, RANGE 20 WEST OF THE GILA AND SALT RIVER MERIDIAN, LAKE HAVASU CITY, ARIZONA
TRACT 100 AMENDED BLOCK 14 LOT 2 AND 3



SHEET INDEX

LEGEND

- PROPOSED CONCRETE PAVEMENT
- PROPOSED AGGREGATE
- PROPOSED DECOMPOSED GRANITE
- PROPOSED RIPRAP
- EXISTING CONCRETE PAVEMENT
- SAN — PROPOSED 6" SEWER SERVICE
- W — PROPOSED 1" WATER SERVICE
- 640 — PROPOSED MAJOR CONTOUR
- 639 — PROPOSED MINOR CONTOUR
- 640 — EXISTING MAJOR CONTOUR
- 639 — EXISTING MINOR CONTOUR
- W — EXISTING WATERLINE
- S — EXISTING SEWER
- OHP — EXISTING OVERHEAD POWER
- PROPOSED WATER METER
- PROPOSED SEWER CLEANOUT
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- EXISTING SEWER MANHOLE
- EXISTING METER BOX

BENCHMARKS

BENCHMARK:
USGS HAVASU HARN POINT EU1257
LOCATED AT THE LHC AIRPORT.
ELEVATION = 696.75' (NAVD88 DATUM)

PROJECT BENCHMARK:
SOUTHEAST CORNER OF THE PARCEL
ELEVATION=637.01'

UTILITY COMPANIES		DATE SUBMITTED
TELEPHONE:	FRONTIER TELEPHONE	
WATER:	LAKE HAVASU CITY	
SEWER:	LAKE HAVASU CITY	
ELECTRIC:	UNISOURCE ELECTRIC	
GAS:	UNISOURCE GAS	

TEAM INFORMATION:

OWNER/DEVELOPER:	LANDSCAPE ARCHITECT:	ARCHITECT:	CIVIL & STRUCTURAL ENGINEER:	ELECTRICAL ENGINEER:
CITY OF LAKE HAVASU	DIG STUDIO INC.	LAST ARCHITECTS	MICHAEL BAKER INTERNATIONAL	WRIGHT ENGINEERING
MIKE KEANE	CHAD ATTERBURY, PLA	BRAD LANG	JIM MARTIN	CLIFF TOLMAN
PARKS AND REC. DIRECTOR	600 N. 4TH ST., SUITE D	3655 N 5th AVE. 207	2929 N. CENTRAL AVE, 8TH FLOOR	165 E. CHILTON DR.
100 PARK AVE.	PHOENIX, ARIZONA 85004	PHOENIX, AZ 85013	PHOENIX, AZ 85012	CHANDLER, ARIZONA 85225
LAKE HAVASU CITY, AZ 86403	P: 602.595.4101	P: 480.570.5296	P: 602.308.1333	P: 480.497.5829
E: KeaneM@lhcaz.gov	E: chad@digstudio.com	E: brad@lastarchitects.com	E: Jim.Martin@mbakerintl.com	E: ctolman@wrightengineering.us

EARTHWORK QUANTITIES

THE QUANTITIES LISTED BELOW ARE FOR PERMIT PURPOSES ONLY. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF THE QUANTITIES INVOLVED AND BASE THEIR BID ON THEIR OWN ESTIMATE.
RAW CUT = 8060.90 CY
RAW FILL = 1.60 CY
NET(CUT) = 8059.30 CY
NOTE: A HAUL PERMIT IS REQUIRED IF 10,000 CUBIC YARDS OR MORE OF MATERIAL IS MOVED.

PROJECT DESCRIPTION

THE PROJECT IS LOCATED NEAR THE SOUTHWEST CORNER OF QUERIO DRIVE AND MCCULLOUGH BOULEVARD AND WEST SIDE OF PIMA WASH.

PROJECT INFORMATION

PARCEL NUMBER:	108-06275A, 108-06-276B
TOTAL SITE AREA:	1.51 AC
IMPROVEMENT AREA:	1.50 AC
DISTURBANCE AREA:	1.50 AC

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HERON WERE MADE UNDER MY SUPERVISION OR AS NOTED ARE CORRECT TO THE BEST OF MY KNOWLEDGE.

REGISTERED LAND SURVEYOR/ENGINEER _____ DATE _____

REGISTRATION NUMBER _____

APPROVAL OF THESE PLANS BY THE CITY OF LAKE HAVASU ENGINEER OR THEIR DESIGNEE SIGNIFIES THAT THEY HAVE BEEN REVIEWED AND FOUND TO BE IN GENERAL COMPLIANCE WITH THE TOWN OF PAYSON CODE AND OTHER STANDARDS SET FORTH WITHIN THE CITY OF LAKE HAVASU CODE. THE TOWN RESERVES THE RIGHT TO REQUIRE MODIFICATION OF THE PLANS IF DEFICIENCIES ARE DISCOVERED AFTER THE START OF CONSTRUCTION OR IF WARRANTED BY FIELD CONDITIONS. APPROVAL BY THE TOWN ENGINEER DOES NOT CONSTITUTE A WARRANTY OF THE DESIGN AND DOES NOT ABSOLVE THE REGISTERED DESIGN PROFESSIONAL THAT SEALS THE PLANS FROM ANY LIABILITY OR RESPONSIBILITY ASSOCIATED WITH THEIR DESIGN. THIS APPROVAL IS NULL AND VOID IF CONSTRUCTION DOES NOT COMMENCE WITHIN ONE (1) YEAR OF THE DATE OF APPROVAL OR IF CONSTRUCTION DOES COMMENCE AND IS LATER PAUSED FOR A PERIOD OF TIME EXCEEDING ONE (1) YEAR.

SIGNATURE _____ DATE _____

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
p 602.595.4101
DIGSTUDIO.COM

Michael Baker INTERNATIONAL
2929 N. CENTRAL AVE, SUITE 800
PHONE: (602) 279-1234
PHOENIX, AZ 85012
MBAKERINTL.COM

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LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

COVER SHEET

NO	DATE	BY	REVISION

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

DRAWN: JBR
DESIGN: JBR
CHECKED: SM
DATE: 6/16/2023
SHEET NO:
C-1
1 13

V:\PROJECTS\188145_LAKE HAVASU CATALYST PROJECT\05_DELIVERABLES\02_DRAWINGS\CIVIL\188145_C1-COVER SHEET.DWG PLOTTED BY: GONZALEZ, OSCAR R 6/28/2022 5:07:00 PM

GENERAL NOTES:

1. PRIOR TO BIDDING THE WORK, THE CONTRACTOR SHALL THOROUGHLY SATISFY HIMSELF AS TO ACTUAL SITE CONDITIONS, AND EARTHWORK QUANTITIES. NO CLAIM SHALL BE MADE AGAINST THE DESIGN ENGINEER FOR ANY EXCESS OR DEFICIENCY THEREIN, ACTUAL OR RELATIVE.
2. THE ENGINEER MAKES NO REPRESENTATION OR GUARANTEE REGARDING EARTHWORK QUANTITIES OR THAT THE EARTHWORK FOR THIS PROJECT WILL BALANCE DUE TO THE VARYING FIELD CONDITIONS, CHANGING SOIL TYPES, ALLOWABLE CONSTRUCTION TOLERANCES AND CONSTRUCTION METHODS THAT ARE BEYOND THE CONTROL OF THE ENGINEER. ON-SITE GRADING SHALL BE BALANCED AT ROUGH GRADE INCLUDING APPROPRIATE ALLOWANCE FOR RETAINING WALLS, FOUNDATION DIRT, TRENCH SPOILS AND FINISH GRADING MATERIAL.
3. THE DESIGN ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES FOR SAFETY PRECAUTIONS OR PROGRAMS. THE DESIGN ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
4. ALL DIMENSIONS, ELEVATIONS, AND STATIONS ARE IN FEET UNLESS INDICATED.
5. ALL PIPE SIZES ARE IN INCHES UNLESS INDICATED OTHERWISE.
6. CALLOUTS, COORDINATES, ELEVATIONS, AND DIMENSIONS ARE POINTED TO OR MEASURED TO STRUCTURE CENTER, EDGE OF PAVEMENT, BACK OF CURB, OR OUTSIDE FACE OF FOUNDATION WALL, UNLESS INDICATED OTHERWISE.
7. COORDINATES SHOWN LOCATING SITE FEATURES ARE EXPRESSED IN MODIFIED GROUND COORDINATES. SEE EXISTING CONDITIONS PLAN FOR SURVEY CONTROL POINTS.
8. ALL WORK SHALL BE SUBJECT TO INSPECTION BY AUTHORIZED PERSONNEL OF LOCAL AND GOVERNMENT REGULATORY AGENCIES.
9. ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND LOCAL AND GOVERNMENT CODES, ORDINANCES, AND REGULATIONS. IN CASE OF CONTRADICTION OR DISCREPANCY BETWEEN REQUIREMENTS, CONTRACTOR SHALL INCORPORATE WHICHEVER IS MOST STRINGENT. WHERE A QUESTION REMAINS ON WHICH REQUIREMENT IS MOST STRINGENT, CONTRACTOR SHALL SUBMIT ISSUE TO THE CITY IN WRITING. THE DECISION OF THE COR SHALL BE CONSIDERED FINAL.
10. ALL WORK SHALL BE CONDUCTED IN A PROFESSIONAL WORKMANSHIP MANNER USING QUALITY MATERIALS.

RECORD DRAWING NOTES:

1. CONTRACTOR SHALL MAINTAIN UPDATED REDLINE RECORD DRAWINGS AT ALL TIMES THROUGH THE DURATION OF THE PROJECT. CONSTRUCTION RECORD DRAWINGS SHALL BE SUBMITTED TO THE CITY.
2. DURING CONSTRUCTION OF THE PROJECT, CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING TRACK OF ANY CITY-APPROVED FIELD CONSTRUCTION REVISIONS TO THE DESIGN DEPICTED ON APPROVED CONSTRUCTION DRAWINGS. CONTRACTOR SHALL USE THESE REVISIONS TO PREPARE RECORD DRAWINGS OF COMPLETED CONSTRUCTION.
3. ALL VARIATIONS IN PROJECT CONDITIONS, LOCATIONS, AND CONFIGURATIONS, AND ANY OTHER CHANGES OR DEVIATIONS FROM THE INFORMATION PRESENTED ON THE ORIGINAL, APPROVED CONSTRUCTION DRAWINGS SHALL BE NOTED. THIS INCLUDES BURIED OR CONCEALED CONSTRUCTION AND UTILITY FEATURES THAT WERE REVEALED DURING CONSTRUCTION.
4. THE CITY SHALL REVIEW COMPLETENESS, ACCURACY, AND FORMAT OF SUBMITTED RECORD DRAWINGS. IF THE RECORD DRAWINGS ARE CONSIDERED UNACCEPTABLE, THEY SHALL BE RETURNED TO THE CONTRACTOR FOR CORRECTION AND RESUBMISSION.

EXISTING CONDITION NOTES:

1. ALL STRUCTURES AND UNDERGROUND UTILITIES ARE SHOWN AT APPROXIMATE ELEVATIONS AND LOCATIONS BASED ON FIELD OBSERVATIONS, SURVEY DATA, AND HISTORICAL MAPS AND INFORMATION. EXACT LOCATION AND SIZES OF EXISTING UTILITIES IN THE AREA OF CONSTRUCTION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR WITH A REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY. UNDERGROUND STRUCTURES AND UTILITIES MAY BE PRESENT WHICH ARE NOT DOCUMENTED OR LOCATED.
2. THE CONTRACTOR SHALL FIELD-CHECK ALL EXISTING CONDITIONS AND BE THOROUGHLY FAMILIAR WITH THE SITE BEFORE ANY WORK COMMENCES. ANY DISCREPANCIES IN THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE CITY BEFORE ANY FURTHER WORK COMMENCES.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD-VERIFY EXISTING STRUCTURES, UTILITIES, AND SURVEY INFORMATION, AND TO TAKE NECESSARY PRECAUTIONS DURING DEMOLITION AND CONSTRUCTION. CONTRACTOR SHALL VERIFY EXISTENCE AND MARK LOCATIONS OF ALL UTILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK. CONTRACTOR SHALL CONTACT THE CITY AND ALL ASSOCIATED UTILITY COMPANIES AND AGENCIES TO IDENTIFY THE LOCATION OF UTILITIES. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION. A SIGNED AND APPROVED DIG PERMIT IS REQUIRED FROM POST PRIOR TO ANY EXCAVATION.
4. ANY GEOTECHNICAL SUB-SURFACE INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FOR DESIGN PURPOSES AND MAY NOT BE AN ADEQUATE REPRESENTATION OF ACTUAL CONDITIONS FOR PROJECT CONSTRUCTION. INFORMATION SHOWN REPRESENTS THE EXISTING SUBSURFACE CONDITIONS AT SPECIFIC LOCATIONS EXPLORED DURING THE GEOTECHNICAL FIELD INVESTIGATION. ALL RISKS RESULTING FROM USE OR INTERPRETATION OF THE SUB-SURFACE DATA SHOWN SHALL BE BORNE BY THE CONTRACTOR
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY OF OPERATIONAL PLANS. IN THE EVENT AN UNEXPECTED UTILITY OR STRUCTURE INTERFERENCE OR CONFLICT IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE COR.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ITEMS NOT TO BE DAMAGED DURING DEMOLITION AND CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED OR DISTURBED ITEMS TO THE SATISFACTION OF THE CITY

SURVEY NOTES:

1. THE SURVEY WAS PERFORMED BY A.P.L. SURVEYING INC. SURVEY CONTROL POINTS SHALL BE RESET BY THE CONTRACTOR IF DISTURBED DURING CONSTRUCTION.
2. CONTROL POINTS SHOWN HERE ON WERE ESTABLISHED USING A GPS UNIT REFERENCING VRS NETWORK. VERTICAL DATUM USED WAS NAVD88 AND HORIZONTAL DATUM USED WAS NAD83(HARN).
3. CONTRACTOR SHALL RETAIN A LICENSED SURVEYOR, IN THE STATE OF ARIZONA, TO SURVEY PROJECT IMPROVEMENTS. IF GOVERNMENT BENCHMARKS SHOWN ARE IN AREAS THAT REQUIRE DEMOLITION, OTHER BENCHMARKS SHALL BE ESTABLISHED BEFORE DEMOLITION AND CONSTRUCTION WORK BEGINS. CONTRACTOR SHALL SUPPLY CERTIFIED, CONTROL POINT DATA TO COR AFTER COMPLETION OF CONSTRUCTION.

GENERAL DEMOLITION NOTES:

1. ALL DEMOLITION, WASTE, DEBRIS, AND UNSATISFACTORY MATERIALS SHALL BE DISPOSED OF OFF SITE TO AN ACCEPTED SITE.
2. DEMOLITION AT SITE WILL INCLUDE CLEARING, GRUBBING, AND REMOVAL OF ALL DEBRIS ALONG SITE PERIMETER AND WITHIN PROJECT LIMITS.
3. CONTRACTOR SHALL COORDINATE LIMITS OF SAWCUT AND PAVEMENT REMOVAL WITH PAVEMENT LAYOUT AND JOINTING PLAN.
4. PAVEMENT DESIGNATED FOR SAWCUT SHALL BE SAWCUT FULL DEPTH.
5. EXISTING PAVEMENT EDGES SHALL BE SAWCUT IN LOCATIONS SHOWN TO PROVIDE CLEAN EDGE FOR CONSTRUCTION OF PAVEMENT.
6. ANY DAMAGE TO PAVEMENT AREAS DESIGNATED TO REMAIN SHALL BE REPAIRED OR REMOVED AND REPLACED TO THEIR PRE-EXISTING CONDITION AT NO ADDITIONAL COST TO CITY.

UTILITY DEMOLITION NOTES:

1. CONTRACTOR SHALL COORDINATE ALL REQUIRED UTILITY DISRUPTIONS AND TERMINATIONS WITH THE CITY 14 DAYS PRIOR TO ANTICIPATED OUTAGE OR UTILITY DISRUPTION.
2. SITE WAS PREVIOUSLY DEVELOPED AND PRIOR DEMOLITION ACTIVITIES MAY NOT HAVE REMOVED ALL UNDERGROUND INFRASTRUCTURE AND FOUNDATIONS. ITEMS MAY HAVE BEEN ABANDONED IN PLACE ABOVE AND BELOW GRADE. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF POTENTIAL SITE RESIDUALS WITHIN LIMITS OF CONSTRUCTION AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION, UTILITIES AND ALL SITE IMPROVEMENTS. ABANDONED IN PLACE FEATURES, FOUNDATIONS AND UTILITIES SHALL BE REMOVED TO DISTANCE OF 10 FEET OUTSIDE REQUIRED CONSTRUCTION LIMITS. ALL UTILITIES SHALL BE PERMANENTLY CAPPED OR SEALED AT LIMIT OF REMOVAL.
3. UTILITY CAPPING METHODS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR SPECIFIC PIPE MATERIAL IN SERVICE. ALL CAPPING SHALL BE INSPECTED AND APPROVED BY THE CITY.
4. ALL STRUCTURES, VALVES, ETC. TO REMAIN SHALL BE PROTECTED AND ADJUSTED TO FINISH GRADE.
5. UTILITIES TO BE DEMOLISHED OR REMOVED SHALL NOT BE PERMITTED TO BE ABANDONED IN PLACE.
6. IN AREAS OF UTILITY REMOVAL OF ABANDONED LINES, THE PORTION OF EXISTING ABANDONED LINES APPROVED TO REMAIN SHALL BE CAPPED OR PLUGGED AT REMOVAL INTERFACE.

GENERAL SITE NOTES:

1. SEE STRUCTURAL AND ELECTRICAL SHEETS FOR MISCELLANEOUS SITE EQUIPMENT DETAILS. SEE CIVIL DETAIL SHEETS FOR EQUIPMENT PAD DETAILS UNLESS NOTED OTHERWISE.

CONCRETE NOTES:

1. ALL CONCRETE PANELS THAT SUPPORT UTILITY STRUCTURES OR ARE IRREGULAR IN SHAPE SHALL BE REINFORCED. SEE DETAIL SHEETS FOR CONCRETE REINFORCEMENT DETAILS.
2. CONTRACTOR SHALL PROVIDE THICKENED EDGE EXPANSION JOINT AROUND UTILITY STRUCTURES. SEE SHEET DETAIL SHEETS.
3. ALL JOINT CHANGES SHALL BE APPROVED BY THE ENGINEER OF RECORD

GENERAL GRADING NOTES:

1. ALTHOUGH TOP SOIL IS NOT ANTICIPATED TO BE PRESENT ON THE SITE, IF ENCOUNTERED, IT SHALL BE REMOVED AND STOCKPILED FOR REUSE.
2. ELEVATIONS INDICATED ARE FOR TOP OF FINAL GRADE, PAVEMENT, OR STRUCTURE UNLESS INDICATED OTHERWISE.
3. ELEVATION DENOTED AS "MATCH" ARE INTENDED TO MEET EXISTING GRADE ELEVATIONS. CONTRACTOR SHALL VERIFY ELEVATIONS AT TIE-INS AND MATCH POINTS PRIOR TO BEGINNING CONSTRUCTION.
4. EXTERIOR FINISH GRADES AT BUILDING ENTRANCES AND DOORWAY THRESHOLDS SHALL BE MAXIMUM 0.25 INCHES BELOW BUILDING FINISH FLOOR IF A VERTICAL THRESHOLD IS PROVIDED, AND SHALL BE MAXIMUM 0.5 INCHES BELOW BUILDING FINISH FLOOR IF A BEVELED THRESHOLD IS PROVIDED, UNLESS INDICATED OTHERWISE.
5. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. ANY DRAINAGE FEATURE OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER SUBJECT TO THE APPROVAL OF THE CITY.
6. SURFACES AROUND FACILITY SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND PAVEMENTS.
7. THE CONTRACTOR SHALL REMOVE STANDING WATER FROM THE PROJECT WORK LIMITS AS NECESSARY TO PROTECT SUBGRADE, SUBBASE, AND/OR BASE COURSE OF NEW PAVEMENT, SURROUNDING PAVEMENT-TO-REMAIN, OR OTHER COMPLETED WORKS.
8. SEE EROSION AND SEDIMENT CONTROL PLAN SHEETS AND DETAIL SHEETS FOR RECOMMENDED BEST PRACTICES FOR SEDIMENT AND EROSION CONTROL.
9. TOP ELEVATION OF ALL UTILITY STRUCTURES TO REMAIN SHALL BE ADJUSTED ACCORDINGLY TO FINISH GRADE ELEVATION.
10. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABLIZED/LANDSCAPED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.

FILL PLACEMENT AND COMPACTION:

1. ALL SUB-GRADE MATERIAL MUST BE PLACED AND COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT. THE UPPER 18" OF FILL MATERIAL WITHIN SLAB-ON-GRADE AND PAVEMENT SECTIONS SHALL CONSIST OF NON-FROST SUSCEPTIBLE AND SELECT SOILS PER SECTION 6.2.2 OF THE GEOTECHNICAL REPORT. PROVIDE CERTIFICATION BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER THAT ALL SUBGRADES BELOW AND AGAINST STRUCTURAL IMPROVEMENTS INCLUDING FOUNDATIONS, PAVEMENT, CRANE PADS, BELOW GRADE STRUCTURES, SIDEWALKS, WALLS, AND OTHER PROJECT COMPONENTS HAVE BEEN PREPARED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND/OR GEOTECHNICAL REPORT
2. FILL SOILS SHOULD BE MOISTURE-CONDITIONED WITHIN THE MOISTURE RANGE SHOWN BELOW IN TABLE 2 AND MECHANICALLY COMPACTED TO THE PERCENT COMPACTION SHOWN. FILL SHOULD GENERALLY BE PLACED IN 8-INCH THICK LOOSE LIFTS SUCH THAT EACH LIFT IS FIRM AND NON-YIELDING UNDER THE WEIGHT OF CONSTRUCTION EQUIPMENT

TABLE 2: COMPACTION RECOMMENDATIONS

ENGINEERED FILL DESCRIPTION	PERCENT COMPACTION PER ASTM D698	MOISTURE CONTENT
BELOW FOUNDATIONS	95 PERCENT	±2 PERCENT OF OPTIMUM
BELOW PAVEMENTS, GRADE SLABS, AND FLATWORK	95 PERCENT	
AB BELOW AREAS NOT SUBJECT TO TRAFFIC	95 PERCENT	±2 PERCENT OF OPTIMUM
AB BELOW AREAS SUBJECT TO TRAFFIC	100 PERCENT	±3 PERCENT OF OPTIMUM
GRANULAR TRENCH BACKFILL - WITHIN 2 FEET BELOW PAVEMENT	100 PERCENT	±3 PERCENT OF OPTIMUM
NON-GRANULAR* TRENCH BACKFILL - WITHIN 2 FEET BELOW PAVEMENT	95 PERCENT	±2 PERCENT OF OPTIMUM
TRENCH BACKFILL - DEEPER THAN 2 FEET BELOW PAVEMENT	95 PERCENT	±2 PERCENT OF OPTIMUM

3. AN EARTHWORK (SHRINKAGE) FACTOR OF 5 TO 15 PERCENT IS ESTIMATED. THIS SHRINKAGE FACTOR RANGE REPRESENTS AN AVERAGE OF THE MATERIAL TESTED AND ASSUMES THAT MATERIALS EXCAVATED FROM THE SITE WILL BE PLACED AS FILL. POTENTIAL BIDDERS SHOULD CONSIDER THIS IN PREPARING ESTIMATES AND SHOULD REVIEW THE AVAILABLE DATA TO MAKE THEIR OWN CONCLUSIONS REGARDING EXCAVATION CONDITIONS

FINAL GRADING AND CLEAN UP NOTES:

1. AFTER COMPLETION OF FINAL GRADING, THE DISTURBED AREAS SHALL BE STABLIZED/LANDSCAPED IN ACCORDANCE WITH THE SPECIFICATIONS. ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES SHALL BE REMOVED UPON PROJECT COMPLETION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY CONTROL MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

SUBGRADE IMPROVEMENT NOTES:

1 IN AREAS UNDERLYING PLANNED FOUNDATIONS, OVER-EXCAVATE 2 FEET OF SOIL BELOW THE BOTTOM OF THE PROPOSED FOUNDATIONS BACKFILL WITH ENGINEERED FILL. MEASURE THIS IMPROVED ZONE FROM THE BOTTOM OF THE FOUNDATION. EXTEND THE OVER-EXCAVATION 2 FEET OR MORE HORIZONTALLY BEYOND THE FOUNDATION FOOTPRINTS.

2. SUPPORT NEW GRADE SLABS, PAVEMENT, AND FLATWORK AREAS ON 8 INCHES OF MOISTURE-CONDITIONED AND COMPACTED ENGINEERED FILL BELOW THE BOTTOM OF THE AGGREGATE BASE (AB) OR LEVELING MATERIAL. EXTEND THE IMPROVEMENTS IN THESE AREAS 1 FOOT HORIZONTALLY BEYOND THE EDGES OF THE PAVEMENTS AND FLATWORK.

3. ONCE THE OVER-EXCAVATION IS ACHIEVED, AND THE UNDERLYING SOILS ARE EXPOSED, FURTHER EVALUATION SHOULD BE MADE BY THE ONSITE GEO-TECHNICAL REPRESENTATIVE FOR THE PRESENCE OF LOOSE, SOFT, YIELDING, OR UNACCEPTABLE SOILS. BASED ON THIS EVALUATION, ADDITIONAL REMEDIATION MAY BE NEEDED. THIS COULD INCLUDE FURTHER IMPROVEMENT OF THE EXPOSED SURFACE. THIS ADDITIONAL REMEDIATION, IF NEEDED, SHOULD BE ADDRESSED BY THE GEO-TECHNICAL CONSULTANT DURING EARTHWORK OPERATIONS.

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GENERAL NOTES

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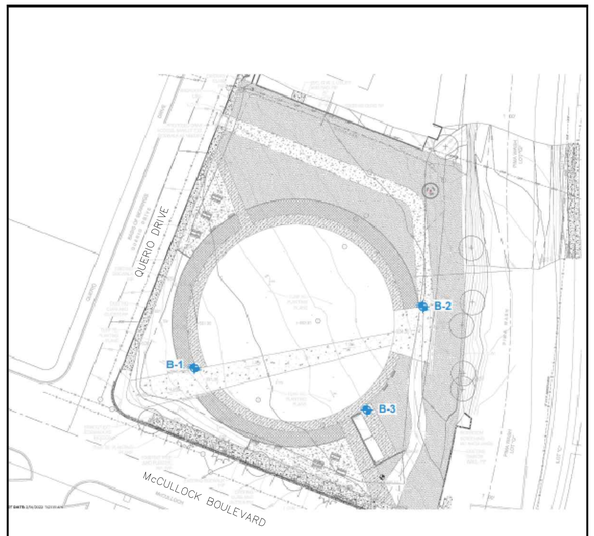

LEGEND

B-3 BORING

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE:

FEET 0 60 120

FIGURE 2

BORING LOCATIONS

LAKE HAVASU DOWNTOWN CATALYST SITE
LAKE HAVASU CITY, ARIZONA

606984001 I 3/22

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

DATE DRILLED 3/3/22 BORING NO. B-1
GROUND ELEVATION 633' ± (MSL) SHEET 1 OF 1
METHOD OF DRILLING CME-55, 8" Diameter Hollow-Stem Auger (Wildcat)
DRIVE WEIGHT 140 lbs. (Automatic Trip Hammer) DROP 30"
SAMPLED BY DM LOGGED BY DM REVIEWED BY SDN

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							GP-GM	FILL: Brown, dry, medium dense, poorly graded GRAVEL with silt.
			38	3.7	119.7			
5			21					Dense.
							SP	ALLUVIUM: Brown, dry, medium dense, poorly graded SAND; few fine to coarse gravel.
			37	6.0	122.9			
10			50/5"				GM	Brown, dry, very dense, silty GRAVEL with sand.
15			50/1"					@ 14 feet: Total refusal; coarse gravel; cobbles; possible boulders.
20								Total Depth = 14.1 feet. (Refusal) Groundwater not encountered during drilling. Backfilled on 3/3/22 shortly after completion of drilling. Notes: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report. The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.

FIGURE A- 1

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

LAKE HAVASU DOWNTOWN CATALYST SITE
LAKE HAVASU CITY, ARIZONA
606984001 I 3/22

DATE DRILLED 3/3/22 BORING NO. B-2
GROUND ELEVATION 639' ± (MSL) SHEET 1 OF 2
METHOD OF DRILLING CME-55, 8" Diameter Hollow-Stem Auger (Wildcat)
DRIVE WEIGHT 140 lbs. (Automatic Trip Hammer) DROP 30"
SAMPLED BY DM LOGGED BY DM REVIEWED BY SDN

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							GP-GM	FILL: Brown, dry, medium dense, poorly graded GRAVEL with silt.
			31	5.4	125.9			
5			62/10"				SM	ALLUVIUM: Brown, dry, very dense, silty SAND; few fine to coarse gravel.
			64	3.7	125.2			Dense.
10			16					Medium dense.
15			78	2.1	124.9		SP	Brown, dry, very dense, poorly graded SAND; fine to coarse gravel.
20			12					Medium dense; no gravel observed.

FIGURE A- 2

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

LAKE HAVASU DOWNTOWN CATALYST SITE
LAKE HAVASU CITY, ARIZONA
606984001 I 3/22

DATE DRILLED 3/3/22 BORING NO. B-2
GROUND ELEVATION 639' ± (MSL) SHEET 2 OF 2
METHOD OF DRILLING CME-55, 8" Diameter Hollow-Stem Auger (Wildcat)
DRIVE WEIGHT 140 lbs. (Automatic Trip Hammer) DROP 30"
SAMPLED BY DM LOGGED BY DM REVIEWED BY SDN

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
20								Total Depth = 20 feet. Groundwater not encountered during drilling. Backfilled on 3/3/22 shortly after completion of drilling. Notes: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report. The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.
25								
30								
35								
40								

FIGURE A- 3

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

LAKE HAVASU DOWNTOWN CATALYST SITE
LAKE HAVASU CITY, ARIZONA
606984001 I 3/22

DATE DRILLED 3/3/22 BORING NO. B-3
GROUND ELEVATION 639' ± (MSL) SHEET 1 OF 2
METHOD OF DRILLING CME-55, 8" Diameter Hollow-Stem Auger (Wildcat)
DRIVE WEIGHT 140 lbs. (Automatic Trip Hammer) DROP 30"
SAMPLED BY DM LOGGED BY DM REVIEWED BY SDN

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							GP-GM	FILL: Brown, dry, dense, poorly graded GRAVEL with silt.
			32					
5			63	3.7	127.9			Few fine to coarse gravel.
			40				SM	ALLUVIUM: Brown, dry, very dense, silty SAND; few fine to coarse gravel.
10			28	2.9	109.2		SP	Brown, dry, medium dense, poorly graded SAND; few fine to coarse gravel.
15			29					Dense; trace fine gravel.
20			24	2.5	102.5			Medium dense.

FIGURE A- 4

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

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LAKE HAVASU CITY, ARIZONA
606984001 I 3/22

DATE DRILLED 3/3/22 BORING NO. B-3
GROUND ELEVATION 639' ± (MSL) SHEET 2 OF 2
METHOD OF DRILLING CME-55, 8" Diameter Hollow-Stem Auger (Wildcat)
DRIVE WEIGHT 140 lbs. (Automatic Trip Hammer) DROP 30"
SAMPLED BY DM LOGGED BY DM REVIEWED BY SDN

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
20								Total Depth = 20 feet. Groundwater not encountered during drilling. Backfilled on 3/3/22 shortly after completion of drilling. Notes: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report. The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.
25								
30								
35								
40								

FIGURE A- 5

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LAKE HAVASU CITY, AZ

BORING LOGS

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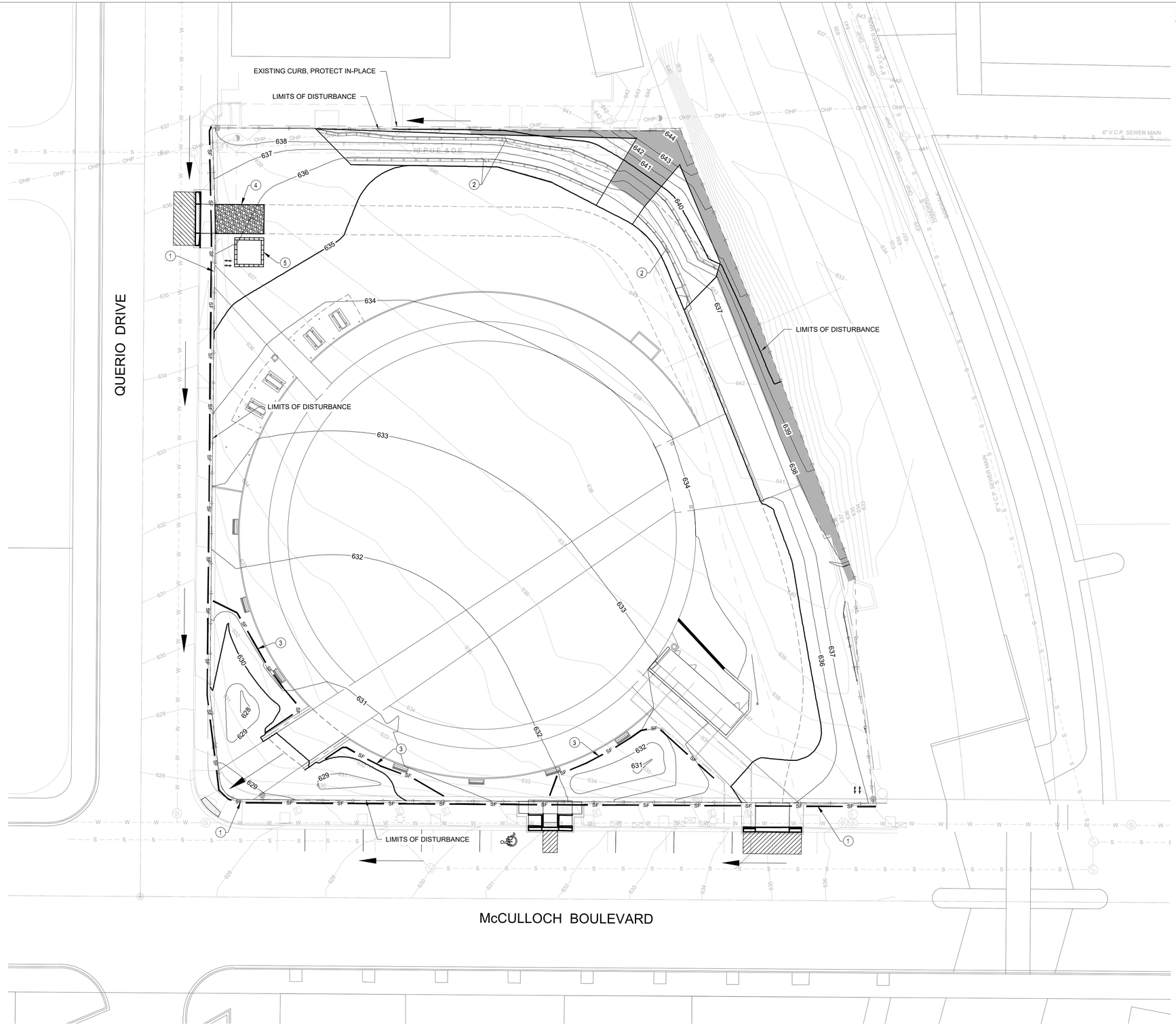

EROSION CONTROL NOTES

1. SILT FENCE PER LHC STD DTL 508 ON C-13
2. STRAW WATTLES PER LHC STD DTL 504A, 504B AND 504C ON C-13
3. SILT FENCE TO BE PLACED IF CONSTRUCTION IS ONGOING AFTER INSTALLTION OF STORAGE BIO-SWALE PER LHC STD DTL 508 ON C-13
4. STABILIZED CONSTRUCTION ENTRACE PER LHC STD DTL 502B ON C-13
5. CONCRETE WAHSOUT PER LHC STD DTL 506A ON C-13

CITY TO HANDLE INITIAL DEMO AND MASS GRADING. WILL IMPLEMENT EROSION CONTROLL UNTIL CONTRACTOR TAKES OVER SITE.

SCALE: 1"=20'

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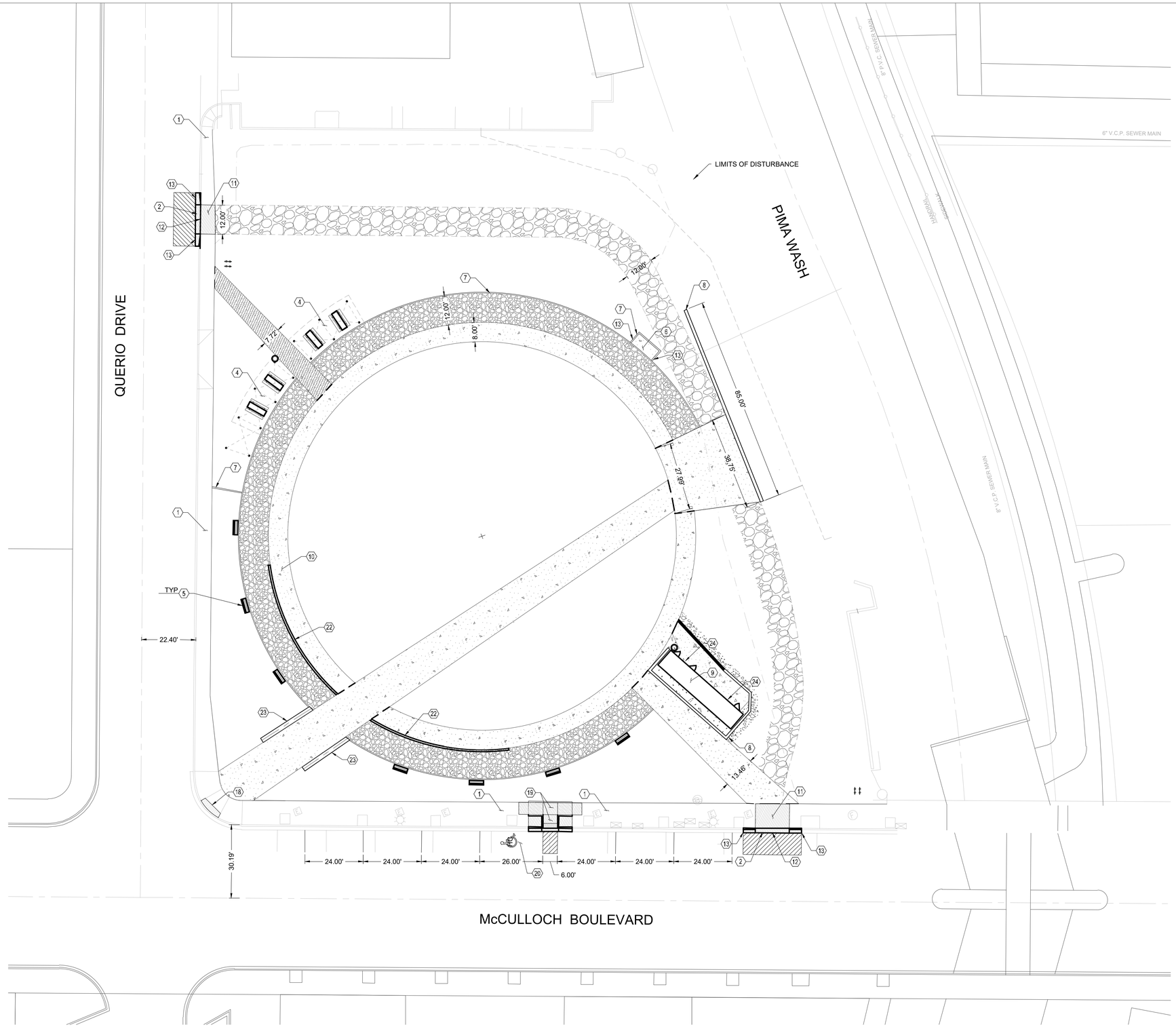

CONSTRUCTION NOTES

1. PROTECT SIDEWALK, TO REMAIN IN PLACE
2. SAWCUT AND REMOVE CONCRETE SIDEWALK, CURB, AND GUTTER
4. PICNIC AREA. SEE LANDSCAPE PLANS FOR MATERIAL AND TABLE LAYOUT
5. 4" THICK CONCRETE PAD FOR BENCH, SIZE TBD
6. ELECTRICAL PANEL, SEE ELECTRICAL SHEETS
7. HEADER CURB PER LAKE HAVASU CITY DTL 212 ON C-11
8. RETAINING WALL SEE DETAIL L7 ON C-11
9. BATHROOM-8" GRAVEL BASE, SEE STRUCTURAL PLANS FOR FOUNDATION
10. SHADE STRUCTURE SEE STRUCTURAL PLANS
11. INSTALL VEHICULAR CONCRETE PER DETAIL L7/C-10
12. CONSTRUCT ROLL CURB PER LAKE HAVASU CITY STD DTL 215 ON C-11
13. CONSTRUCT CURB TRANSITION FROM PER MAG STD DTL 221 ON C-12
18. INSTALL TRUNCATED DOMES PER MAG STD DTL 234 ON C-12
19. CONSTRUCT CURB RAMP USING RAMPS PER DETAILL L7/C-12
20. ADA ACCESSIBLE PARKING STALL
22. 12" TRENCH DRAIN, SEE SHEET C-5 FOR INFORMATION
23. SEAT WALL. SEE LANDSCAPE PLANS
24. INSTALL CONCRETE TURNDOWN AT BATHROOM CONTAINER CONCRETE SLAB INTERFACE, SEE DETAIL L8/C-12

LEGEND

- VEHICULAR CONCRETE SEE DETAIL L7/C-9
- CONCRETE SIDEWALK SEE DETAIL D1/C-9
- AGGREGATE SEE DETAIL L-11/C-9 FOR COMPACTION REQUIREMENTS, SEE LANDSCAPE PLANS FOR MATERIAL INFORMATION
- DECOMPOSED GRANITE SEE L-11/C-9 FOR COMPACTION REQUIREMENTS, SEE LANDSCAPE PLANS FOR MATERIAL REQUIREMENTS

N E S W

0 10 20 30 40

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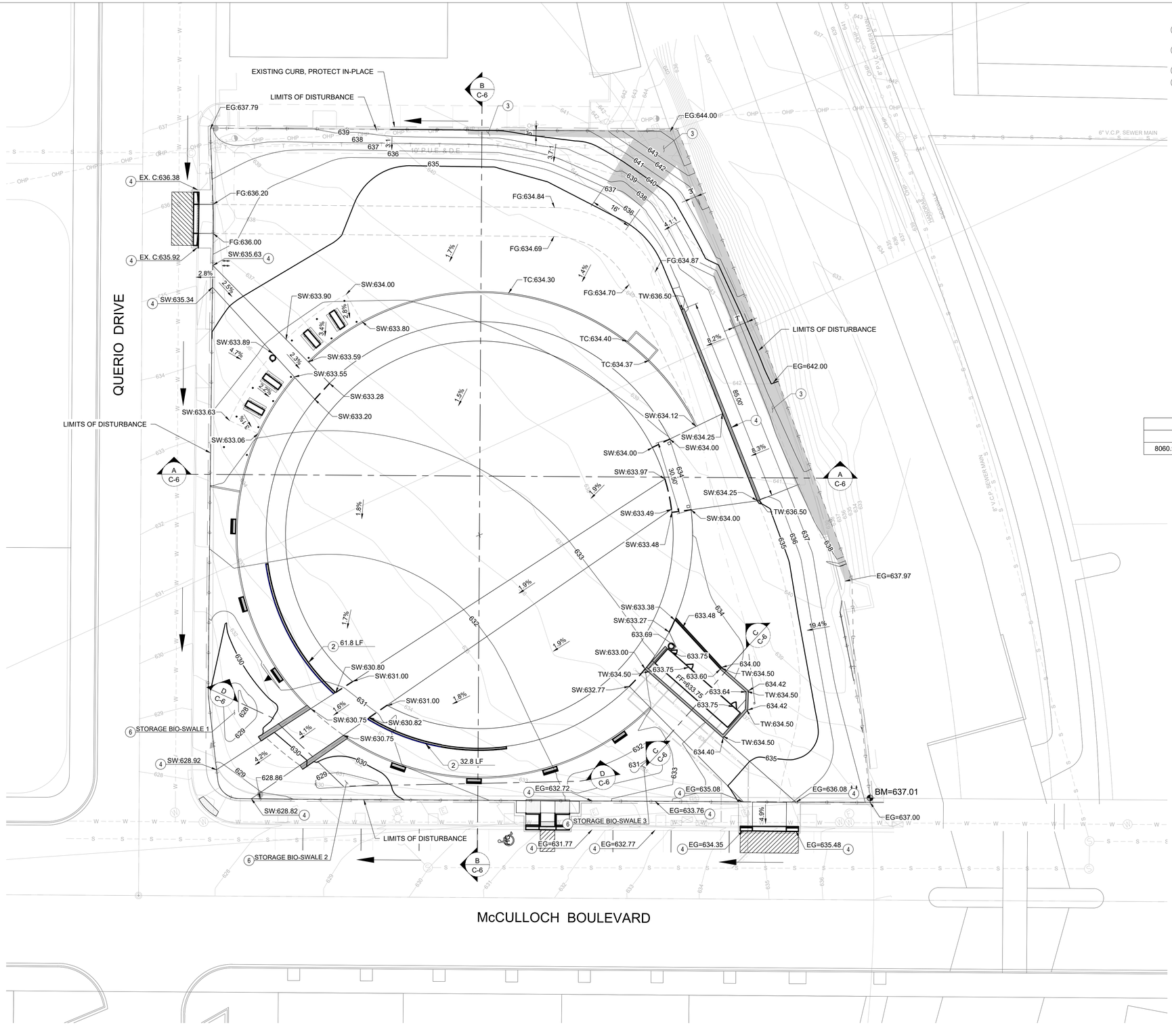

GRADING NOTES

2. CONSTRUCT 12" WIDE TRENCH DRAIN , SEE UTILITY SHEET FOR ADDITIONAL INFORMATION
3. RIP-RAP SLOPE PROTECTION, WITH FILTER FABRIC, D50=6", THICKNESS=12" PER DETAIL L1/C-11
4. MATCH EXISTING ELEVATION
6. STORAGE BIO-SWALE. SEE UTILITY SHEET FOR ADDITIONAL INFORMATION

CITY TO HANDLE EARTHWORK AND MASS GRADING. CONTRACTOR WILL BE RESPONSIBLE FOR FINAL GRADES AND FINISHED SLOPES AFTER IMPROVMENTS ARE INSTALLED.

EARTHWORK QUANTITIES		
CUT	FILL	NET
8060.90 CU. YD.	1.60 CU. YD.	8059.30 CU. YD.

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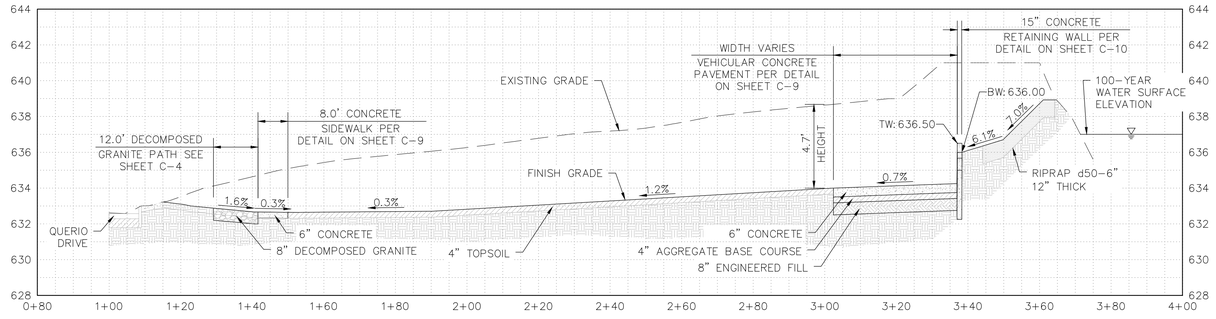
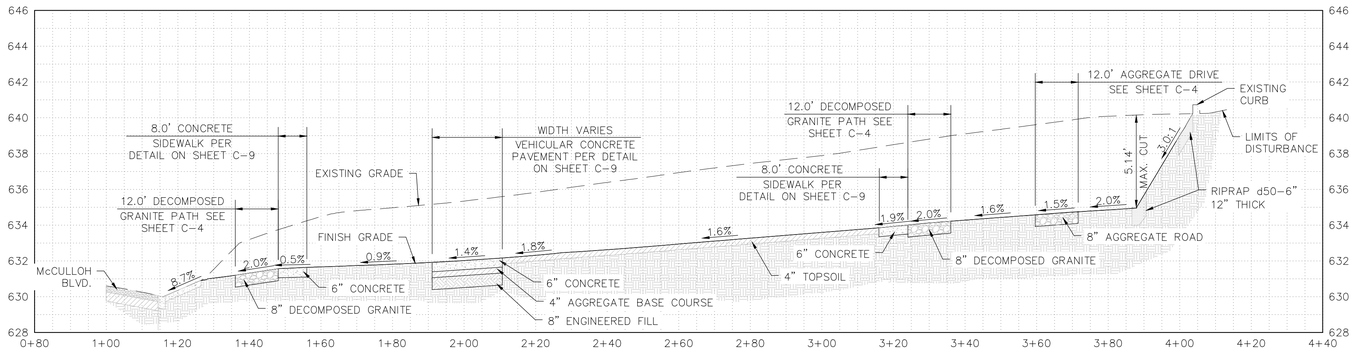
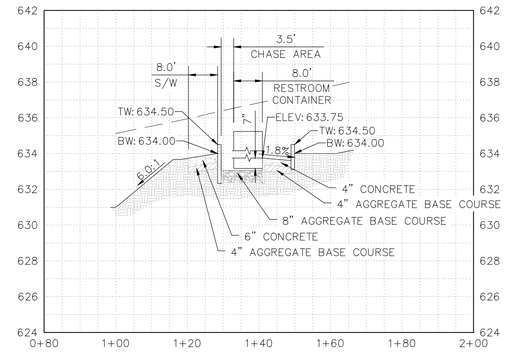
SCALE: 1"=20'



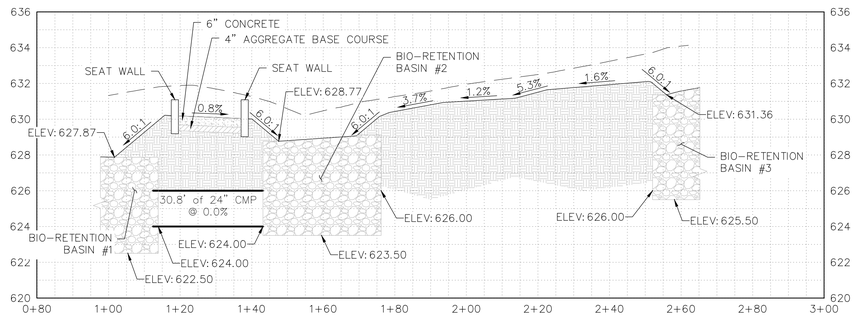
1 SECTION A-A
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



2 SECTION B-B
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



3 SECTION C-C
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



4 SECTION D-D
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

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CROSS SECTIONS

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SHEET NO:
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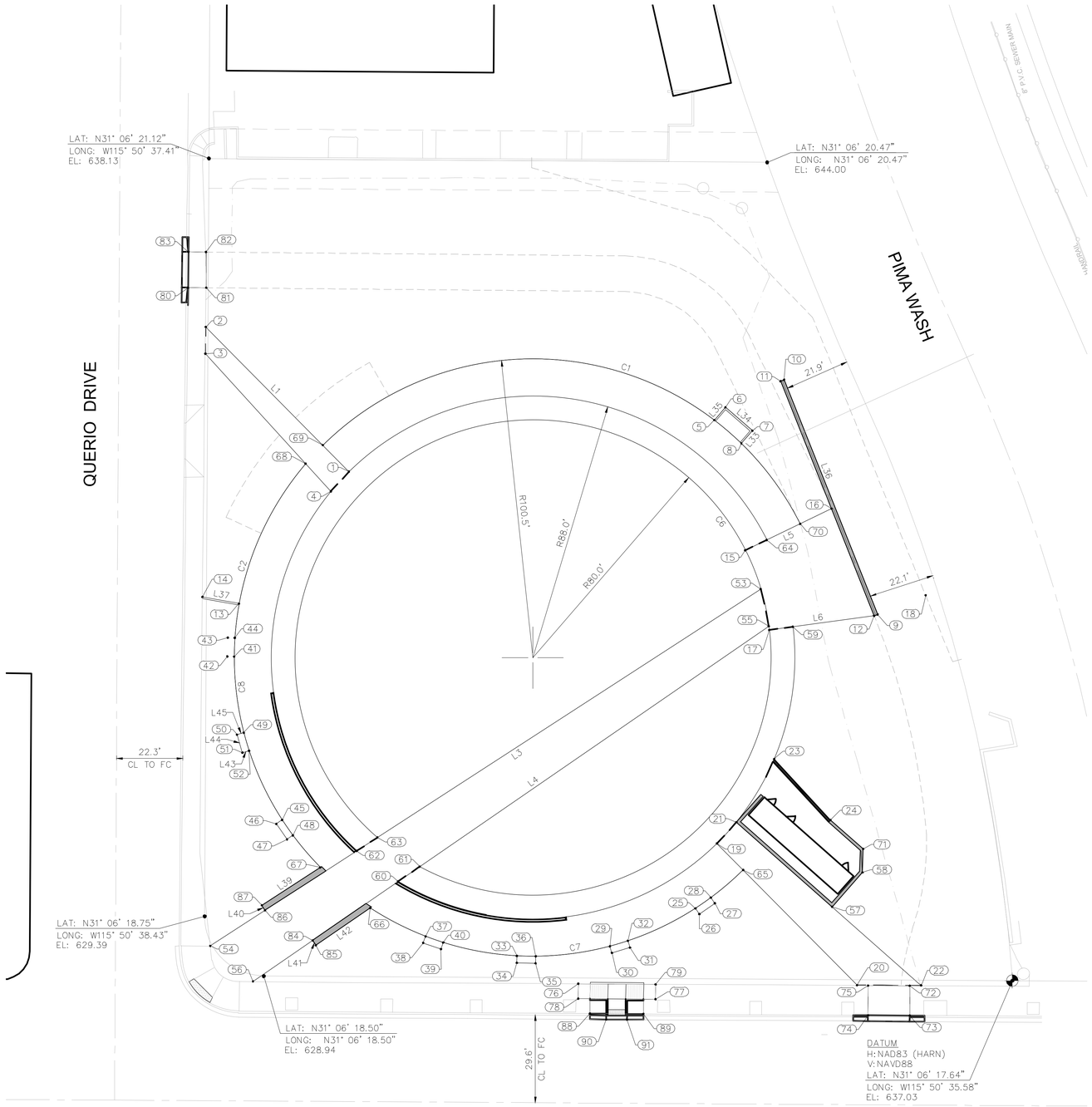

McCULLOCH BOULEVARD

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C5	116.37	88.00	75.77	S75° 46' 52"E	108.08
C6	485.36	80.00	347.62	N34° 19' 43"W	17.26
C7	136.34	100.50	77.73	S74° 48' 01"E	126.12
C8	149.27	100.50	85.10	S18° 56' 54"W	135.92

Point Table			
Point #	Elevation	Northing	Easting
1	633.28	44578.45	44671.19
2	635.63	44641.14	44643.72
3	635.34	44632.78	44640.36
4	633.20	44574.42	44663.14
5	634.40	44550.54	44792.13
6	634.43	44553.20	44797.14
7	634.40	44542.61	44802.77
8	634.37	44539.96	44797.80
9	635.00	44469.78	44819.91
10	636.49	44554.77	44818.86
11	635.00	44554.76	44817.61
12	635.00	44469.83	44818.66
13	632.75	44550.27	44620.77
14	633.00	44556.76	44610.09
15	633.98	44505.93	44786.10
16	635.00	44508.57	44818.18
17	633.48	44478.01	44784.01
18	638.12	44469.99	44837.30
19	632.77	44417.25	44741.84
20	635.09	44355.90	44768.72
21	633.00	44421.63	44750.48
22	636.07	44348.06	44788.81
23	633.38	44436.88	44769.97
24	634.00	44410.93	44780.30
25	632.78	44399.51	44727.24
26	632.84	44397.24	44727.80
27	632.92	44398.74	44733.95
28	632.87	44401.02	44733.40
29	631.93	44397.92	44695.84
30	631.92	44395.59	44695.66
31	632.02	44395.11	44701.98
32	632.03	44397.45	44702.16
33	631.14	44406.11	44665.48
34	631.08	44403.94	44664.59
35	631.14	44401.54	44670.45
36	631.22	44403.71	44671.34
37	630.70	44423.28	44639.14
38	630.62	44421.50	44637.63
39	630.81	44417.40	44642.46
40	631.00	44419.19	44643.97
41	632.35	44534.19	44612.81
42	632.37	44535.07	44610.70
43	632.50	44540.92	44613.13
44	632.47	44540.02	44615.29
45	631.13	44477.15	44608.17
46	631.12	44476.59	44605.89
47	631.05	44470.44	44607.39
48	631.06	44470.99	44609.67
49	631.62	44509.17	44606.65
50	631.58	44509.34	44604.33

Point Table			
Point #	Elevation	Northing	Easting
51	631.45	44503.02	44603.85
52	631.53	44502.85	44606.14
53	633.60	44491.91	44786.29
54	628.92	44446.27	44570.41
55	633.49	44479.22	44784.31
56	628.82	44429.96	44579.56
57	634.40	44383.49	44770.35
58	0.00	44390.61	44784.02
59	634.00	44476.17	44791.80
60	630.83	44443.80	44637.08
61	631.00	44445.88	44645.70
62	630.84	44458.41	44627.85
63	631.00	44460.13	44635.97
64	634.00	44506.58	44794.08
65	633.00	44405.81	44746.85
66	630.51	44438.87	44625.14
67	630.66	44457.62	44614.42
68	633.55	44586.17	44658.56
69	633.59	44589.90	44666.17
70	634.13	44507.61	44806.54
71	0.00	44397.94	44787.07
72	635.86	44349.34	44785.21
73	0.00	44340.02	44781.58
74	0.00	44345.11	44768.54
75	635.27	44354.42	44772.17
76	631.68	44389.97	44681.38
77	632.03	44375.78	44703.73
78	631.31	44385.32	44679.54
79	632.40	44380.43	44705.56
80	636.01	44655.63	44642.88
81	636.00	44653.40	44648.61
82	636.81	44664.64	44652.83
83	636.07	44666.80	44647.34
84	630.00	44435.65	44603.20
85	630.00	44433.71	44603.67
86	630.00	44450.82	44591.92
87	630.00	44452.77	44591.51
88	631.01	44379.20	44681.43
89	631.63	44372.60	44698.17
90	630.97	44375.39	44685.83
91	631.20	44372.83	44692.35

Line Table		
Line #	Length	Direction
L1	68.45	N23° 39' 55.13"W
L2	62.67	S21° 19' 52.91"E
L3	220.65	S78° 03' 49.14"W
L4	210.59	S76° 28' 23.48"W
L5	32.18	N85° 17' 39.88"E
L6	35.60	S76° 42' 20.12"E
L7	66.99	S23° 39' 55.13"E
L8	82.95	S27° 31' 04.68"E
L9	18.64	N89° 17' 34.99"E
L15	2.34	N13° 42' 26.68"W
L16	6.33	N76° 17' 33.32"E
L17	2.34	S13° 42' 26.68"E
L18	2.34	N4° 17' 32.83"E
L19	6.33	S85° 42' 27.17"E
L20	2.34	S4° 17' 32.83"W
L21	2.34	N22° 17' 29.53"E
L22	6.33	S67° 42' 30.47"E
L23	2.34	S22° 17' 29.53"W
L24	2.34	N40° 17' 34.65"E
L25	6.33	S49° 42' 25.35"E
L26	2.34	S40° 17' 34.65"W
L27	2.34	N76° 17' 33.80"E
L28	6.33	S13° 42' 26.20"E
L29	2.34	S76° 17' 33.80"W
L33	5.63	S62° 00' 02.31"W
L34	12.00	S27° 59' 57.69"E
L35	5.67	N62° 00' 02.31"E
L36	85.00	N0° 42' 25.01"W
L37	12.49	N58° 42' 20.12"W
L39	23.93	S78° 03' 49.14"W
L40	2.00	S11° 56' 10.86"E
L41	2.00	S13° 31' 36.52"E
L42	22.62	N76° 28' 23.48"E
L43	2.29	S85° 42' 24.13"E
L44	6.33	S4° 17' 35.87"W
L45	2.33	N85° 42' 24.13"W
L46	2.29	S67° 21' 46.38"E
L47	6.33	S22° 38' 13.62"W
L48	2.33	N67° 21' 46.38"W

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HORIZONTAL CONTROL

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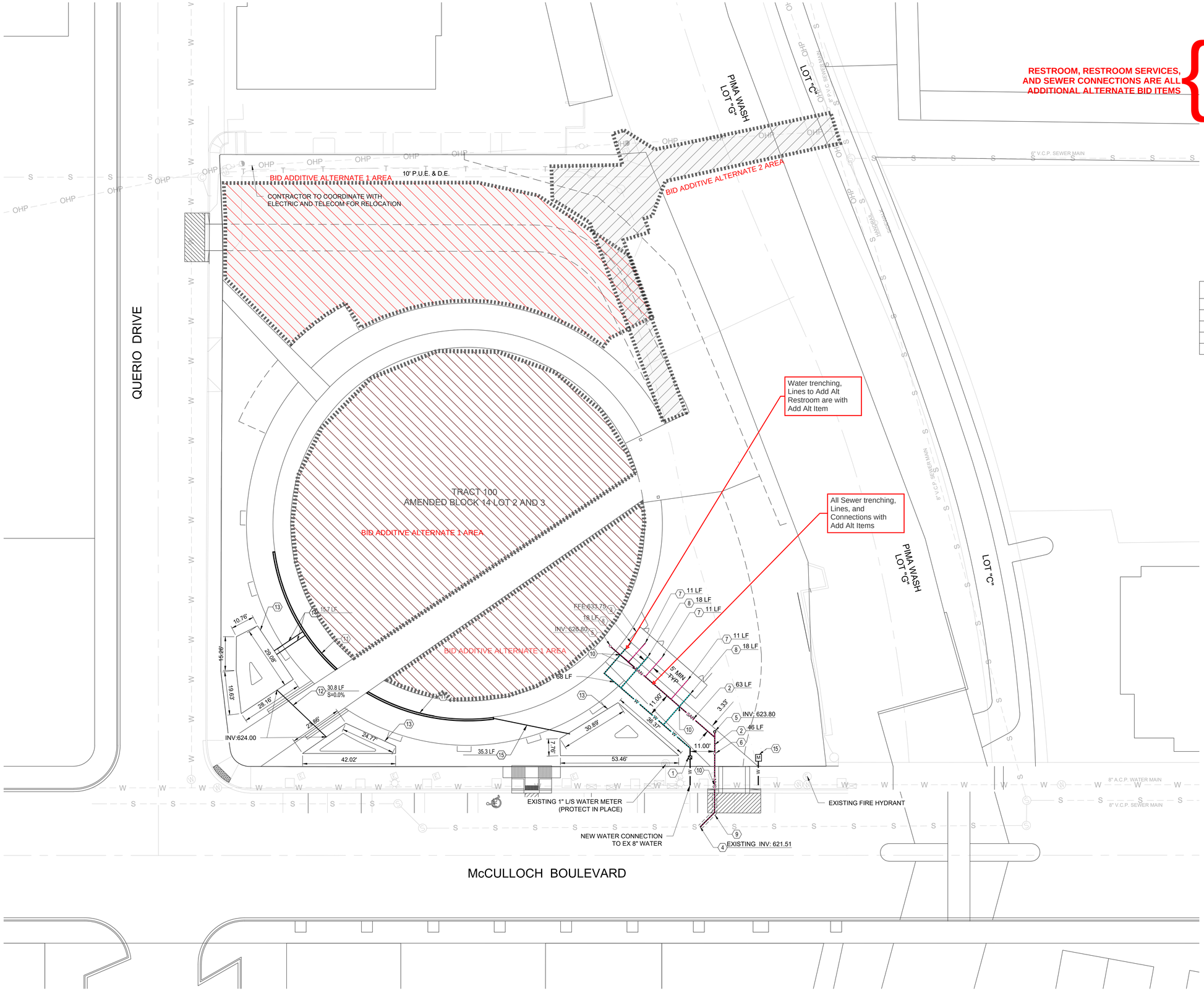
SCALE: 1"=20'



UTILITY NOTES

1. 1" WATER SERVICE PER STD DTL 301, 1.5" METER PER STD DTL 305 AND BFP PER STD DTL 309 **CITY TO PROVIDE METER**
2. 6" SEWER SDR 35 PVC SERVICE
3. MODULAR RESTROOM
4. SEWER CONNECTION TO EXISTING 12" SEWER PER STD DTL 410
5. SEWER CLEAN OUT PER STD DTL 407 AND 408
6. BACKWATER VALVE PER STD DTL 412
7. COORDINATE 3" SEWER SERVICE CONNECTION INTO RESTROOM
8. COORDINATE 1" WATER SERVICE CONNECTION INTO RESTROOM
9. PATCH TRENCH PER STD DTL 200
10. MAINTAIN WATER AND SEWER SEPARATION PER STD DTL 401 A, 401B, AND 401C
11. 8" WIDE SLOPING TRENCH DRAIN SIMILAR TO NDS DURASLOPE, CONTRACTOR TO SUBMIT PRODUCT INFORMATION, GRATE DEISIGN AND LAYOUT FOR APPROVAL PRIOR TO PURCHASING MATERIAL
12. INSTALL 24" CORRUGATED METAL EQUALIZER PIPE
13. INSTALL STORAGE BIO-RETENTION BSIN PER DETAIL L8 ON C-10, PROVIDE 5' MIN. SEPARATION BETWEEN EDGE OF BASIN AND ADJACENT PAVEMENT, VOLUME LISTING IN TABLE MUST BE PROVIDED
14. 8" HDPE PIPE, CONNECT UPSTREAM END TO TRENCH DRAIN IN-LINE CATCH BASIN, DOWNSTREAM END TO OUTFALL AT THE BIO-RETENTION BASIN 1% MIN. SLOPE
15. LANDSCAPE WATER METER. 2" WATER SERVICE PER STD DTL 301, 1.5" METER PER STD DTL 305 AND BFP PER STD DTL 309

RESTROOM, RESTROOM SERVICES, AND SEWER CONNECTIONS ARE ALL ADDITIONAL ALTERNATE BID ITEMS

STORAGE BIO-RETENTION BASIN

BASIN NO.	SUFACE AREA	STORAGE VOLUME
1	656 SF	925 CF
2	300 SF	355 CF
3	700 SF	1,000 CF
TOTAL		2,280 CF

STORAGE NOTES:

1. STORAGE VOLUMES PROVIDED IN TABLE ACCOUNT FOR TREE WELLS WITHIN BASIN AREA.
2. UPON COMPLETION OF BASIN EXCAVATION, CONTRACTOR SHALL PERFORM A PERCOLATION TEST AT THE BOTTOM OF THE BASIN. REPORT RESULTS TO ENGINEER OF RECORD FOR CONFIRMATION OF PERCOLATION RATE.

NOTE

1. WATER AND SEWER LINE SHALL MAINTAIN A MINIMUN COVER DEPTH FROM TOP OF PIPE TO FINISHED GRADE SHALL BE 3 FT.
2. TRENCHING AND BACKFILL PER LAKE HAVASU CITY STANDARD SPECIFICATION SECTION 02300 - TRENCH EXCAVATION AND BACKFILL

SCALE: 1"=20'

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UTILITY PLAN

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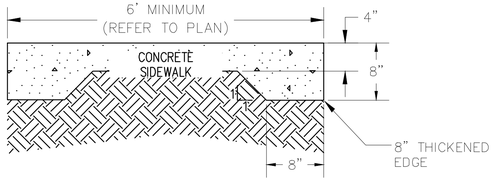
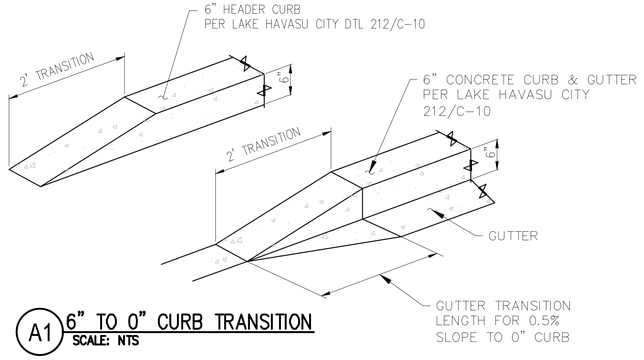
V:\PROJECTS\188145_LAKE HAVASU CATALYST PROJECT\05_DELIVERABLES\02_DRAWINGS\CIVIL\188145_C9-UTILITY PLAN.DWG PLOTTED BY:GONZALEZ, OSCAR R 7/1/2022 10:55:17 AM



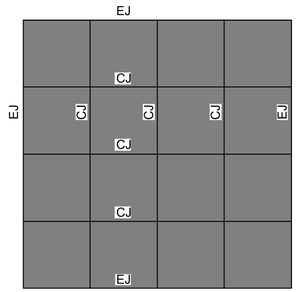
NOTES:

1. CONCRETE PER SPECIFICATIONS
2. FOR SIDEWALK JOINT LOCATIONS, SEE DETAIL A1/ THIS SHEET
3. EXTERIOR CONCRETE FLATWORK MUST HAVE A MINIMUM THICKNESS OF 4" UNLESS OTHERWISE SPECIFIED
4. FLATWORK MUST BE INSTALLED WITH CRACK-CONTROL JOINTS AT INTERVALS SPECIFIED BY THE STRUCTURAL ENGINEER

D1 CONCRETE SIDEWALK
SCALE: NTS



A1 6" TO 0" CURB TRANSITION
SCALE: NTS

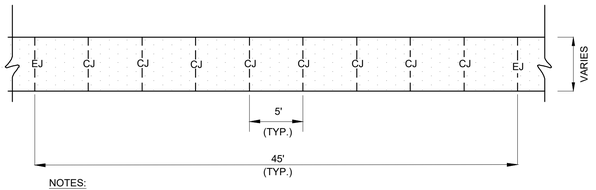


NOTES:

1. USE AN EXPANSION JOINT WHEN PLACING CONCRETE ADJACENT TO ANY STRUCTURE PER DETAIL B1/ THIS SHEET.
2. EVERY FOURTH JOINT SHALL BE AN EXPANSION JOINT. INTERMEDIATE JOINTS MAY BE CONTRACTION JOINTS.
3. PROVIDE RIGID TO FLEXIBLE PAVEMENT JOINT PER B3/ THIS SHEET.

PCC JOINT LEGEND
EJ - EXPANSION JOINT PER DETAIL B1/ THIS SHEET.
CJ - CONTRACTION JOINT PER DETAIL B3/ THIS SHEET.

A2 VEHICULAR CONCRETE JOINT DETAIL
SCALE: NTS

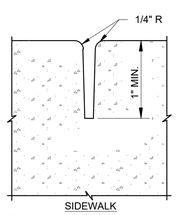


NOTES:

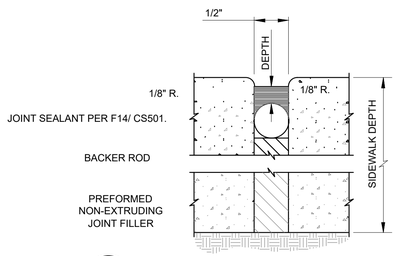
1. PROVIDE CONTROL JOINTS (CJ) AT 5' INTERVALS AT 1/4 THICKNESS OF CONCRETE, MINIMUM 1" DEPTH.
2. PROVIDE EXPANSION JOINTS (EJ) AT 45' INTERVALS.
3. JOINTS SHALL HAVE 1/4" MAX OPENING IN DIRECTION OF TRAVEL.
4. JOINT SPACING SHALL NOT EXCEED 8' BY 8' IN ALL DIRECTIONS.

PCC JOINT LEGEND
EJ - EXPANSION JOINT PER DETAIL F12 THIS SHEET
CJ - CONTRACTION JOINT PER DETAIL F8 THIS SHEET

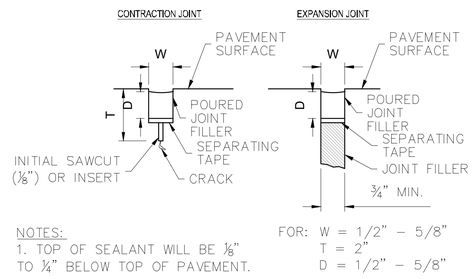
F2 SIDEWALK JOINT DETAIL
SCALE: NTS



F8 SIDEWALK CONTRACTION JOINT DETAIL
SCALE: NTS



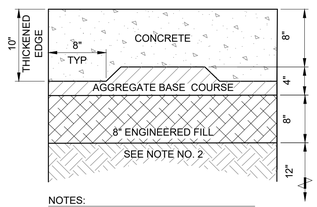
F12 SIDEWALK EXPANSION JOINT
SCALE: NTS



NOTES:
1. TOP OF SEALANT WILL BE ⅛" TO ¼" BELOW TOP OF PAVEMENT.

FOR: W = 1/2" – 5/8"
T = 2"
D = 1/2" – 5/8"

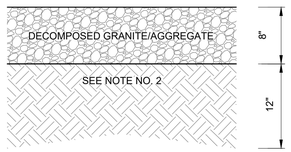
F14 PAVEMENT JOINT SEALANT
SCALE: NTS



NOTES:

1. FILL MUST BE PLACED IN LOOSE LIFTS NO GREATER THAN 8" AND COMPACTED TO 95% COMPACTION PER ASTM D698, ±2% OF OPTIMUM MOISTURE CONTENT.
2. SCARIFY AND RECOMPACT SUBGRADE TO A DEPTH OF AT LEAST 12 INCHES.
3. COMPACT BASE AND SUBBASE TO 95% COMPACTION PER ASTM D698, ±2% OF OPTIMUM MOISTURE CONTENT.

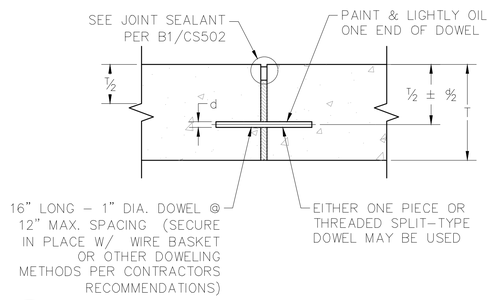
L7 VEHICULAR CONCRETE
SCALE: NTS



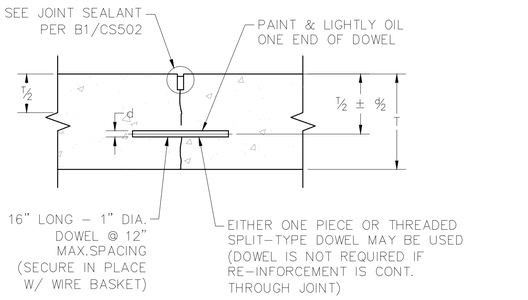
NOTES:

1. FILL MUST BE PLACED IN LOOSE LIFTS NO GREATER THAN 8" AND COMPACTED TO 100% COMPACTION PER ASTM D698, ±3% OF OPTIMUM MOISTURE CONTENT.
2. SCARIFY AND RECOMPACT SUBGRADE TO A DEPTH OF AT LEAST 12 INCHES.
3. COMPACT DECOMPOSED GRANITE AND SUBBASE TO 100% COMPACTION PER ASTM D698, ±3% OF OPTIMUM MOISTURE CONTENT.

L11 DECOMPOSED GRANITE OR AGGREGATE PAVEMENT
SCALE: NTS



B1 PAVEMENT EXPANSION JOINT
SCALE: NTS



B3 PAVEMENT CONTRACTION/CONSTRUCTION JOINT
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DETAIL SHEET

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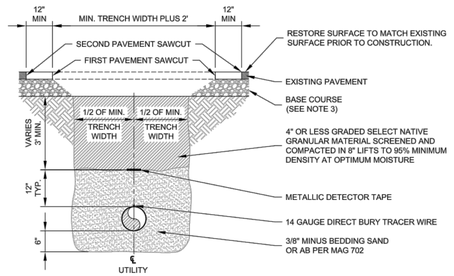

MINIMUM TRENCH WIDTH TABLE

PIPE DIAMETER	MINIMUM WIDTH	MINIMUM BETWEEN FIRST SAWCUTS	MINIMUM BETWEEN SECOND SAWCUTS	CONCRETE PAVEMENT
<8 IN.	24"	4'	6'	SECOND SAWCUT SHALL BE AT EXISTING JOINTS, SEE NOTE #5
8IN.-12IN.	30"	4'-6"	6'-6"	
14IN.-18IN.	36"	5'	7'	
20IN.-24IN.	42"	5'-6"	7'-6"	
24IN.-36IN.	1.25 (PIPE OD) PLUS 12IN.	MIN. WIDTH PLUS 2'	MIN. WIDTH PLUS 4'	
>36IN.	PER PLANS	MIN. WIDTH PLUS 2'	MIN. WIDTH PLUS 4'	

NOTES:

1. ALL SAWCUTS TO BE FULL DEPTH OF PAVEMENT.
2. PATCH MATERIAL SHALL MATCH THE EXISTING PAVEMENT MATERIAL (eg CONCRETE PAVEMENT SHALL BE PATCHED WITH CONCRETE AND EXISTING ASPHALT PAVEMENT WITH ASPHALT).
3. FOR ASPHALT PATCHES, BASE COURSE & ASPHALT CONCRETE THICKNESS IS TO MATCH EXISTING BUT IN NO CASE LESS THAN 0" BASE 2" ASPHALT CONCRETE.
4. ALL EXISTING VERTICAL ASPHALT JOINTS SHALL BE TACK COATED.
5. FINAL CONCRETE PAVEMENT REMOVALS SHALL BE TO THE NEAREST EXISTING JOINT (eg FULL PANEL REMOVAL AND REPLACEMENT).
6. TRENCHES ARE SHOWN TO DIAGRAM PATCHING REQUIREMENTS. TRENCHES SHALL BE CONSTRUCTED TO MEET OSHA REQUIREMENTS.
7. PAVEMENT REMOVAL BETWEEN FIRST AND SECOND SAW CUT SHALL BE REMOVED AT TIME OF HOT MIX PATCHING . DENSITY TESTING SHALL BE AT THE EXPENSE OF THE CONTRACTOR AND A COPY OF RESULTS SHALL BE PROVIDED TO THE CITY.
9. MONITOR & MAINTAIN SURFACE CONDITION AND PERFORM ASPHALT REPAIRS UNDER 1-YEAR WARRANTY PROVIDED THROUGH PERMIT.
10. ALL PATCH JOINTS SHOULD BE HENRY ASPHALT RESURFACER SEALED OR APPROVED EQUAL.

LAKE HAVASU CITY	Standard Details	Utility Trench Patch	Scale: N.T.S.
	Roadway Improvements		Detail No. 200

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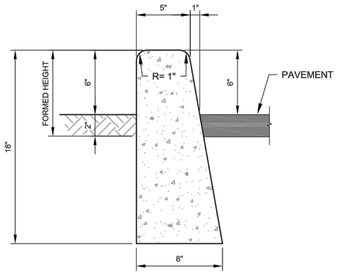
Issued: 02/01/2019



NOTES:

1. ALL VERTICAL SURFACES TO BE FORMED.
2. CLASS 'B' CONCRETE 2500 PSI.
3. ALL EXPOSED SURFACES TO BE TROWEL FINISHED EXCEPT AS SHOWN.
4. CONTRACTION JOINT SPACING 10' MAX.
5. H=6" OR AS SPECIFIED ON PLANS.
6. EXPANSION JOINTS PLACED AT INTERVALS NOT TO EXCEED 100 FEET.

LAKE HAVASU CITY	Standard Details	Vertical Curb	Scale: N.T.S.
	Roadway Improvements		Detail No. 213

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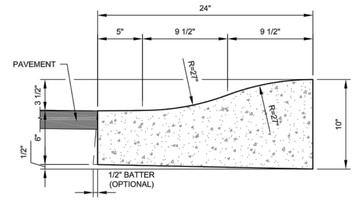
Issued: 02/01/2019



NOTES:

1. MODIFIED MAG 220 (TYPE D).
2. PRIOR APPROVAL FROM ENGINEERING DIVISION REQUIRED.
3. CLASS 'B' CONCRETE 2500 PSI.
4. PLACE 3/4" EXPANSION JOINTS WITH TWO-FOOT DOWELS AT RADIUS POINTS. THESE DOWELS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
5. INSTALL 1 1/2"-DEEP CONTRACTION JOINTS AT APPROXIMATELY 15' INTERVALS.

LAKE HAVASU CITY	Standard Details	Rolled Curb and Gutter	Scale: N.T.S.
	Roadway Improvements		Detail No. 215

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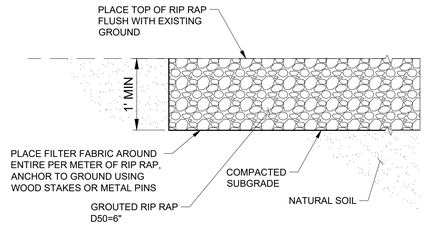
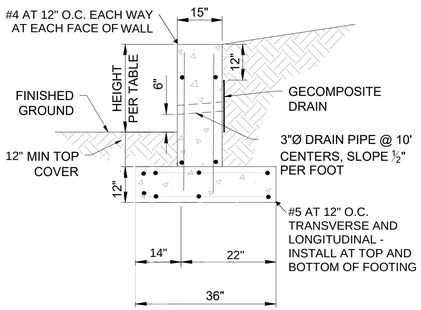


L1 RIPRAP DETAIL

SCALE: NTS

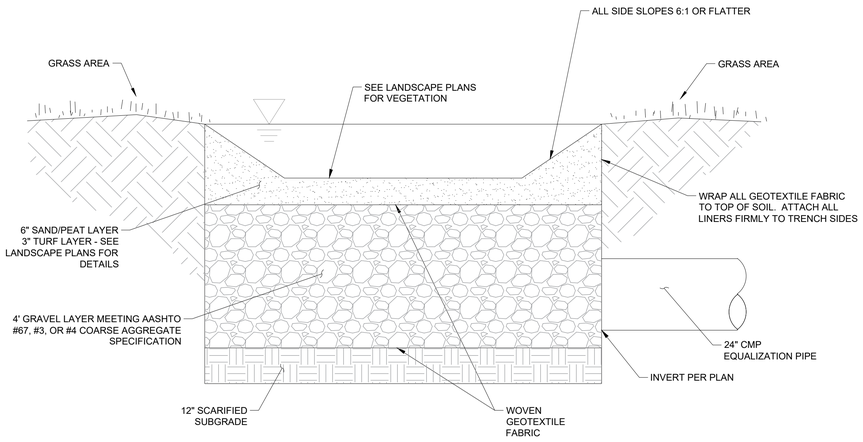


HEIGHT TABLE			
POINT #	STATION	TOP OF WALL	BOTTOM OF WALL
1	1+00.00	636.000	635.000
2	1+10.00	636.000	634.750
3	1+20.00	636.000	634.750
4	1+30.00	637.000	634.750
5	1+40.00	637.000	634.750
6	1+50.00	637.000	636.000
7	1+60.00	637.000	636.000
8	1+70.00	637.000	636.000
9	1+80.00	637.000	636.000
10	1+92.00	637.000	636.980

L7 RETAINING WALL

SCALE: NTS

NOTES:
1) PROVIDE 2" MIN COVER FOR ALL REBAR
2) EMBED VERTICAL BARS 6" MIN INTO FOOTING



L8 STORAGE BIO-RETENTION BASIN

SCALE: NTS

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
p 602.595.4101
DIGSTUDIO.COM

Michael Baker INTERNATIONAL
2929 N. CENTRAL AVE. SUITE 800
PHONE: (602) 279-1234
PHOENIX, AZ 85012
MBAKERINTL.COM

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100% PERMIT SET

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

CITY DETAIL SHEET

NO	DATE	BY	REVISION

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CHECKED: SM
DATE: 6/16/2023
SHEET NO: C-11

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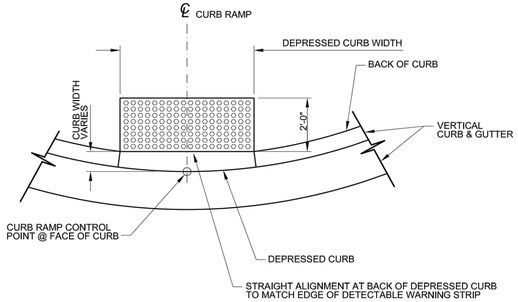
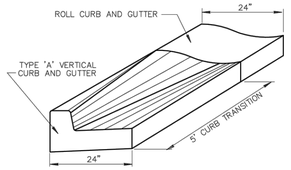


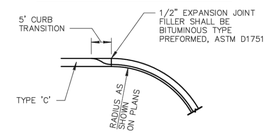
PLAN VIEW

DETAIL NO.			REVISED	DETAIL NO.
234	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	CURB MODIFICATION AT DETECTABLE WARNING	01-01-2012	234

CURB TRANSITION TO ROLL CURB



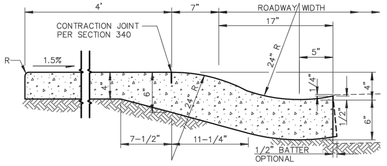
CURB AND GUTTER TRANSITION



NOTES: (CURB AND GUTTER TRANSITIONS)

1. TRANSITIONS WILL BE PAID FOR AS THE PREDOMINANT TYPE OF CURB AND GUTTER BEING TRANSITIONED. WHEN TYPE "A" CURB AND GUTTER ARE USED AT CURB RETURNS AND TYPE "C" CURB AND GUTTER IS PREDOMINANTLY USED ELSEWHERE, THE TYPE "A" TO TYPE "C" TRANSITION SHALL BE MEASURED AND PAID FOR AS TYPE "C" CURB AND GUTTER.
2. WHERE PROPOSED CONSTRUCTION IS TO BE CONNECTED TO EXISTING CURB AND GUTTER, THE TRANSITION SHALL BE INDICATED ON PLANS.
3. CLASS "B" CONCRETE PER SECTION 725.
4. TRANSITION BETWEEN TYPICAL SECTIONS SHALL BE ACCOMPLISHED BY THE USE OF DIRECT STRAIGHT LINE TRANSITIONS OF THE FLOW LINE AND OTHER SURFACE FEATURES.

INTEGRAL ROLL CURB, GUTTER AND SIDEWALK

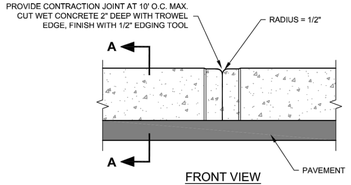


NOTES: (INTEGRAL ROLL CURB, GUTTER AND SIDEWALK)

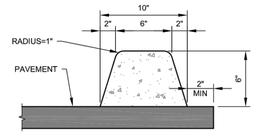
1. CONCRETE TO BE MONOLITHIC POUR. EXPOSED SURFACE FINISH AS PER SIDEWALK AND GUTTER DETAIL.
2. CONTRACTION JOINT SPACING 5' MAXIMUM.
3. EXPANSION JOINTS PER SECTION 340.
4. CLASS "B" CONCRETE PER SECTION 725.

DETAIL NO.			DRAFT	DETAIL NO.
221	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	CURB AND GUTTER TRANSITION AND INTEGRAL ROLL CURB, GUTTER AND SIDEWALK	01-01-2018	221

Issued: 02/01/2019



FRONT VIEW



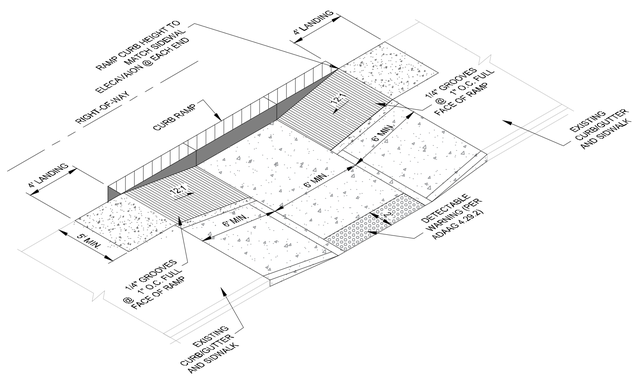
SECTION A-A

NOTES:

1. TO BE USED FOR REPLACEMENT OF EXISTING EXTRUDED CURBS ONLY.
2. CLASS 'B' CONCRETE 2500 PSI.
3. ALL EXPOSED SURFACES TO BE TROWEL FINISHED.
4. H=6" OR AS SPECIFIED ON PLANS.
5. EXPANSION JOINTS PLACED AT INTERVALS NOT TO EXCEED 100 FEET.

			Scale: N.T.S.
LAKE HAVASU CITY	Standard Details Roadway Improvements	6" Extruded Vertical Curb	Detail No. 212

A:\City Operations and Development\Engineering\Programs\Standards\Developing Public Works Standards\LHC Standard Details\LHC Series 200 Roadway\DWG\DETAIL 212.dwg

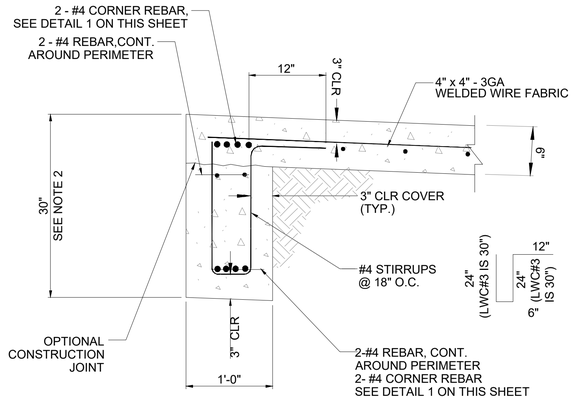


NOTES:

1. RAMP MUST HAVE GROOVE SLOPING RAMP FACE. GROOVES TO BE PERPENDICULAR TO DIRECTION OF TRAVEL.
2. ADAAG 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES. DETECTECABLE WARNINGS SHALL CONSIST OF TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN (23MM). A HEIGHT OF NOMINAL 0.2 IN (5MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN (60MM) AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON -CAN CONTACT.
3. INSTALL TRUNCATED DOME MAT AS MANUFACTURED WITH DETECTABLE WARNING SYSTEMS (OR EQUAL) PER MANUFACTURER'S SPECIFICATIONS.

L7 ADA ACCESSIBLE RAMP

SCALE: NTS



1. WHERE LWC ABUTS CONCRETE ROAD PAVEMENT, INSTALL EXPANSION JOINT AT PAVEMENT HEADER PER DETAIL A1, SHEET S-516.
2. WHERE LWC ABUTS HEADWALL, WING WALL OR RETAINING WALL, INSTALL JOINT FILLER IN PLACE OF CUT-OFF WALL. SEE DETAIL 3 ON THIS SHEET.

L8 CONCRETE TURN-DOWN DETAIL

SCALE: NTS

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
p 602.595.4101
DIGSTUDIO.COM

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CITY DETAIL SHEET

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C-12

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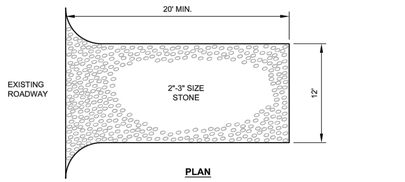
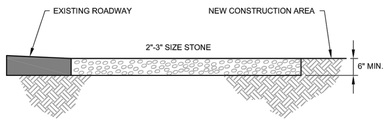


PLAN

FABRIC MAY BE ADDED UNDER THE STONE WHICH WOULD ADD TOTAL LIFE TO THE CONSTRUCTION ENTRANCE.



CROSS SECTION

NOTE:

1. THIS ENTRANCE APPLIES ONLY TO ENTRANCES OF INDIVIDUAL SINGLE FAMILY RESIDENTIAL UNITS.
2. PUT SILT FENCE OR WATTLE PROTECTION UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.
3. CONSTRUCTION ENTRANCES SHOULD BE LOCATED ON THE SIDE OF THE PROPERTY WHERE FUTURE DRIVEWAYS ARE TO BE LOCATED. PROTECT ALL CURBS FROM DAMAGE WITH CURB RAMPS.
4. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE
5. TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
6. IF A PROJECT CONTINUES TO PULL MUD AND DEBRIS ON TO THE PUBLIC ROAD, THE GOVERNING
7. AUTHORITY WILL CLEAN THE AREA AND INVOICE THE FINANCIALLY RESPONSIBLE PARTY.

LAKE HAVASU CITY	Standard Details / Stormwater Improvements	Stabilized Construction Entrance (Residential)	Scale: N.T.S. / Detail No. 502B

A:\City Operations and Development\Engineering\Programs\Standards\Developing Public Works Standards\LHC Standard Details\LHC Series 500 Stormwater\DWG\Detail 502B.dwg

Issued: 02/01/2019

NOTES:

1. INSTALL SEDIMENT WATTLES AS SLOPES ARE CONSTRUCTED TO GRADE OR AS DIRECTED BY ENGINEER. SELECT, INSTALL AND MAINTAIN IN CONFORMANCE WITH MFG'S SPECIFICATIONS TO MEET SITE CONDITIONS FOR SLOPE PROTECTION AND IN ACCORDANCE WITH GOOD ENGINEERING PRACTICES. NO SEDIMENT WATTLES SHALL BE INSTALLED IN URBAN FREEWAY MEDIANS, NOR WHERE CABLE BARRIER SYSTEMS ARE INSTALLED.
2. SEDIMENT WATTLES SHALL BE IN CONTINUOUS CONTACT WITH TRENCH BOTTOM AND SIDES. DO NOT OVERLAP WATTLES ENDS ON TOP OF EACH OTHER. A 20" DIA. WATTLE MAY BE MADE FROM 2-3 ROLLED EXCELSIOR OR STRAW BLANKETS.
3. BUTT ADJOINING WATTLES TIGHTLY AGAINST EACH OTHER. DRIVE FIRST END STAKE OF THE SECOND WATTLE AT THE ANGLE TOWARD THE FIRST WATTLE TO HELP ABUT THEM TIGHTLY.
4. REPAIR ANY RILLS OR GULLIES PROMPTLY. FIELD ADJUST AND CORRECT WATTLE BMP IMMEDIATELY IF IT IS CAUSING FLOODING, EROSION, AND/OR AFFECTING ROADWAY SAFETY.
5. CONSTRUCTION OF CUT SLOPES 2:1 AND STEEPER IN SOIL AND RACK MATERIALS THAT CAN BE RIPPED SHALL BE CONSTRUCTED, WHENEVER POSSIBLE, BY MINIBENCHING. REFER TO SLOPE MINIBENCHING DETAIL.
6. LOOSENING SURFACE SOIL IS NOT REQUIRED WHERE MINIBENCHES ARE USED. FOR SEEDED AREAS, TILLAGE SHALL BE PERFORMED TO FORM MINOR RIDGES AND FURROWS PARALLEL TO NEW SLOPES CONTOURS AND AS SPECIFIED IN SECTION 805 OF THE STANDARDS SPECIFICATIONS.
7. DIVERT AND DIRECT RUN-ON WATER FROM OUTSIDE OF THE SLOPES TO THE SPILLWAYS AND/OR ROCK RIPRAP/ROCK MULCH. DIVERSION DIKES AND/OR DITCHES ARE NECESSARY ON NATURAL UNDISTURBED SLOPES BEYOND THE TOP LIMITS OF NEW SLOPES TO DIVERT RUN-ON WATER.
8. INSTALLATION AND MAINTENANCE OF SEDIMENT WATTLE BMP'S SHALL NOT NEGATIVELY IMPACT TRAFFIC SAFETY, NOR THE DESIGNED FUNCTION OF THE ROADWAY OR BRIDGE DRAINAGE FACILITIES.
9. INSTALL AND MAINTAIN SEDIMENT WATTLE BMP'S TO CARRY THE STORMWATER OF AT LEAST 2-YEA, 24 HOUR EVENTS.
10. THE SEDIMENT WATTLE BMP'S PAY/BID ITEM SHALL INCLUDE ALL MATERIALS USED FOR THIS BMP: ALL GROUND PREPARATION, FURNISHING, INSTALLING, MAINTENANCE, FINAL REMOVAL, AND DISPOSAL OF THIS TEMPORARY BMP, AS WELL AS RETURNING THE AREA TO AN ACCEPTABLE CONDITION AS APPROVED BY THE ENGINEER.
11. REFER TO STANDARD SPECIFICATION SECTION 810-2.06(C) FOR SEDIMENT WATTLE MATERIAL SPECIFICATIONS.
12. MAKE FIELD ADJUSTMENTS AND CORRE3CTIONS TO ENSURE NO SENSITIVE BIOLOGICAL RESOURCE (NATIVE SPECIES/ HABITATS) WILL BE ADVERSELY IMPACTED.

LAKE HAVASU CITY	Standard Details / Stormwater Improvements	Wattle Notes	Scale: N.T.S. / Detail No. 504A

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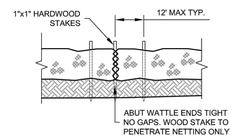
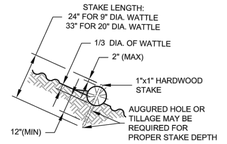
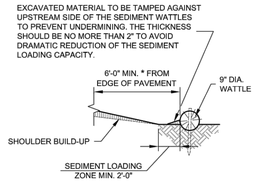


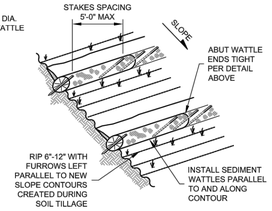
SEDIMENT WATTLE OVERLAP



SEDIMENT WATTLE STAKING



NEW SHOULDER ** BUILDUP PROTECTION



SEDIMENT WATTLE LAYOUT

** NOTE:
APPLICABLE ONLY IN THE AREAS OF CONCENTRATED FLOW - TO INCLUDE BUT NOT BE LIMITED TO ROADWAY SAG SPOTS AND DROP-OFF REPAIR LOCATIONS AS PER THE DIRECTION OF THE ENGINEER.

LAKE HAVASU CITY	Standard Details / Stormwater Improvements	Wattle Detail	Scale: N.T.S. / Detail No. 504B

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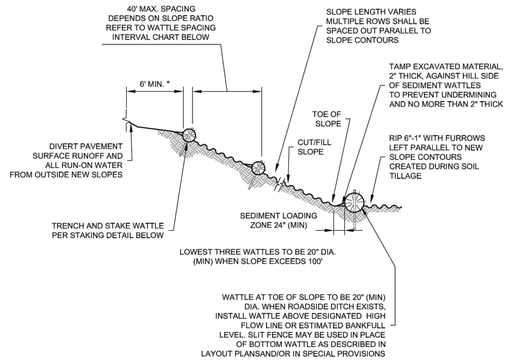

SEDIMENT WATTLE SECTION

* NOTE:

TOP ROW SHALL NOT BE PLACED WITHIN 6'-0 OF EDGE OF PAVEMENT AND 9'-0" FROM OUTSIDE SURFACE OF BARRIER.

WATTLE SPACING INTERVALS	
SLOPE RATIO (H:V)	MAXIMUM SPACING INTERVALS
2:1	10'
3:1	20'
4:1	30'
5:1	40'
6:1	40'

LAKE HAVASU CITY	Standard Details / Stormwater Improvements	Wattle Section	Scale: N.T.S. / Detail No. 504C

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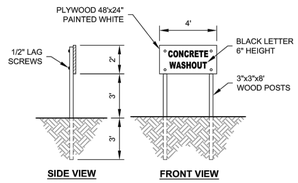
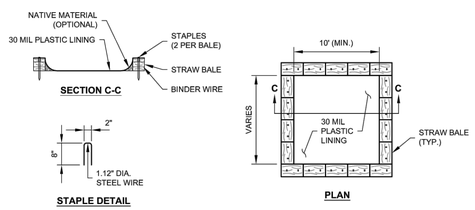


"CONCRETE WASHOUT" SIGN DETAILS



TYPE "ABOVE GRADE" WITH STRAW BALES

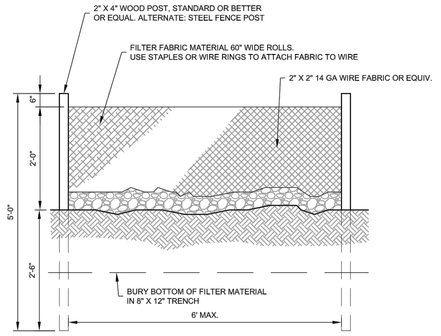
NOTE:

1. WASHOUTS AREAS FOR CONCRETE, PAINT OR STUCCO MUST BE LOCATE ON-SITE. LOCATE WASHOUT AREAS 50 FEET FROM DRAINS AND WATERCOURSES.
2. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
3. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
4. LINING MATERIAL SHOULD BE A MINIMUM OF 30 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OPEN SEAMS OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
5. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
6. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.

LAKE HAVASU CITY	Standard Details / Stormwater Improvements	Concrete Washout Straw Bales	Scale: N.T.S. / Detail No. 506A

A:\City Operations and Development\Engineering\Programs\Standards\Developing Public Works Standards\LHC Standard Details\LHC Series 500 Stormwater\DWG\Detail 506A.dwg

Issued: 02/01/2019



LAKE HAVASU CITY	Standard Details / Stormwater Improvements	Silt Fence	Scale: N.T.S. / Detail No. 508

A:\City Operations and Development\Engineering\Programs\Standards\Developing Public Works Standards\LHC Standard Details\LHC Series 500 Stormwater\DWG\Detail 508.dwg

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Michael Baker INTERNATIONAL
2929 N. CENTRAL AVE. SUITE 800
PHOENIX, AZ 85012
PHONE: (602) 279-1234
MBAKERINTL.COM

100% PERMIT SET

NOT FOR CONSTRUCTION

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LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

CITY DETAIL SHEET

NO	DATE	BY	REVISION

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

DRAWN: JBR
DESIGN: JBR
CHECKED: SM
DATE: 6/16/2023

SHEET NO:
C-13
13 13

REFERENCE NOTES SCHEDULE

	1 - PAVING & SURFACING: DIVISION 32								
CODE	DESCRIPTION	QTY	DETAIL	MANUFACTURER	FINISH	COLOR	SIZE	SUBMITTAL	MOCK-UP
1-01	PEDESTRIAN PAVING - BROOM FINISH	950 SF	7/LS501	NA	BROOM	NATURAL	NA	X	X
1-02	VEHICULAR PAVING - BROOM FINISH	9,135 SF	8/LS501	NA	BROOM	NATURAL	NA	X	X
1-03	DECOMPOSED GRANITE	17,164 SF	1/LS501	KALAMAZOO	NA	APACHE GOLD	1/2" SCREENED	X	NA
1-04	STABILIZED DECOMPOSED GRANITE	5,357 SF	/	KALAMAZOO	NA	APACHE GOLD	1/4 MINUS	X	NA
1-05	COMPACTED DECOMPOSED GRANITE (PEDESTRIAN)	809 SF	4/LS501	KALAMAZOO	NA	APACHE GOLD	1/2" MINUS	X	NA
1-06	COMPACTED DECOMPOSED GRANITE (VEHICULAR)	6,356 SF	2/LS501	KALAMAZOO	NA	APACHE GOLD	1/2" MINUS	X	NA
1-07	RIP RAP	2,675 SF	5/LS501	KALAMAZOO	NA	APACHE GOLD	1"-4"	X	NA

	2 - WALLS & FENCES: DIVISION 32								
CODE	DESCRIPTION	QTY	DETAIL	FINISH	COLOR	MOCK-UP			
2-01	CIP CONC HEADER	486 LF	6/LS501	BROOM	NATURAL GREY	NO			
2-02	CIP RETAINING WALL	85 LF	3/LS502	BOARD FORM	NATURAL GREY	X			
2-03	CIP SEAT WALL	46 LF	2/LS502	BOARD FORM	NATURAL GREY	X			
2-04	RAISED CONCRETE HEADER	23 LF	1/LS502	BROOM	NATURAL GREY	NO			
2-05	RETAINING WALL AT RESTROOM	91 LF	5/LS502	BOARD FORM	NATURAL GREY	X			
2-06	RETAINING CURB AT RESTROOM	28 LF	6/LS502	BROOM	NATURAL GREY	X			

	5 - FURNISHINGS: DIVISION 32								
CODE	DESCRIPTION	QTY	DETAIL	MANUFACTURER	SUBMITTAL				
5-01	BENCH	7		LHC TO SPEC	X				
5-02	PICNIC TABLE	4		LHC TO SPEC	X				
5-03	TRASH RECEPTACLE	2		LHC TO SPEC	X				
5-04	BIKE RACK	4		LHC TO SPEC	X				
5-05	FESTOON LIGHTING	247 LF	RE: ELEC.		X				
5-06	LIGHT POST	1	RE: ELEC.		X				

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REGISTERED LANDSCAPE ARCHITECT
J. V. HICKS
STATE OF ARIZONA 6/19/23
EXP: 6/30/2023

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

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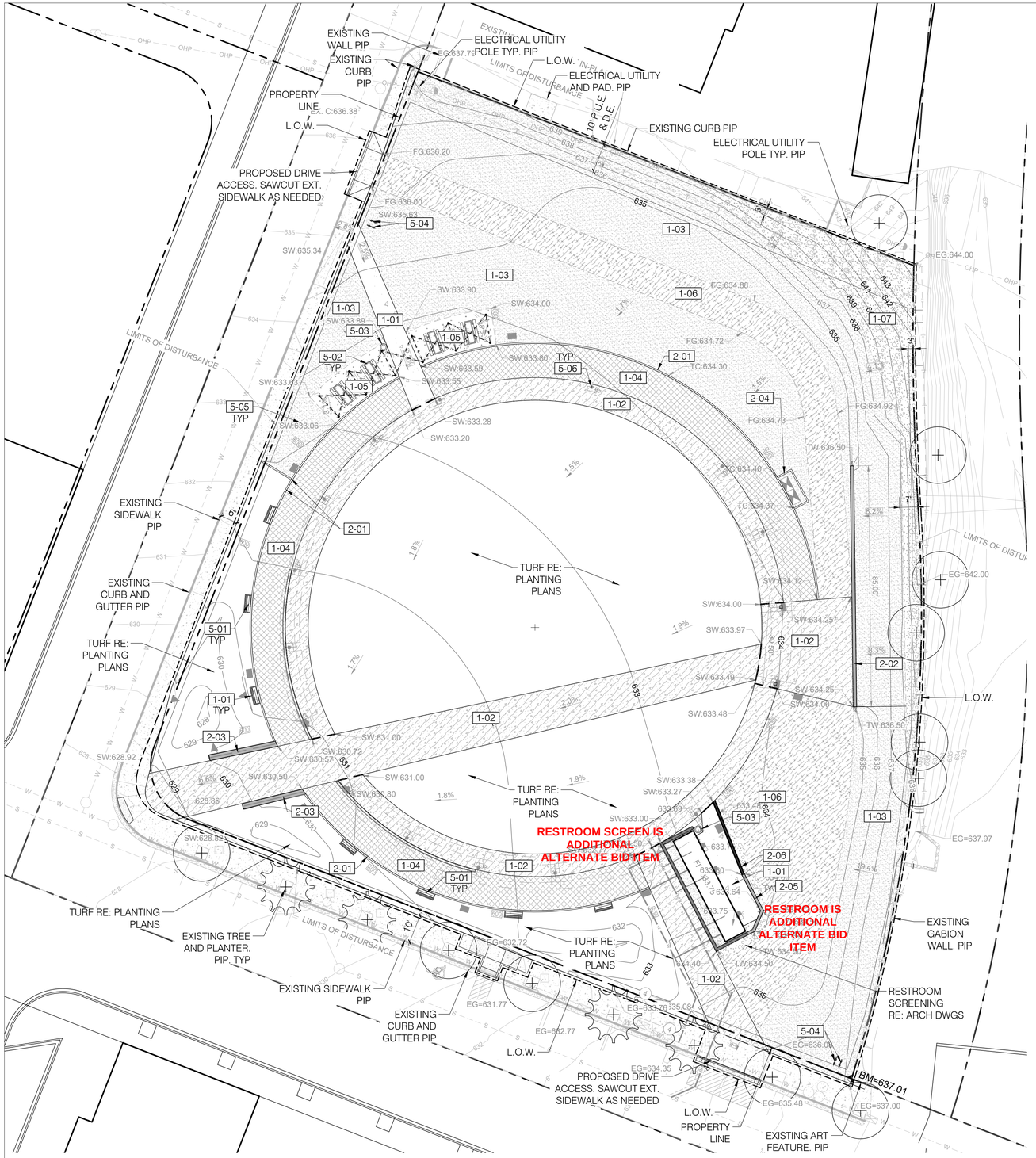
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

DRAWN: JL/PK/NPK
DESIGN: DIG
CHECKED: JH/CA
DATE: 6.19.2023

SHEET NO:
MATERIALS SCHEDULE
LS001



1 MATERIALS PLAN

1" = 20'-0"

NORTH

0 10' 20' 40'

SCALE: 1" = 20'-0"

REFERENCE NOTES SCHEDULE

	1 - PAVING & SURFACING: DIVISION 32
CODE	DESCRIPTION
1-01	PEDESTRIAN PAVING - BROOM FINISH
1-02	VEHICULAR PAVING - BROOM FINISH
1-03	DECOMPOSED GRANITE
1-04	STABILIZED DECOMPOSED GRANITE
1-05	COMPACTED DECOMPOSED GRANITE (PEDESTRIAN)
1-06	COMPACTED DECOMPOSED GRANITE (VEHICULAR)
1-07	RIP RAP
	2 - WALLS & FENCES: DIVISION 32
CODE	DESCRIPTION
2-01	CIP CONC HEADER
2-02	CIP RETAINING WALL
2-03	CIP SEAT WALL
2-04	RAISED CONCRETE HEADER
2-05	RETAINING WALL AT RESTROOM
2-06	RETAINING CURB AT RESTROOM
	5 - FURNISHINGS: DIVISION 32
CODE	DESCRIPTION
5-01	BENCH
5-02	PICNIC TABLE
5-03	TRASH RECEPTACLE
5-04	BIKE RACK
5-05	FESTOON LIGHTING
5-06	LIGHT POST

LAKE HAVASU CITY TO PROVIDE FURNISHINGS FOR CONTRACTOR INSTALLATION

PLAN KEY

- CONTROL JOINT
- PROPERTY LINE
- FESTOON LIGHT & POLE
- EXISTING PALM
- EXISTING TREE

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REGISTERED LANDSCAPE ARCHITECT
JEFFREY V. HICKS
DATE SIGNED 6/30/23
ARIZONA, U.S.A.
EXP. 6/30/2023

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

CALL TWO WORKING DAYS BEFORE YOU DIG
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(OUTSIDE MARICOPA COUNTY)

DRAWN: JL/PK/NPK
DESIGN: DIG
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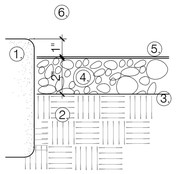
DATE: 6.19.2023

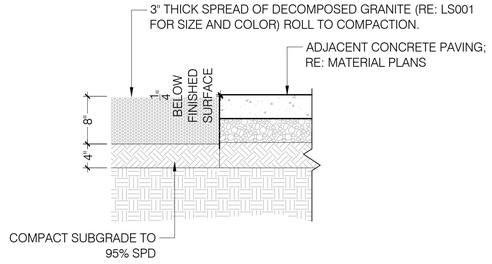
SHEET NO:
HARDSCAPE MATERIALS PLAN
LS101

GENERAL NOTES:
EACH APPLICATION OF SURFLAN TO BE APPLIED AT 2 QUARTS PER ACRE, OR AS RECOMMENDED BY MANUFACTURER. CONTRACTOR TO VERIFY EACH APPLICATION WITH LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
VERIFY GRANITE COLOR/SIZE WITH OWNER OR LANDSCAPE ARCHITECT PRIOR TO DELIVERY. CONTRACTOR ASSUMES RESPONSIBILITY FOR NON-APROVED SUBSTITUTIONS.

NOTES:
1. CURB, SIDEWALK OR ROADWAY.
2. SUBGRADE TO BE APPROVED AND ALLOW FOR SPECIFIED DEPTH OF DECOMPOSED GRANITE.
3. APPLY PRE-EMERGENT TO SUBGRADE
4. 2" DEPTH OF DECOMPOSED GRANITE. SEE LEGEND FOR SIZE AND COLOR.
5. SECOND APPLICATION OF PRE-EMERGENT TO BE APPLIED AFTER ALL GRANITE WORK. RAKE SMOOTH AND UNIFORM.
6. FINISH GRADE OF GRANITE TO BE 1" BELOW TOP ADJACENT HARDSCAPE
7. DECOMPOSED GRANITE TO BE COMPACTED TO 95% IF USED AS A PARKING SURFACE

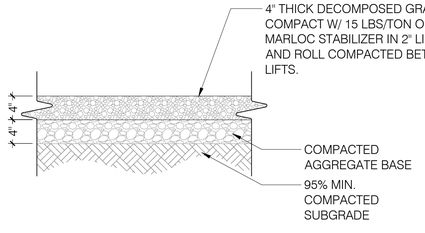


1 DECOMPOSED GRANITE
3" = 1'-0" 1-09 P-LA1-01



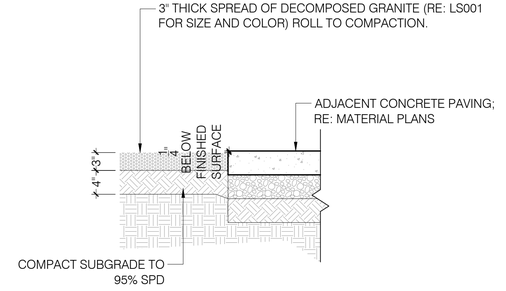
NOTES:
1. INSTALL PER MANUFACTURER'S SPECIFICATION. CONTRACTOR TO PROVIDE SUBMITTAL.
2. ADJACENT WALLS MUST BE PROTECTED BEFORE INSTALLATION OF COMPACTED DG.
3. SEE MATERIALS SCHEDULE (LS001) FOR COLOR INFORMATION.

2 COMPACTED DECOMPOSED GRANITE (VEHICULAR)
1" = 1'-0"



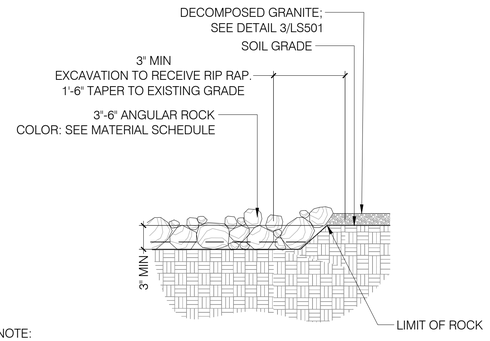
NOTES:
1. ADJACENT WALLS MUST BE PROTECTED BEFORE INSTALLATION OF STABILIZED DG.
2. SEE MATERIALS SCHEDULE (LM100) FOR COLOR INFORMATION.

3 STABILIZED DECOMPOSED GRANITE (VEHICULAR)
1" = 1'-0"



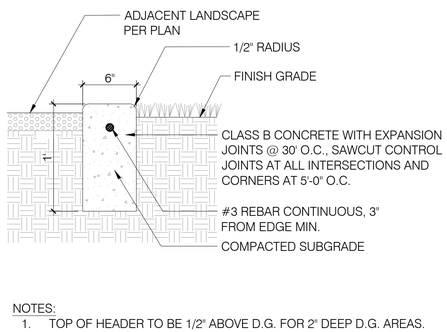
NOTES:
1. INSTALL PER MANUFACTURER'S SPECIFICATION. CONTRACTOR TO PROVIDE SUBMITTAL.
2. ADJACENT WALLS MUST BE PROTECTED BEFORE INSTALLATION OF COMPACTED DG.
3. SEE MATERIALS SCHEDULE (LS001) FOR COLOR INFORMATION.

4 COMPACTED DECOMPOSED GRANITE (PEDESTRIAN)
1" = 1'-0"



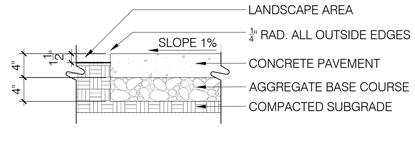
NOTE:
1. ADJUST EXCAVATION TO ACCOMMODATE EXISTING UTILITIES. HAND-PLACE AESTHETIC 3"-6" RIPRAP AROUND ALL DRAIN INLETS.
2. TAPER EDGE TO BE A MINIMUM OF 3' FROM THE BUILDING FOOTING

5 RIP RAP
1" = 1'-0"



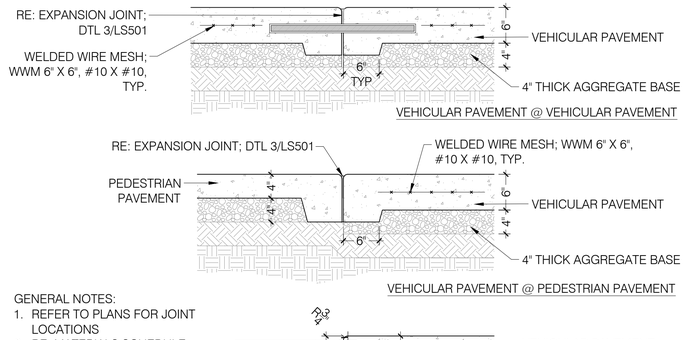
NOTES:
1. TOP OF HEADER TO BE 1/2" ABOVE D.G. FOR 2" DEEP D.G. AREAS.
2. TOP OF HEADER TO BE 1" ABOVE FINISHED GRADE FOR TURF AREAS.
3. TOP OF HEADER TO BE FLUSH WITH ADJACENT PAVING.
4. REFER TO LS001 FOR CONCRETE FINISH.

6 CONCRETE HEADER
1 1/2" = 1'-0" P-LA1-07



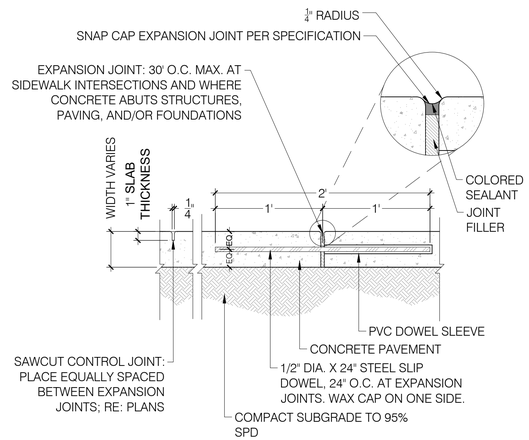
NOTES:
1. REFER TO PLANS FOR JOINT LOCATIONS
2. FINISH TO MATCH EXISTING ADJ. CONC.

7 CONCRETE PAVEMENT
1" = 1'-0"

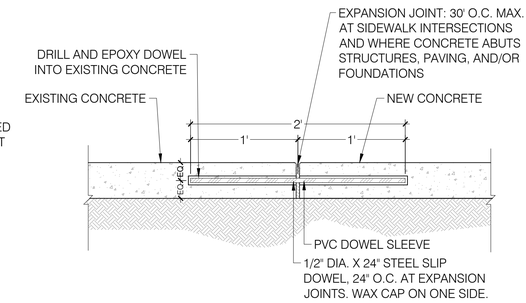


GENERAL NOTES:
1. REFER TO PLANS FOR JOINT LOCATIONS
2. RE: MATERIALS SCHEDULE FOR FINISH.

8 VEHICULAR CONCRETE PAVEMENT
1" = 1'-0" P-LA1-42



9 CONTROL AND EXPANSION JOINTS
1 1/2" = 1'-0"



10 JOINTS BETWEEN EXISTING AND NEW CONCRETE
1 1/2" = 1'-0"

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REGISTERED LANDSCAPE ARCHITECT
JAMES V. HICKS
STATE OF ARIZONA 6/30/23
U.S.A.
EXP: 6/30/2023

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

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DESIGN:	DIG
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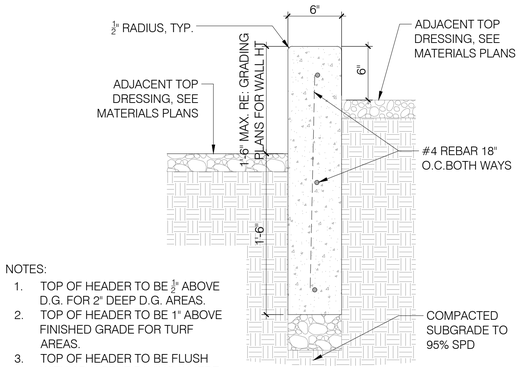
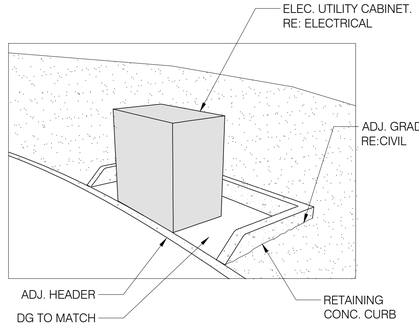
DATE:	6.19.2023

SHEET NO:
HARDSCAPE SITE DETAILS
LS501



NOTES:
1. TOP OF HEADER TO BE ¾" ABOVE D.G. FOR 2" DEEP D.G. AREAS.
2. TOP OF HEADER TO BE 1" ABOVE FINISHED GRADE FOR TURF AREAS.
3. TOP OF HEADER TO BE FLUSH WITH ADJACENT PAVING WHERE IT OCCURES
4. RE: MATERIALS SCHEDULE FOR FINISH

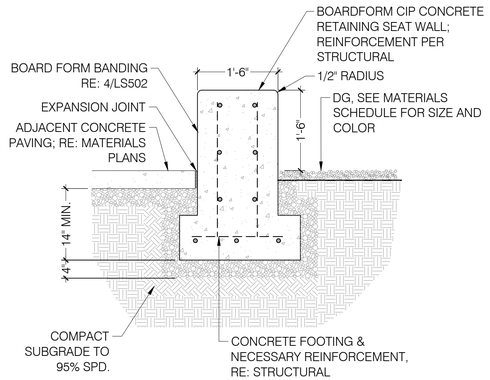


PERSPECTIVE VIEW

1 RETAINING CONCRETE CURB

1 1/2" = 1'-0"

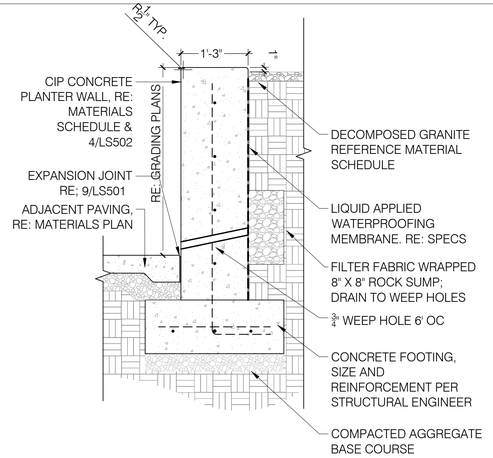
P-LA1-93



2 CONCRETE SEAT WALL

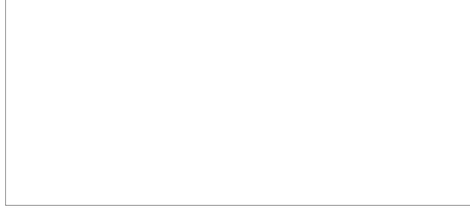
3/4" = 1'-0"

W-51



3 CAST IN PLACE RETAINING WALL

3/4" = 1'-0"



NOTE:
BOARD FORM FINISH
INTENT AS SHOWN

4 CIP MATERIAL EXAMPLE

NTS

CONCRETE ADJACENT

IN LANDSCAPE

5 CAST IN PLACE RETAINING WALL AT RESTROOM

3/4" = 1'-0"

P-LA1-96

NOTES:
1. *S = PER STRUCTURAL ENGINEER
2. HEADER TO TERMINATE FLUSH WITH ADJACENT PAVING
3. RE: MATERIALS SCHEDULE FOR FINISH

SECTION

CURB TERMINATING INTO SIDEWALK

6 RETAINING CONCRETE CURB AT RESTROOM

1 1/2" = 1'-0"

P-LA1-97

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CERTIFICATE NO. 61972
STATE OF ARIZONA, U.S.A.
EXP: 6/30/2023

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LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BL.VD.
LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

CALL TWO WORKING DAYS BEFORE YOU DIG
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(OUTSIDE MARICOPA COUNTY)

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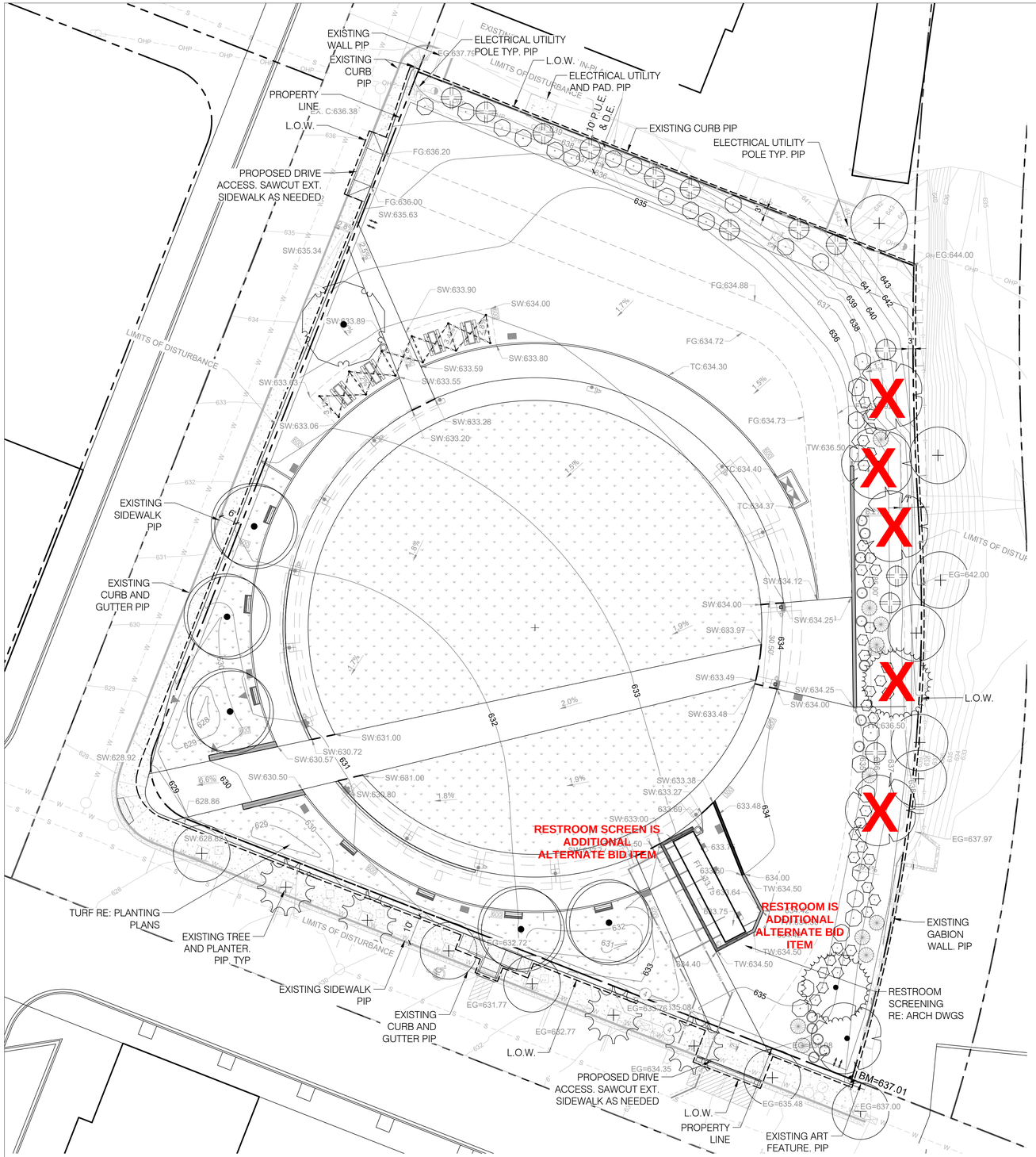
SHEET NO:
HARDSCAPE SITE DETAILS
LS502



1 PLANTING PLAN

1" = 20'-0"

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	SIZE	QTY
	CERCIDIUM HYBRID 'DESERT MUSEUM' 'DESERT MUSEUM' PALO VERDE	36" BOX. MULTI	1
	DALBERGIA SISSOO ROSEWOOD	24" BOX	1
	FRAXINUS VELUTINA VELVET ASH	24" BOX	5
	OLNEYA TESOTA DESERT IRONWOOD	36" BOX	1

SHRUBS	BOTANICAL / COMMON NAME	SIZE	QTY
	ACACIA REDOLENS 'DESERT CARPET' TM DESERT CARPET BANK CATCLAW	5 GAL	35
	ENCELIA FARINOSA BRITTLE BUSH	5 GAL	13
	LARREA TRIDENTATA CREOSOTE BUSH	5 GAL	13

ACCENTS	BOTANICAL / COMMON NAME	SIZE	QTY
	AGAVE PALMERI PALMER'S CENTURY PLANT	5 GAL	38
	FOUQUIERIA SPLENDENS OCOTILLO	5 CANES MIN.	10

GROUND COVERS	BOTANICAL / COMMON NAME	QTY
	CYNODON DACTYLON `OKC 1131` TAHOMA 31 BERMUDAGRASS	23,434 SF

PLAN KEY

- CONTROL JOINT
- PROPERTY LINE
- FESTOON LIGHT & POLE
- EXISTING PALM
- EXISTING TREE

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REGISTERED LANDSCAPE ARCHITECT
JAMES V. HICKS
STATE OF ARIZONA
EXP. 6/30/2026

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
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LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

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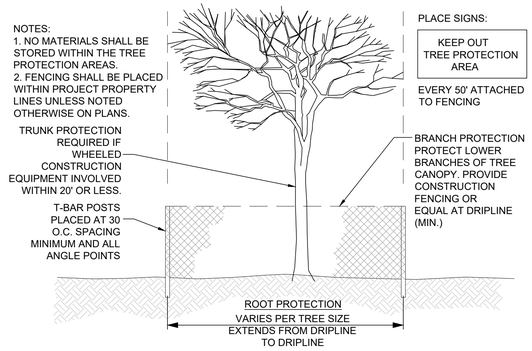
(OUTSIDE MARICOPA COUNTY)

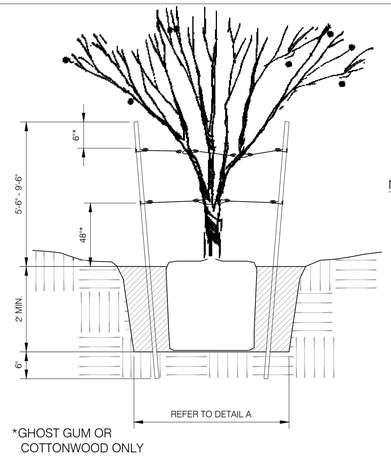
DRAWN:	JL/PK/NPK
DESIGN:	DIG
CHECKED:	JH/CA
DATE:	9.24.2023

SHEET NO:
LANDSCAPE PLAN
LP101



1 TREE PROTECTION / CONSTRUCTION LIMITS

NTS

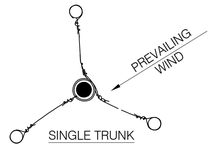


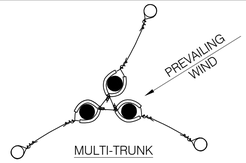
*GHOST GUM OR COTTONWOOD ONLY

2 TREE STAKING

3/4" = 1'-0"

P-LA1-21



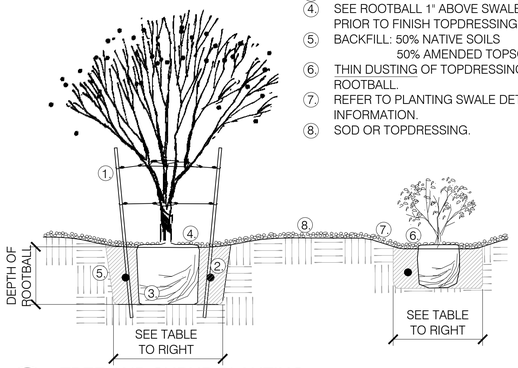


NOTES:

1. REMOVE ALL NURSERY SUPPORTS/STAKES. FILL AND TAMP HOLES PRIOR TO STAKING.
2. LOCATE TREE STAKES BETWEEN UNDISTURBED ROOTBALL AND EDGE OF TREE PIT.
3. (3) LODGE POLE STAKES DRIVEN AT A SLIGHT ANGLE:
   -2" DIA. POLES FOR ALL SPECIES (3" FOR EUC.)
   -8' POLE FOR MULTI-TRUNK
   -10' POLE FOR SINGLE TRUNK
   -12' POLE FOR ALL TALL SPECIES
4. STAKES EQUALLY SPACES, 120* APART. GUY WIRE CONNECTING THIRD STABILIZING STAKE TO MAIN GUY WIRE. NOTCH TUBING, LOOP WIRE THRU EXPOSED WIRE.
5. HEAVY DUTY 5/8" O.D. RUBBER TUBING (V.I.T. PRODUCTS OR APPROVED EQUAL) 16" LONG MINIMUM (BLACK) OR AS REQUIRED TO ENCIRCLE TREE TRUNK. MULTI-TRUNK TREES TO HAVE EACH MAJOR LEADER STAKED OR SUPPORTED.
6. 24" BOX TO HAVE DOUBLE TIES BETWEEN STAKES. 36" BOX AND LARGER HAVE SINGLE TIE BETWEEN STAKES.
7. DOUBLE #10 GAUGE GREEN PLASTIC COATED STRANDED GUY WIRE. CONNECTING TWO STAKES ON PREVAILING WIND SIDE. WRAP TWICE AROUND STAKE. SET GUY WIRE 20-30" ABOVE FINISHED GRADE, 48" FOR GHOST GUM OR OTHER TALL SPECIES AS DIRECTED BY OWNER'S REP. FIX GUY WIRE TO STAKE WITH STAPLE.
8. WRAP WIRE AROUND ITSELF 7 TIMES (MIN) ALONG EACH END.

NOTES:

1. REFER TO TREE STAKING DETAIL (NURSERY GROWN TREES ONLY).
2. 'AGRIFORM' FERTIZLIER TABLETS (SEE CHART FOR QUANTITY).
3. ROOTBALL TO REST ON UNDISTURBED SOIL.
4. SEE ROOTBALL 1" ABOVE SWALE DEPRESSION. PRIOR TO FINISH TOPDRESSING.
5. BACKFILL: 50% NATIVE SOILS
   50% AMENDED TOPSOIL MIX
6. THIN DUSTING OF TOPDRESSING MATERIAL OVER ROOTBALL.
7. REFER TO PLANTING SWALE DETAIL FOR MORE INFORMATION.
8. SOD OR TOPDRESSING.



CONTAINER SIZE	PLANT PIT SIZE	FERTILIZER TABLET (QTY)
1 GAL.	24" DIA.	1
5 GAL.	24" DIA.	2
15 GAL.	32" DIA.	3
24" BOX	48" X 48"	4
36" BOX	54" X 54"	4
48" BOX & LARGER	BOX X 1.5	4

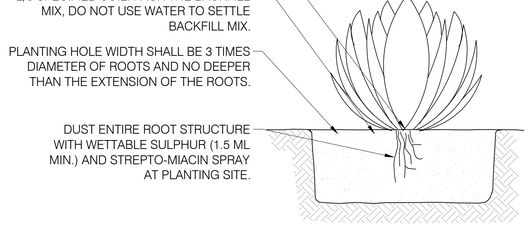
3 TREE AND SHRUB PLANTING

1/2" = 1'-0"

P-LA1-16

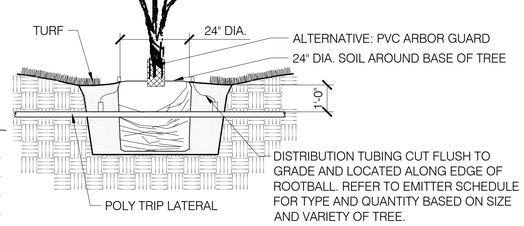
NOTES:

1. DO NOT PLACE DECOMPOSED GRANITE WITHIN 2" OF PLANTING BASE
2. WATER WEEKLY THROUGH THE SUMMER. MAINTAIN ORIGINAL GROWING ORIENTATION.



4 ACCENT PLANTING

NTS



NOTE:
REFER TO TREE AND TAKING AND PLANTING DETAIL FOR INFO. NOT SHOWN HERE.

DISTRIBUTION TUBING CUT FLUSH TO GRADE AND LOCATED ALONG EDGE OF ROOTBALL. REFER TO EMITTER SCHEDULE FOR TYPE AND QUANTITY BASED ON SIZE AND VARIETY OF TREE.

5 TREE IN TURF

3/8" = 1'-0"

P-LA1-20

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
+ 602.595.4101
DIGSTUDIO.COM

REGISTERED LANDSCAPE ARCHITECT
JAMES V. HICKS
CERTIFICATE NO. 61723
ARIZONA, U.S.A.
EXP. 6/30/2023

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

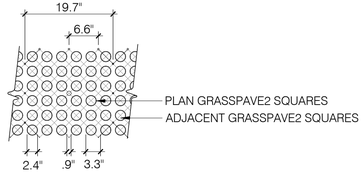
NO	DATE	BY	REVISION

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

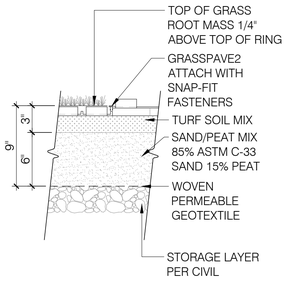
DRAWN:	JL/PK/NPK
DESIGN:	DIG
CHECKED:	JH/CA
DATE:	6.19.2023

SHEET NO:
LANDSCAPE DETAILS
LP501

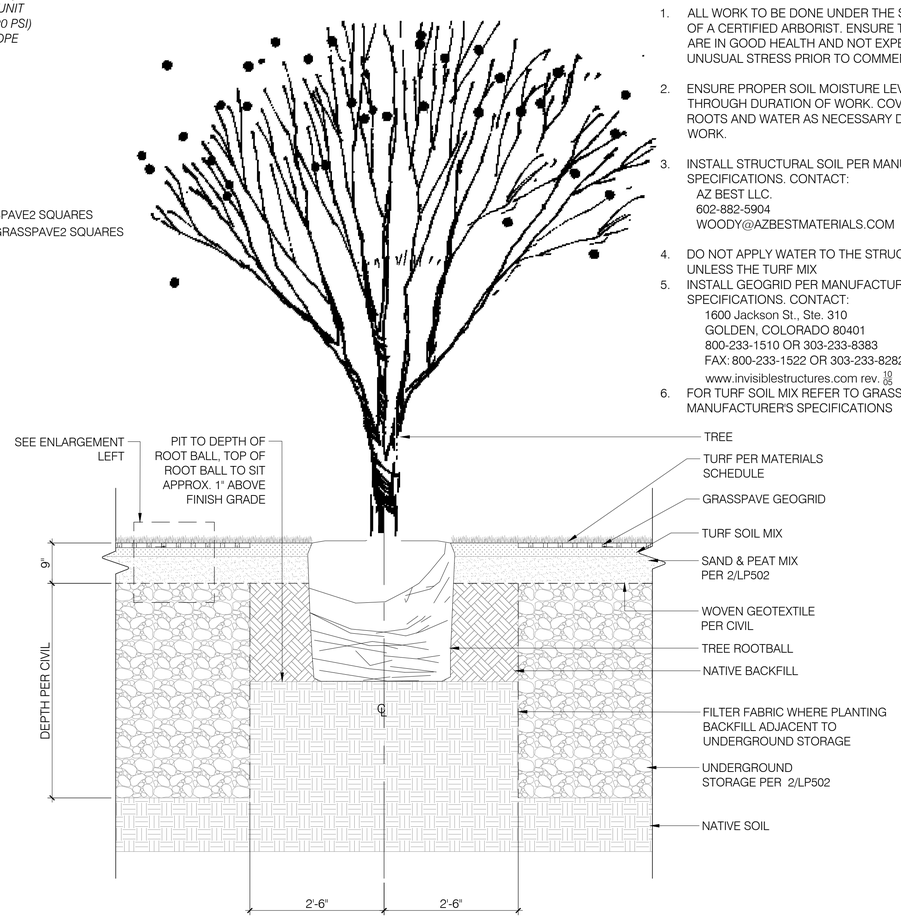
SPECIFICATIONS *UNIT SIZE - (20" X 20" X 1")*
AVAILABLE IN 9 STANDARD ROLL SIZES UNIT
WEIGHT - 4.5 POUNDS STRENGTH - (5720 PSI)
COLOR - BLACK (STANDARD) RESIN - HDPE
(WITH SOME POST-CONSUMER
RECYCLED CONTENT)



GEOGRID PLAN



GEOGRID SECTION ENLARGEMENT



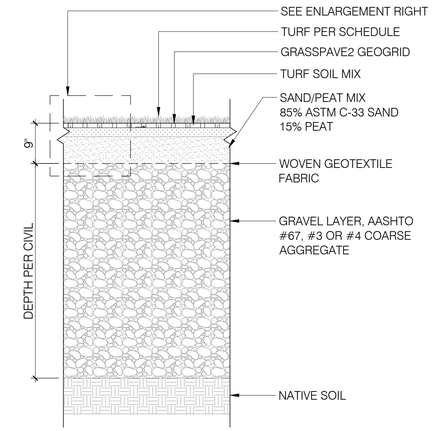
1 TREE OVER UNDERGROUND STORAGE

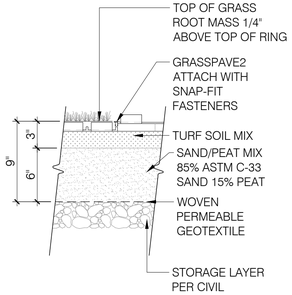
3/4" = 1'-0"

P-LA1-50

NOTES:

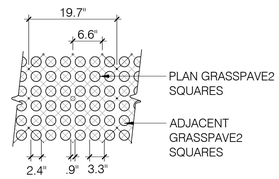
1. ALL WORK TO BE DONE UNDER THE SUPERVISION OF A CERTIFIED ARBORIST. ENSURE THAT TREES ARE IN GOOD HEALTH AND NOT EXPERIENCING UNUSUAL STRESS PRIOR TO COMMENCING WORK.
2. ENSURE PROPER SOIL MOISTURE LEVELS THROUGH DURATION OF WORK. COVER BARE ROOTS AND WATER AS NECESSARY DURING WORK.
3. INSTALL STRUCTURAL SOIL PER MANUFACTURER'S SPECIFICATIONS. CONTACT:
   AZ BEST LLC.
   602-882-5904
   WOODY@AZBESTMATERIALS.COM
4. DO NOT APPLY WATER TO THE STRUCTURAL SOIL UNLESS THE TURF MIX
5. INSTALL GEOGRID PER MANUFACTURER'S SPECIFICATIONS. CONTACT:
   1600 Jackson St., Ste. 310
   GOLDEN, COLORADO 80401
   800-233-1510 OR 303-233-8383
   FAX: 800-233-1522 OR 303-233-8282
   www.invisiblestructures.com rev. 10/05
6. FOR TURF SOIL MIX REFER TO GRASSPAVE2 MANUFACTURER'S SPECIFICATIONS





GEOGRID SECTION ENLARGEMENT

SPECIFICATIONS *UNIT SIZE - (20" X 20" X 1")*
AVAILABLE IN 9 STANDARD ROLL SIZES UNIT
WEIGHT - 4.5 POUNDS STRENGTH - (5720 PSI)
COLOR - BLACK (STANDARD) RESIN - HDPE
(WITH SOME POST-CONSUMER
RECYCLED CONTENT)



GEOGRID PLAN

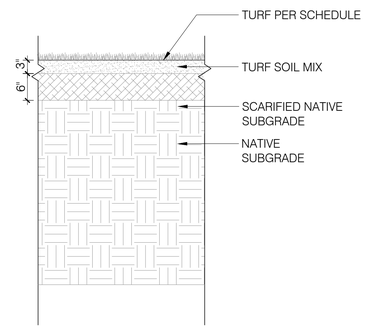
NOTE:
INSTALL GEOGRID PER MANUFACTURER'S SPECIFICATIONS. CONTACT:
1600 Jackson St., Ste. 310
GOLDEN, COLORADO 80401
800-233-1510 OR 303-233-8383
FAX: 800-233-1522 OR 303-233-8282
www.invisiblestructures.com rev. 10/05

FOR TURF SOIL MIX REFER TO GRASSPAVE2 MANUFACTURER'S SPECIFICATIONS

2 TURF OVER UNDERGROUND STORAGE

3/4" = 1'-0"

P-LA1-48



3 TURF PROFILE

3/4" = 1'-0"

P-LA1-49

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
t 602.595.4101
DIGSTUDIO.COM

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SHEET NO:
LANDSCAPE DETAILS
LP501

IRRIGATION SCHEDULE

SYMBOL	BRAND	MODEL	DESCRIPTION
M			METER - SIZE PER PLAN
C	MOTOROLA IRRINET ACE		P/N: B-336M-16WR-CB18SS-LTE BRANIF FIELD READY UNIT: 16 STATION MOTOROLA IRRINET ACE CROSS BROTHERS 18 STAINLESS STEEL NEMA 4X ENCLOSURE ADD LTE OPTION, LINK TO BCS ICC PRO LHC INCLD LPU/LBB
	RAINBIRD	ACLP-05-DAC-6 PSR110IC	PUMP STATION WITH VARIABLE SPEED 5 HP MOTOR & PUMP START RELAY.
	WILKINS	975 XL	BACKFLOW PREVENTOR REDUCED PRESSURE ASSEMBLY - SIZE PER PLAN IN GUARDSHACK ENCLOSURE
	BERMAD	IR-910-M0-KX 1-1/2"	HYDROMETER (MASTER VALVE / FLOW SENSOR) - MOUNTED TO BACKFLOW PREVENTION DEVICE
	NIBCO	T-580	GATE VALVE (LINE SIZE)
	RAINBIRD	XCZ100PRBCOM	DRIP ZONE VALVE KIT
	RAINBIRD	150-PEB-PRSD 200-PEB-PRSD	REMOTE CONTROL VALVE - SIZE PER PLAN. SWING JOINT TO BE (2) ELLS, WITH (1) 8" NIPPLE
12 0.50 SR	HUNTER ROTORS	I-20-04-SS-PRB	NOZZLES: CONVENTIONAL BLUE 2.5 MPR MPR 25 Q, H, F SHORT RANGE BLACK 0.50 SR
	HUNTER ROTARIES	PROS-04-PRS40-CV	NOZZLES: PART, FULL, CORNER & CENTER STRIP MP-1000 MP-SS-530 MP-CORNER
QC	RAINBIRD	44LRC	1" QUICK COUPLERS
	SPEARS	M-66-P/AP-100	FLUSH CAP
	ARI	D-040	AIR / VACUUM RELEASE ASSEMBLY - LINE SIZE
NOT SHOWN	PER CONTRACTOR	COMMUNICATION WIRE 14 AWG	COLOR: RED CONTROL, BLACK COMMON SPLICES: DBRY-6 WATERPROOF
NOT SHOWN	PER CONTRACTOR	GROUNDING RODS	RE: MANUFACTURE SPECS FOR INSTALLATION AND REQUIREMENTS
NOT SHOWN	BOWSMITH	SEE BELOW	MULTI-OUTLET EMITTER
NOT SHOWN	PER CONTRACTOR		ALL CONNECTIONS NECESSARY FOR SYSTEM EQUIPMENT
NOT SHOWN	CARSON OR EQUAL	VALVE BOXES	RECTANGULAR AND CIRCULAR PER EQUIPMENT. TAN IN DG, GREEN IN TURF.

T T T T — 1" SCH 40 PVC PIPE LATERAL (TREE)

S S S S — 1" SCH 40 PVC PIPE LATERAL (SHRUB)

SCH 40 PVC PIPE LATERAL (TURF) SIZE PER PLAN

2" SCH 40 PVC PIPE MAINLINE SIZE PER PLAN

SCHEDULE 40 PVC SLEEVE

1 (1) 4" SLEEVE + (2) 2" SLEEVES

2 (2) 2" SLEEVES

EMITTER SCHEDULE

48" BOX TREE	RAINBRID	XBT-05-6 2 GPH - RED CAP - 10 OUTLETS/TREE
36" BOX TREE	RAINBIRD	XBT-05-6 2 GPH - RED CAP - 8 OUTLETS/TREE
24" BOX TREE	RAINBIRD	XBT-05-6 2 GPH - RED CAP - 6 OUTLETS/TREE
15 GAL ACCENT	RAINBIRD	XBCV-10PC-1032 - 1 GPH - BLACK - 3 OUTLETS/SHRUB
1 & 5 GAL SHRUB	RAINBIRD	XBCV-10PC-1032 -1 GPH - BLACK - 2 OUTLETS/SHRUB
CACTUS	RAINBIRD	XBCV-10PC-1032 -1 GPH - BLACK - 1 OUTLET/CACTUS
EXISTING TREE	RAINBIRD	XBT-05-6 2 GPH - RED CAP - 6 OUTLETS/TREE

VALVE CALLOUT

IRRIGATION NOTES

1. PRIOR TO COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL CONTACT BLUE STAKE TO VERIFY LOCATIONS AND DEPTHS OF ANY UTILITIES THAT MAY BE AFFECTED BY HIS/HER WORK, AND SHALL BE RESPONSIBLE FOR DAMAGES TO SUCH UTILITIES CAUSED AS A RESULT OF THIS WORK.

2. THE CONTRACTOR WILL BE RESPONSIBLE FOR FAULTY MATERIAL OR FAULTY WORKMANSHIP FOR THE PERIOD OF 1-YEAR FROM SUBSTANTIAL COMPLETION OF LANDSCAPE WORK.

3. THE IRRIGATION SYSTEM IS DESIGNED FOR A MINIMUM STATIC PRURESSURE AT THE METER NOTED ON THE PLANS. CONTRACTOR SHALL PROVIDE A STATIC PRESSURE READING BEFORE STARTING ANY WORK. IF WATER PRESSURE IS LESS THAN REQUIRED NOTIFY THE CONTRACTING OFFICER OR HIS DESIGNEE BEFORE STARTING WORK.

4. THE CONTRACTOR WILL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, CODES, AND REGULATIONS APPLICABLE TO THE IRRIGATION SYSTEM COVERED BY THESE PLANS.

5. ALL PERMITS, REQUIRED TO COMPLETE THE IRRIGATION WORK SHOWN ON THE PLANS SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO START OF WORK.

6. IRRIGATION PLANS ARE SCHEMATIC. ALL VALVES AND PIPING ARE SHOWN DIAGRAMATICALLY FOR CLARITY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PLACEMENT OF SYSTEM COMPONENTS. ALL IRRIGATION COMPONENTS TO BE LOCATED IN PLANTING AREAS. SOME IRRIGATION IS SHOWN OUTSIDE OF PLANTING AREAS FOR CLARITY PURPOSES ONLY. COORDINATE IRRIGATION WORK WITH PLANTING PLANS TO AVOID CONFLICTING LOCATIONS BETWEEN PIPING AND PLANT PITS. CONTRACTOR WILL BE RESPONSIBLE FOR 100% IRRIGATION COVERAGE TO PLANT MATERIAL SHOWN ON THE PLANS, INCLUDING EXISTING TREES AND PLANTS TO REMAIN. PIPES FROM DIFFERENT VALVES SHALL NOT BE CONNECTED WHETHER CROSSINGS ARE SHOWN OR NOT.

7. THE CONTRACTOR SHALL CONNECT TO THE NEW WATER METERS AND INSTALL TYPE 'K' COPPER THROUGH THE BACKFLOW PREVENTER AS DETAILED.

8. ALL PIPES SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATION AND ASTM STANDARD D-2774 AT THE DEPTHS SHOWN IN THE IRRIGATION DETAILS.

9. ALL THREADED JOINTS SHALL BE COATED WITH TEFLON TAPE UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. USE LIQUID TEFLON ON METAL PIPE THREADS ONLY.

10. CONTRACTOR SHALL FLUSH ALL LINES PRIOR TO INSTALLATION OF EMITTERS, END CAPS OR ANY OTHER DEVICE THAT IMPACTS THE OUTWARD FLOW OF SYSTEM WATER.

11. ALL ELECTRICAL CONNECTIONS SHALL BE MADE WITHIN REMOTE CONTROL VALVE BOXES, CONTROLLER ENCLOSURES AND VALVE BOXES DESIGNATED SPECIFICALLY FOR ELECTRICAL CONNECTIONS. NO SPLICES OUTSIDE OF BOXES OR ENCLOSURES WILL BE ACCEPTED.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING THE AUTOMATIC CONTROLLER. ALL ELECTRICAL WORK SHALL BE INSTALLED PER LOCAL CODE.

13. INSTALL ALL VALVE WIRING IN MAINLINE TRENCH.

14. INSTALL ALL REMOTE CONTROL VALVES AT HEIGHTS INDICATED ON DETAILS, AS HIGH AS POSSIBLE BUT ALLOWING CLEARANCE BETWEEN VALVE BOX LID AND FLOW CONTROL HANDLE ON REMOTE CONTROL VALVE.

15. INSTALL ALL MAINLINE ISOLATION BALL VALVES IN A PLASTIC VALVE BOX PER DETAILS.

16. AT THE COMPLETION OF THE PROJECT, SUPPLY THE FOLLOWING MATERIAL TO THE CONTRACTING OFFICER OR HIS DESIGNEE: TWO (2) WRENCHES FOR DISASSEMBLY AND ADJUSTING OF EACH TYPE OF VALVE SUPPLIED. TWO (2) KEYS FOR EACH TYPE OF CONTROLLER. TWO (2) ISOLATION VALVE OPERATING HANDLES. THREE (3) VALVE BOX KEYS OR WRENCHES.

17. ALL PVC SOLVENT WELD FITTINGS SHALL BE 'DURA' OR APPROVED EQUAL.

18. PROVIDE TWO (2) SPARE WIRES ALONG THE ENTIRE LENGTH OF MAINLINE AND LOOPED INTO EACH ELECTRIC REMOTE CONTROL VALVE BOX.

19. TREES AND SHRUBS SHALL BE IRRIGATED ON SEPARATE REMOTE CONTROL VALVES.

20. AS-BUILT DRAWINGS, CONTROLLER CHARTS, MAINTENANCE MANUALS AND SPECIALTY TOOLS SHALL BE TURNED OVER TO THE CONTRACTING OFFICER OR HIS DESIGNEE AT THE COMPLETION OF CONSTRUCTION.

21. A ONE-YEAR WARRANTY ON MATERIALS AND INSTALLATION SHALL COMMENCE AT THE SUBSTANTIAL COMPLETION.

22. ALL IRRIGATION PIPING REGARDLESS OF SIZE AND CLASS IS TO BE INCASED IN A PIPE SLEEVE WHEN LOCATED UNDER IMPERVIOUS SURFACE MATERIAL, INCLUDING ANGULAR ROCK AREAS

23. CONTROL WIRES INSTALLED THROUGH IRRIGATION SLEEVES SHALL BE PLACED WITHIN A PVC ELECTRICAL CONDUIT SIZED TO CONTAIN THE REQUIRED NUMBER OF CONDUCTORS. WIRE SLEEVES CROSSING STREET PAVING SHALL HAVE A 10" PULL BOX AT EACH END.

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA. 85004
t 602.595.4101
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REGISTERED LANDSCAPE ARCHITECT
JAMES V. HICKS
STATE OF ARIZONA
9/24/23
EXP. 6/30/2026

100% CONSTRUCTION DOCUMENTS

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2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

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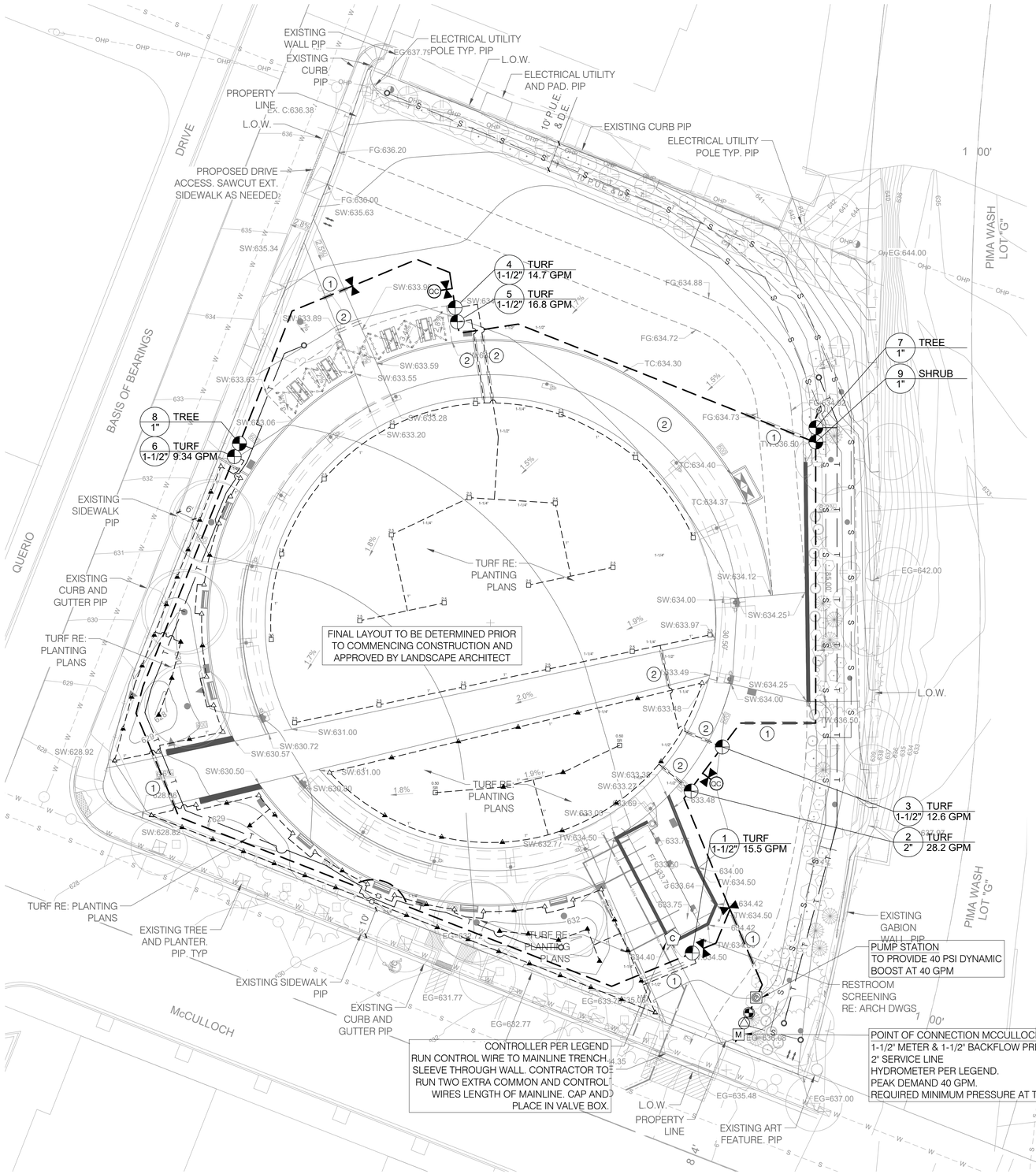
DATE: 9.24.2023
SHEET NO:
IRRIGATION NOTES
IR100



IRRIGATION SCHEDULE

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	NIBCO	T-580	GATE VALVE (LINE SIZE)
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	RAINBIRD	150-PEB-PRSD 200-PEB-PRSD	REMOTE CONTROL VALVE - SIZE PER PLAN. SWING JOINT TO BE (2) ELLS, WITH (1) 8" NIPPLE
0.50 GPM	HUNTER ROTORS	I-20-04-SS-PRB	NOZZLES: CONVENTIONAL BLUE 2.5 MPR MPR 25 Q, H, F SHORT RANGE BLACK 0.50 SR
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	SPEARS	M-66-P/AP-100	FLUSH CAP
	ARI	D-040	AIR / VACUUM RELEASE ASSEMBLY - LINE SIZE
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T T T T 1" SCH 40 PVC PIPE LATERAL (TREE)

S S S S 1" SCH 40 PVC PIPE LATERAL (SHRUB)

SCH 40 PVC PIPE LATERAL (TURF) SIZE PER PLAN

2" SCH 40 PVC PIPE MAINLINE SIZE PER PLAN

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1 & 5 GAL SHRUB	RAINBIRD	XBCV-10PC-1032 -1 GPH - BLACK - 2 OUTLETS/SHRUB
CACTUS	RAINBIRD	XBCV-10PC-1032 -1 GPH - BLACK - 1 OUTLET/CACTUS
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VALVE CALLOUT

IRRIGATION KEY

DRIP AREA 13, 512 SQFT

TURF AREA 23,434 SQFT

PLAN KEY

CONTROL JOINT

PROPERTY LINE

FESTOON LIGHT & POLE

EXISTING PALM

EXISTING TREE

NORTH

0 10' 20' 40'

SCALE: 1" = 20'-0"

1 IRRIGATION PLAN

1" = 20'-0"

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PHOENIX, ARIZONA 85004
t 602.595.4101
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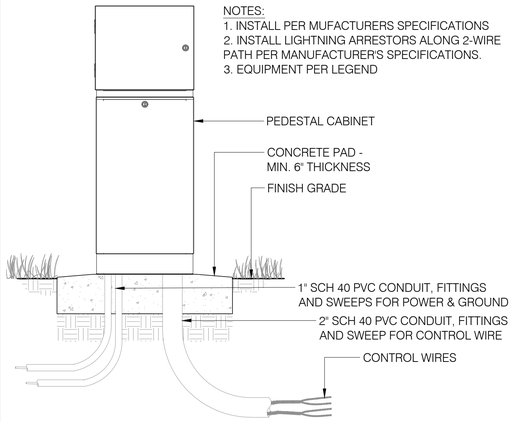
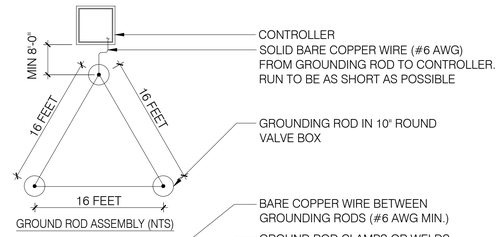
SHEET NO:
IRRIGATION PLAN

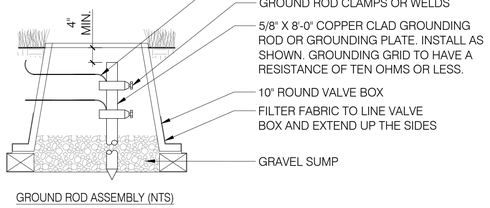
IR101



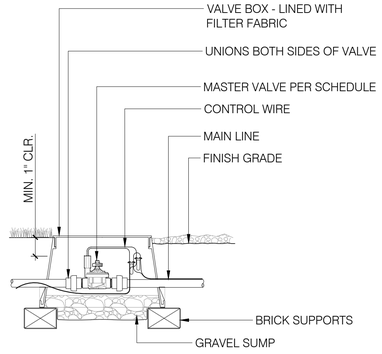
NOTES:
1. INSTALL PER MUFACTURERS SPECIFICATIONS
2. INSTALL LIGHTNING ARRESTORS ALONG 2-WIRE PATH PER MANUFACTURER'S SPECIFICATIONS.
3. EQUIPMENT PER LEGEND

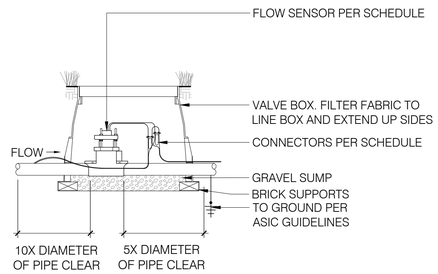


GROUND ROD ASSEMBLY (NTS)



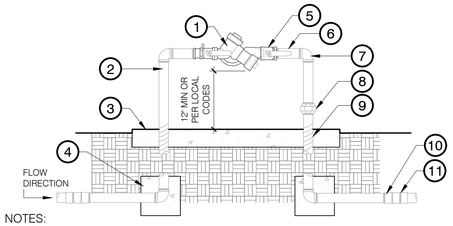
GROUND ROD ASSEMBLY (NTS)





1 CONTROLLER - CONVENTIONAL - PEDESTAL

3/4" = 1'-0" P-LA1-40



NOTES:

1. ALL ASSEMBLY PARTS (THREADED NIPPLES, FITTINGS, ETC.) SHALL BE GALVANIZED OR BRASS PER LOCAL CODES AND REQUIREMENTS.
2. GALVANIZED NIPPLE SHALL EXTEND 12" PAST THE EDGE OF THE CONCRETE FOOTING.
3. SCH. 80 PVC MALE ADAPTER SHALL BE USED IN CONNECTION FROM GALVANIZE TO THE MAINLINE.
4. BACKFLOW PREVENTION DEVICE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE LANDSCAPE METER.
5. BACKFLOW PREVENTION DEVICE SHALL BE LOCATED IN PLANTING AREA UNLESS APPROVED BY OWNER'S REPRESENTATIVE.
6. SEE DETAIL FOR BACKFLOW CAGE INSTALLATION.
7. ALL BACKFLOW PREVENTION DEVICES SHALL HAVE FREEZE BLANKET INCLUDED UPON INSTALLATION.
8. ALL GALVANIZED CONNECTIONS SHALL TO BE MADE USING PIPE THREAD SEALANT. ALL SCH. 80 PVC TO GALVANIZED CONNECTIONS TO BE MADE USING TEFLON TAPE.

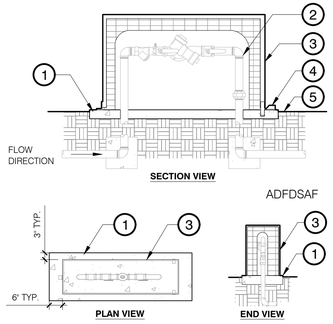
2 CONTROLLER GROUND

3/4" = 1'-0" P-LA1-26

1. BACKFLOW PREVENTION DEVICE (SEE IRRIGATION PLANS FOR MAKE AND MODEL). INSTALL DEVICE PER THE LOCAL WATER PURVEYOR'S STANDARDS AND SPECIFICATIONS
2. GALVANIZED NIPPLE
3. 4" THICK CONCRETE PAD, 1" ABOVE FINISHED GRADE. SEE BACKFLOW CAGE DETAIL
4. CONCRETE THRUST BLOCKS REQUIRED ON BACKFLOW DEVICES 2-1/2" AND LARGER
5. BRASS BALL VALVE
6. THREADED GALVANIZED NIPPLE
7. GALVANIZED 90° (DEGREE) ELBOW
8. GALVANIZED UNION
9. WRAP 20 MIL TAPE TWICE AROUND GALVANIZED PIPE UNDER FINISHED GRADE AND THROUGH THE CONCRETE
10. GALVANIZED COUPLING
11. SCH. 80 PVC MALE ADAPTER

3 MASTER VALVE-CONVENTIONAL

1" = 1'-0" P-LA1-38



1. 4" THICK CONCRETE FOOTING 1" ABOVE FINISHED GRADE
2. BACKFLOW PREVENTION DEVICE (SEE IRRIGATION PLAN FOR MAKE AND MODEL)
3. BACKFLOW CAGE (SEE IRRIGATION LEGEND FOR MAKE AND MODEL)
4. LOCK BOX
5. FINISHED GRADE

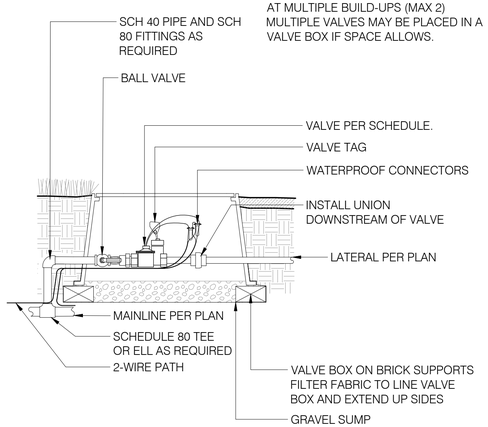
ADFDSAF

NOTES:
1. INSTALL BACKFLOW CAGE PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
2. SEE BACKFLOW PREVENTION DEVICE DETAIL FOR REFERENCE.
3. LOCK BOX SHALL BE LOCATED ABOVE CONCRETE FOOTING
4. CONTRACTOR SHALL PROVIDE A LOCK AS APPROVED BY THE OWNER'S REPRESENTATIVE.

4 FLOW SENSOR-CONVENTIONAL

1" = 1'-0" P-LA1-35

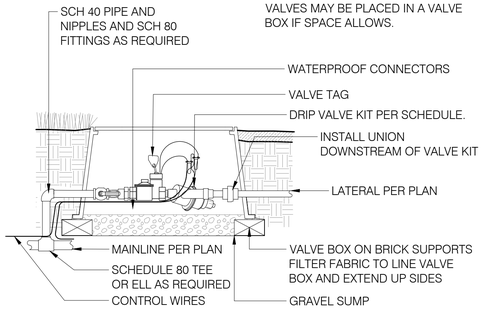
NOTE:
AT MULTIPLE BUILD-UPS (MAX 2) MULTIPLE VALVES MAY BE PLACED IN A VALVE BOX IF SPACE ALLOWS.



5 BACKFLOW PREVENTION DEVICE

3/4" = 1'-0" P-LA1-39

NOTE:
AT MULTIPLE BUILD-UPS MULTIPLE VALVES MAY BE PLACED IN A VALVE BOX IF SPACE ALLOWS.

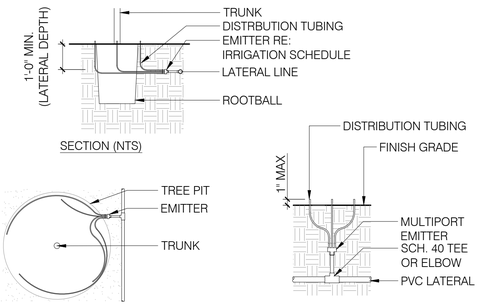


6 BACKFLOW CAGE

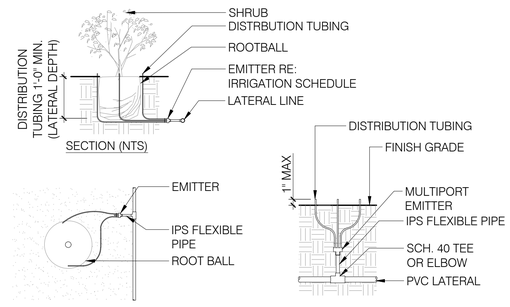
3/8" = 1'-0" P-LA1-44

7 REMOTE CONTROL VALVE (CONVENTIONAL)

1" = 1'-0" P-LA1-41



NOTES:
1. EQUALLY SPACE ENDS OF DISTRIBUTION TUBING AND ADJUST UPHILL OF TREE WHEN SURROUNDING GRADE IS SLOPED AS NECESSARY TO WATER ROOT ZONE EVENLY.
2. EXPOSE DISTRIBUTION TUBING MAXIMUM 1" ABOVE FINISH GRADE.
3. REFER TO LEGEND FOR QUANTITIES.
4. DISTRIBUTION TUBING TO BE BURIED AT LATERAL DEPTH UNTIL RISING TO SURFACE AT ROOTBALL.



NOTES:
1. EQUALLY SPACE ENDS OF DISTRIBUTION TUBING AND ADJUST UPHILL OF SHRUB WHEN SURROUNDING GRADE IS SLOPED AS NECESSARY TO WATER ROOT ZONE EVENLY.
2. EXPOSE DISTRIBUTION TUBING MAXIMUM 1" ABOVE FINISH GRADE.
3. REFER TO LEGEND FOR QUANTITIES.
4. DISTRIBUTION TUBING TO BE BURIED AT LATERAL DEPTH UNTIL RISING TO SURFACE AT ROOTBALL.

8 DRIP VALVE-CONVENTIONAL

1" = 1'-0" P-LA1-37

9 MULT-PORT EMITTER FOR TREES

1" = 1'-0" P-LA1-24

10 MULT-PORT EMITTER FOR SHRUBS

1" = 1'-0" P-LA1-25

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REGISTERED LANDSCAPE ARCHITECT
J. V. HICKS
STATE OF ARIZONA 6/30/23
EXP. 6/30/2023

100% CONSTRUCTION DOCUMENTS

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LAKE HAVASU CITY, AZ

NO	DATE	BY	REVISION

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SHEET NO:
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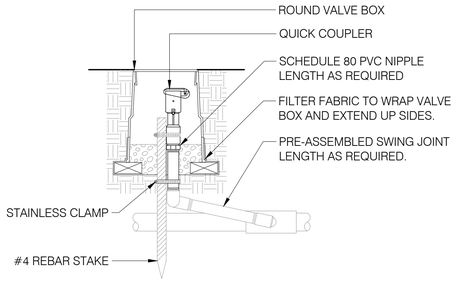
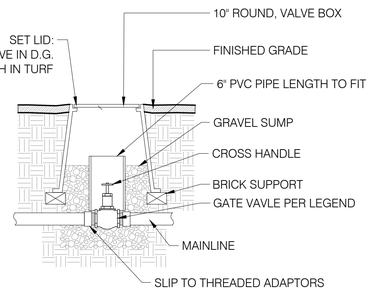
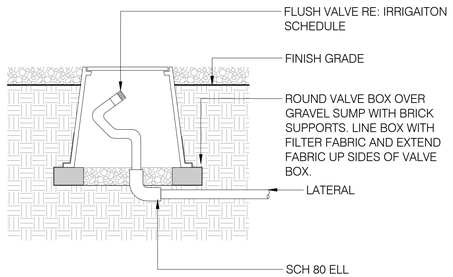
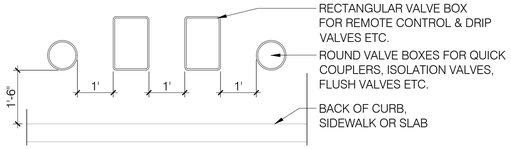
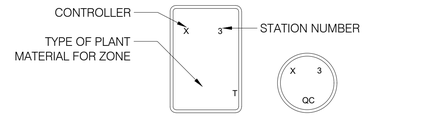


NOTE:
GATE VALVE 3" AND LARGER USE CAST IRON









TREE = "T"
SHRUB = "S"
LAWN = "L"

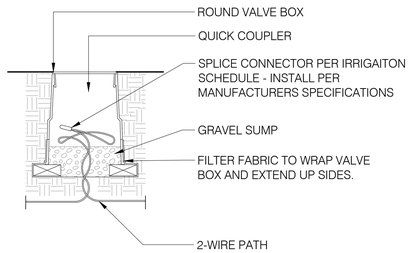
MASTER VALVE = "MV"
FLOW SENSOR = "FS"
WIRE SPLICE = "WS"

GATE VALVE = "GV"
QUICK COUPLER = "QC"
AIR RELIEF = "AR"
FLUSH VALVE = "FV"

NOTE:
1. BRAND CHARACTERS WITH A HOT BRANDING IRON.
2. DO NOT USE DASHES, COMMAS OR HYPHENS. LETTERS MUST BE STRAIGHT, LEGIBLE, UNIFORM DEPTH AND 1" - 2" IN HEIGHT. LIDS THAT ARE BRANDED INCORRECTLY SHALL BE REPLACED BY CONTRACTOR.
3. TOP OF BOXES TO BE SET FLUSH IN TURF AND 1/2" HIGHER THAN DG

1 QUICK COUPLER

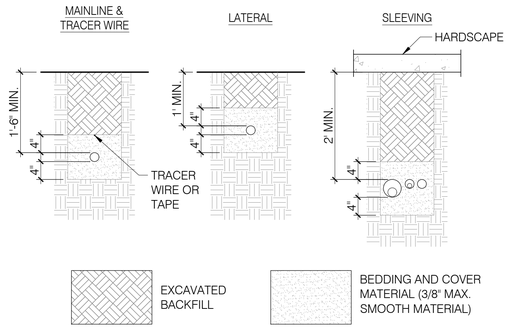
3" = 1'-0" P-LA1-31



NOTE:
1. FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS.
2. ALL SPLICE CONNECTIONS TO OCCUR ONLY IN VALVE BOXES

2 GATE VALVE

1" = 1'-0" P-LA1-89

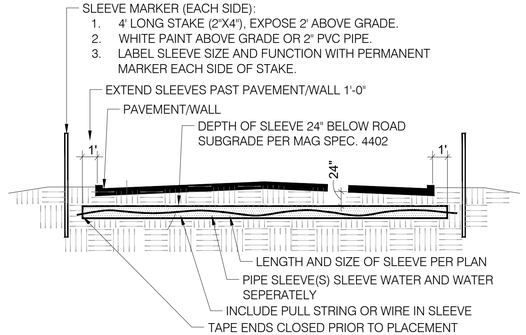


NOTES:
1. SLEEVE ALL PIPE & WIRE SEPARATELY.
2. ALL PIPE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
3. ALL WIRING TO BE INSTALLED WITH ALL APPLICABLE ELECTRICAL REQUIREMENTS. LOOP AT ALL CHANGES IN DIRECTION AND CONNECTIONS. MINIMUM EVERY 10 FEET.
4. USE APPROPRIATE CHRISTY'S MARKING TAPE.

3 FLUSH VALVE ON PVC

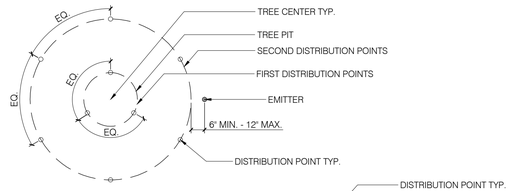
1 1/2" = 1'-0" P-LA1-34

NOTES:
1. SIMILAR TREATMENT AT WALLS, WALKS OR PATIOS.
2. IF MULTOPLE SLEEVES ARE CALLED OUT ONE SHALL BE WATER, AND ONE SHALL BE WIRES.
3. COORDINATE SLEEVES INSTALED BY UNDERGROUND UTILITY CONTRACTOR UNLESS OTHERWISE NOTED.
4. SLEEVES 1"-4" (SCH. 40), 5" & LARGER (CLASS 200).

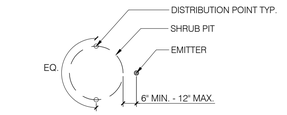


4 VALVE BOX LAYOUT & BRANDING

1/2" = 1'-0" P-LA1-32



TREE EMITTER SPACING

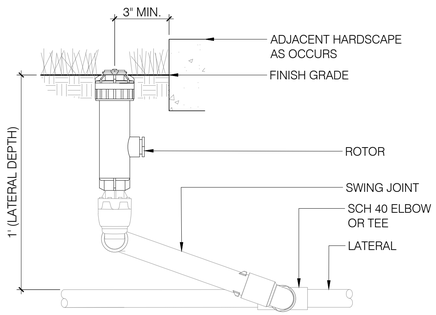


SHRUB EMITTER SPACING

NOTES:
1. DISTRIBUTION LOCATIONS ARE DIAGRAMMATIC AND ARE INTENDED TO SERVE AS A STARTING POINT TO ENSURE EVEN AND EFFICIENT IRRIGATION TO PLANTS. SLOPED SITES MAY REQUIRE ADJUSTMENT OF THE DISTRIBUTION POINTS UPHILL TO ENSURE EVEN IRRIGATION COVERAGE TO PLANTS.
2. FOR EXISTING TREES, DISTRIBUTE TUBING AND MULTIPLE EMITTER PORTS EVENLY AROUND DRIPLINE.

5 WIRE SPLICING

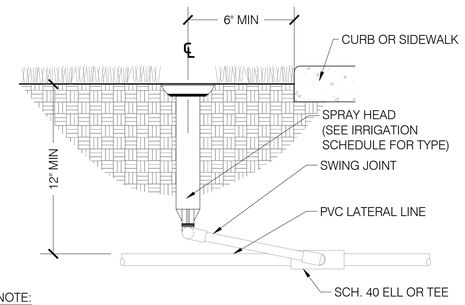
3" = 1'-0" P-LA1-33



NOTES:
1. CONTRACTOR TO VERIFY COVERAGE PRIOR TO SEED OR SOD INSTALLATION. ADJUST HEADS FOR COMPLETE COVERAGE WITHOUT OVERSPRAY.
2. USE MANUFACTURER'S APPROVED SEALING COMPOUND.
3. DO NOT OVERTIGHTEN.
4. EQUIPMENT PER PLAN.
5. INSTALL ROTORS MINIMUM 3" CLEAR OF HARDSCAPE.

6 TRENCH DEPTH

3/4" = 1'-0" P-LA1-28



NOTE:
1. USE VARIABLE ARC NOZZLES WHEN EDGES CURVE OR BEND.
2. CONTRACTOR TO VERIFY SPRAY COVERAGE PRIOR TO SEED OR SOD INSTALLATION.
3. CONTRACTOR TO ADJUST HEADS FOR COMPLETE COVERAGE WITHOUT OVERSPRAY AFTER TURF IS ESTABLISHED
4. DO NOT USE TEFLON TAPE ON PVC THREADED JOINTS USE MANUFACTURERS APPROVED SEALING COMPOUND.
5. DO NOT OVER TIGHTEN.

7 PIPE SLEEVE

NTS

8 EMITTER DISTRIBUTION LOCATIONS

3/8" = 1'-0" P-LA1-36

9 POP-UP ROTOR

3" = 1'-0" P-LA1-29

10 POP-UP SPRAY OR ROTARY

1" = 1'-0"

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REGISTERED LANDSCAPE ARCHITECT
J. V. HICKS
CERTIFICATE NO. 61/01/23
ARIZONA, U.S.A.
EXP. 6/30/2023

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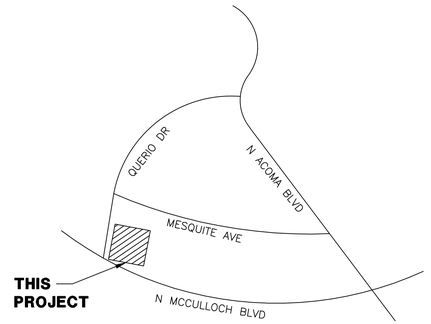
LAKE HAVASU CITY DOWNTOWN CATALYST

SITE ELECTRICAL PLAN

LAKE HAVASU CITY, ARIZONA

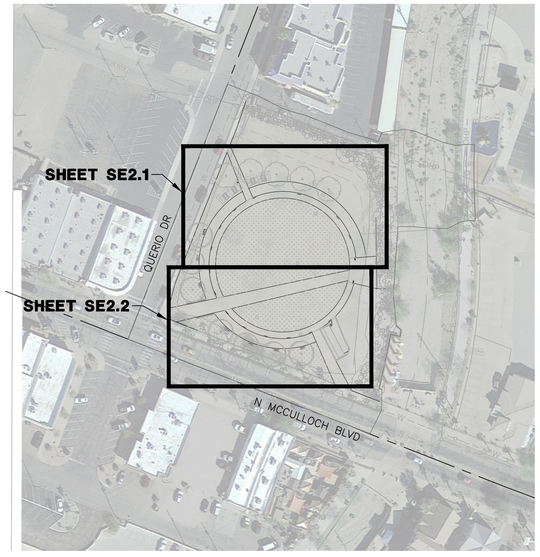
GENERAL ELECTRICAL NOTES

1. ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (LATEST EDITION), FEDERAL, STATE AND LOCAL JURISDICTION CODES.
2. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE, FINISHED AND SAFE MANNER, ACCORDING TO THE LATEST PUBLISHED NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION STANDARDS OF INSTALLATION, UNDER COMPETENT SUPERVISION.
3. VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND ALL OTHER FACTORS WHICH MAY AFFECT THE EXECUTION OF THIS WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS OF ALL EXISTING UTILITIES AND AVOIDING DAMAGE TO SAME. CONTRACTOR TO CALL 811 FOR BLUE STAKE. FOR ALL MUNICIPAL OR PRIVATELY OWNED UTILITIES EXISTING WITHIN LIMITS OF WORK OF PROJECT, CONTRACTOR TO PRIVATELY LOCATE UTILITIES. IRRIGATION LINES LESS THAN 2" WILL NOT TYPICALLY BE MARKED AND CAUTION SHOULD BE USED TO AVOID DAMAGE. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL UTILITIES CAUSED AS A RESULT OF CONTRACT WORK, ALL DAMAGES TO BE REPAIRED IN KIND.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING WALKS, WALLS, DRIVES, CURBS, ETC. DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
6. PROPER PROTECTION OF THE CONSTRUCTION AREA FOR SAFETY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COVER ALL TRENCHES AT THE END OF EACH WORK DAY. BARRICADES SHALL BE INSTALLED AS DIRECTED BY THE OWNER OR THE PROJECT INSPECTOR. THE SITE AND ALL WORK SHALL CONFORM TO OSHA REQUIREMENTS.
7. ALL EXISTING LANDSCAPE, HARDSCAPE AND SPRINKLER SYSTEMS DAMAGED OR DISTURBED DURING THE CONSTRUCTION OF THIS PROJECT BY THE CONTRACTOR SHALL BE REPLACED IN KIND.
8. CONTRACTOR SHALL PAY FOR PERMITS AND INSPECTIONS AS MAY BE REQUIRED AND PROVIDE A CERTIFICATE OF INSPECTION TO THE OWNER.
9. PROTECT ALL MATERIAL AND EQUIPMENT INSTALLED AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS OR ANY OTHER CAUSES. EQUIPMENT FOUND DAMAGED OR IN OTHER THAN NEW CONDITION WILL BE REJECTED AS DEFECTIVE. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS, AND LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK.
10. LEAVE THE SITE CLEAN, REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION.
11. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, BURIED 24" MINIMUM BELOW FINISHED GRADE, UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN DETAILS.
12. PROVIDE EMT INDOOR AND GRS OUTDOOR FOR ABOVE GROUND CONDUIT. WHERE METALLIC CONDUITS COME IN CONTACT WITH DIRT, THEY SHALL BE HALF LAP WRAPPED WITH SCOTCH 50 TAPE TO 12" AFG. FITTINGS SHALL BE STEEL, THREADED TYPE WITH INSULATED THROATS. SECURELY ATTACH ALL SURFACE MOUNTED CONDUIT EVERY 10 FEET AND WITHIN 3 FEET OF EACH JUNCTION BOX, PER NEC ARTICLE 344.30.
13. MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN DETAILS.
14. ALL FEEDERS AND BRANCH CIRCUIT WIRE SHALL BE COPPER TYPE XHHW (75 DEGREE C) FOR BELOW GRADE INSTALLATIONS (AND CONDUIT RISERS) AND THHN/THWN (75 DEGREE C) FOR ABOVE GRADE INSTALLATIONS. MINIMUM SIZE SHALL BE #12 AWG, UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN DETAILS. ALL WIRING SHALL BE IN CONDUIT. FOR NEW WIRING IN COMMERCIAL APPLICATIONS, THE USE OF TYPES NM, NMC, NMS (ROMEX) CABLES IS NOT PERMITTED. ALL CONDUCTORS SHALL BE NEW UNLESS NOTED OTHERWISE IN PLANS.
15. A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR (BOND) SHALL BE INSTALLED WITHIN EACH RACEWAY, INCLUDING WITHIN EMT CONDUIT. EQUIPMENT GROUNDING CONDUCTOR SHALL BE SIZED PER NEC TABLE 250.122.
16. WHEN A PANEL IS SUPPLIED BY A FEEDER OR BRANCH CIRCUIT, ANY INSTALLED GROUNDED CONDUCTOR SHALL NOT BE CONNECTED TO THE EQUIPMENT GROUNDING CONDUCTOR (GEC) OR TO THE GROUNDING ELECTRODE(S) PER NEC ARTICLE 250.32(B).
17. BOND ALL ENCLOSURES PER NEC ARTICLE 250.96.
18. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, ETC. NECESSARY FOR A COMPLETE AND WORKABLE ELECTRICAL SYSTEM WHETHER OR NOT THESE ITEMS ARE SPECIFICALLY NOTED ON THESE DRAWINGS. INCIDENTAL ITEMS NOT INDICATED ON THE DRAWINGS, NOR MENTIONED IN SPECIFICATIONS THAT CAN BE LEGITIMATELY AND REASONABLY INFERRED TO BELONG TO THE WORK DESCRIBED OR BE NECESSARY IN GOOD PRACTICE TO PROVIDE A COMPLETE SYSTEM, SHALL BE FURNISHED AND INSTALLED AS THOUGH ITEMIZED HERE IN EVERY DETAIL.
19. CONTRACTOR IS RESPONSIBLE FOR AND SHALL PROVIDE ALL LABOR, MATERIAL, TRENCHING, CONDUIT, TRANSFORMER PAD AND OTHER REQUIRED EQUIPMENT PER UTILITY COMPANY PLANS AND SPECIFICATIONS NECESSARY FOR A COMPLETE UNDERGROUND CONDUIT SYSTEM FROM THE UTILITY POINT OF SERVICE TO THE UTILITY CO. TRANSFORMER AND FROM THE UTILITY CO. TRANSFORMER TO THE ELECTRICAL SERVICE ENTRANCE SECTION.
20. ALL TRENCHING, CONDUITS, ETC. SHALL BE ROUTED AND INSTALLED IN SUCH A MANNER THAT WILL NOT DAMAGE EXISTING FACILITIES. SHOULD DAMAGE OCCUR, IT WILL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR DAMAGE TO THE SATISFACTION OF THE OWNER OR INSPECTOR.
21. ALL CONDUIT RUNS SHOWN ON THIS PLAN ARE SCHEMATIC IN NATURE. THE CONTRACTOR SHALL MAKE SURE THAT ALL CONDUIT, ETC. FALLS WITHIN THE CONSTRUCTION AREA/RIGHT OF WAY. (THIS INCLUDES MAINTAINING ALL REQUIRED CLEARANCES.)
22. WHEN CROSSING PATHWAYS OR SIDEWALKS, CONTRACTOR SHALL BORE UNDER EXISTING CONCRETE WALKS AND SAWCUT ASPHALT WALKS. ASPHALT WALKS SHALL BE REPLACED IN KIND.
23. CONTRACTOR SHALL GUARANTEE WORK INSTALLED UNDER THE CONTRACT TO BE FREE FROM DEFECTIVE WORKMANSHIP AND MATERIALS, USUAL WEAR EXCEPTED, AND SHOULD ANY SUCH DEFECTS DEVELOP WITHIN A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE PROJECT BY THE OWNER, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DEFECTIVE ITEMS AND DAMAGE RESULTING FROM FAILURE OF THESE ITEMS, AT NO EXPENSE WHATSOEVER TO THE OWNER.
24. CONTRACTOR SHALL IDENTIFY SERVICE ENTRANCE SECTION MAIN SERVICE DISCONNECT(S) WITH 3/32–INCH THICK LAMINATED PHENOLIC TYPE NAMEPLATES WITH 1/4–INCH MINIMUM HEIGHT LETTERS. NAMEPLATE TO BE BLACK MATTE FINISH SURFACE WITH WHITE LETTER ENGRAVING. ATTACH NAMEPLATE TO THE OUTSIDE PANEL FACE WITH TWO STAINLESS STEEL SELF–TAPPING SCREWS. NAMEPLATE SHALL READ "SERVICE DISCONNECT" PER NEC ARTICLE 230.70(B).
25. ALL CIRCUITS SHALL BE LEGIBLY IDENTIFIED AT THE PANEL, JUNCTION BOXES AND AT ALL EQUIPMENT IN A PERMANENT MANNER (I.E. ETCHED PLATES, CONDUCTOR TAG, PERMANENT MARKER, ETC.). THE LABELING SHALL INCLUDE PANEL CIRCUIT NUMBER, "TO" AND "FROM" IDENTIFICATION, AND MARKED "SPARE" WHERE APPLICABLE.
26. CONTRACTOR SHALL TEST ELECTRICAL SYSTEM FOR SHORT CIRCUITS AND MEGGER TEST FEEDER CIRCUIT WIRING. PROVIDE CERTIFIED TEST RESULTS FOR MEGGER TEST TO OWNER UPON COMPLETION OF PROJECT.
27. ALL CONDUIT SHOWN SHALL BE CONCEALED WHEN POSSIBLE. WHEN NOT POSSIBLE, CONDUIT MAY BE SURFACE MOUNTED WITH PERMISSION OF THE OWNER OR OWNER'S REPRESENTATIVE.
28. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT CONNECTIONS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH–IN. PROVIDE ADDITIONAL FUSED DISCONNECT SWITCHES AND CONTROLS IF OVERCURRENT PROTECTION OR CONTROLS IS NOT INTEGRAL WITH UNITS.
29. ALL EQUIPMENT SHALL BE FUSE SIZED PER MANUFACTURES RECOMMENDATIONS AND BEAR U.L. APPROVAL. COORDINATE WITH ENGINEER/OWNER.
30. ELECTRICAL DEVICES, DISCONNECT SWITCHES, ETC., SHALL BE SUPPORTED INDEPENDENT OF AND ISOLATED FROM EQUIPMENT VIBRATIONS.
31. ALL OUTDOOR ELECTRICAL EQUIPMENT SHALL BE NEMA–3R OR NEMA–4 ENCLOSURES.
32. CONDUITS OR RACEWAYS ROUTED FROM INDOORS TO OUTDOORS OR AS DESCRIBED IN NEC 300.7(A), SHALL BE SEALED WITH A PLIABLE SEALING COMPOUND AT A CONDUIT BODY OR AT A JUNCTION BOX BEFORE THE CONDUIT ENTERS THE COLDER ENVIRONMENT.
33. CONDUITS OR RACEWAYS INSTALLED IN AREAS WHERE ELEVATION CHANGES MAY CAUSE WATER OR MOISTURE TO ENTER THE ELECTRICAL EQUIPMENT THROUGH THE CONDUIT SHALL BE SEALED WITH A HERMETIC CONDUIT SEAL AT BOTH ENDS OF THE CONDUIT OR RACEWAY.
34. PRIOR TO POURING THE POLE BASES OR COVERING ANY ELECTRICAL CONDUITS, CONTACT THE INSPECTION DEPARTMENT 24 HOURS IN ADVANCE FOR APPROVAL.
35. MATERIALS SHALL BE NEW AND OF THE BEST QUALITY WITH MANUFACTURER'S NAME PRINTED THEREON. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, UNDERWRITER'S LABORATORY OR OTHER APPLICABLE STANDARDS AND RATED FOR HEAVY DUTY SERVICE.
36. ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE. ALL 15 AND 20 AMP, 125 AND 250 VOLT, NONLOCKING RECEPTACLES INSTALLED OUTDOORS SHALL BE LISTED WEATHER–RESISTANT TYPE. RECEPTACLE COVERS IN WET LOCATIONS SHALL BE EXTRA DUTY PER NEC 406.9(B). ALL WEATHERPROOF WHILE IN–USE RECEPTACLE COVERS SHALL BE METAL.
37. SELECTION OF MATERIALS SHALL BE IN STRICT ACCORDANCE WITH THE DRAWINGS AND/OR SPECIFICATIONS. THE USE OF MANUFACTURER'S NAME, MODEL, AND NUMBER IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS AND BID PRICE. CONTRACTOR SHALL SUBMIT TO THE OWNER OR OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL (PRIOR TO ORDERING MATERIALS) COPIES OF EQUIPMENT SHOP DRAWINGS AS FOLLOWS: LIGHT FIXTURES, POLES, POLE BASES, SERVICE ENTRANCE SECTION, ELECTRICAL EQUIPMENT, DISCONNECT SWITCHES, TIME CLOCKS AND OTHER CONTROLS, LIGHTING CONTACTORS AND PULL BOXES. AT THE TIME OF EACH SUBMITTAL, THE CONTRACTOR SHALL DEFINE AND DELINEATE IN WRITING ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS. THE REVIEW WILL BE ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE WORK AND FOR COMPLIANCE WITH THE INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS. THE REVIEW OF A SPECIFIED ITEM, AS SUCH, WILL NOT INDICATE REVIEW OF THE ASSEMBLY IN WHICH THE ITEM FUNCTIONS. REVIEW BY THE OWNER OR OWNER'S REPRESENTATIVE WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ANY ERRORS OR OMISSIONS IN THE SUBMITTALS NOR FROM HIS RESPONSIBILITY FOR COMPLYING WITH THE CONTRACT DOCUMENTS.
38. THE SUBMITTALS SHALL BE NEATLY GROUPED AND ORGANIZED. PERTINENT INFORMATION SHALL BE HIGHLIGHTED, AND THE SPECIFIC PRODUCT SHALL BE IDENTIFIED. ALL SUBMITTALS SHALL BE COMPLETE, AND PRESENTED IN ONE PACKAGE. THE SUBMITTAL SHALL INCLUDE A COMPLETE LIST OF THE EQUIPMENT AND MATERIALS, INCLUDING THE MANUFACTURER'S NAME, PRODUCT SPECIFICATION, DESCRIPTIVE DATA, TECHNICAL LITERATURE, PERFORMANCE CHARTS, CATALOG CUTS, INSTALLATION INSTRUCTIONS, AND SPARE PART RECOMMENDATIONS FOR EACH DIFFERENT ITEM OF THE EQUIPMENT SPECIFIED.



VICINITY MAP
NOT TO SCALE

NORTH



AREA MAP
NOT TO SCALE

NORTH

Dig Studio
500 N. 4TH STREET
PHOENIX, ARIZONA 85004
T 602.595.4151
M 602.697.1496

WRIGHT engineering corporation
ELECTRICAL • MECHANICAL • PLUMBING
165 EAST CHILTON DRIVE • CHANDLER, ARIZONA 85225
PHONE 480.497.5829 • FAX 480.497.5807
www.wrightengineering.us Project # 21573

Registered Professional Engineer (Retired)
Certificate No.
57159
CLIFFORD M. TOLMAN
Date Signed 4-16-23
Expires 3-31-26

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CITY CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

SITE ELECTRICAL COVER SHEET

NO	DATE	BY	REVISION
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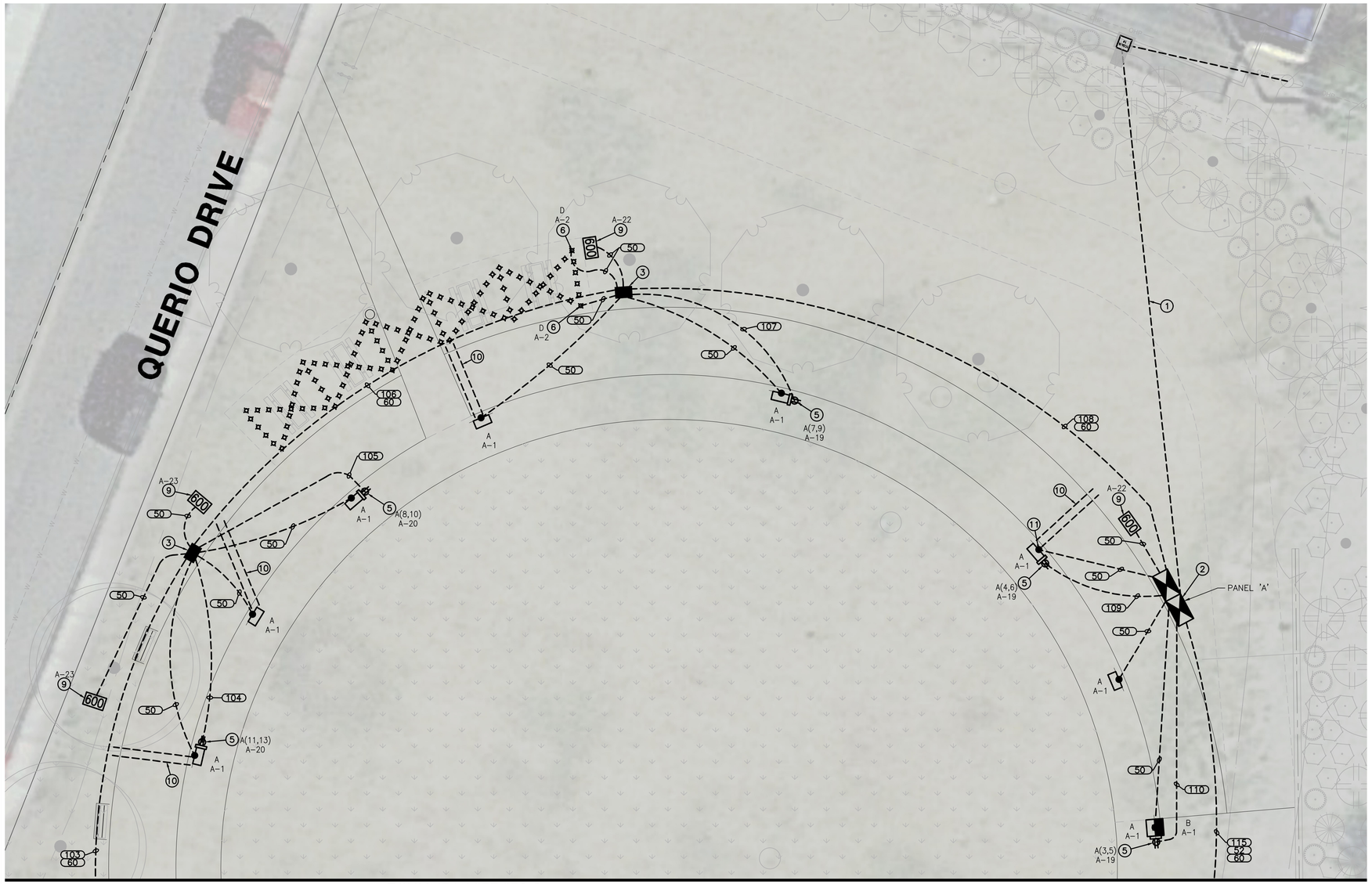
2	10-7-22	JGW	90% SUBMITTAL
3	6-19-23	CDC	100% SUBMITTAL

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

DRAWN: CDC
DESIGN: CDC
CHECKED: CMT
DATE: 6.19.2023

SHEET NO:
SE1.1



MATCHLINE 'A' SEE SE2.2

CONSTRUCTION NOTES

1. (2) 4" SCH. 40 PVC CONDUIT TO POINT OF SERVICE, CONTRACTOR SHALL VERIFY POINT OF ELECTRIC SERVICE LOCATION AND SPECIFICATIONS WITH POWER CO. PLANS & INSTALL CONDUIT TO THIS LOCATION. POWER CO. PLANS WILL DETERMINE EXACT LOCATION OF CONDUIT AND TAKE PRECEDENCE OVER THESE DRAWINGS.
2. 600 AMP, 120/240V, 1ø, 3W, METERED ELECTRIC SERVICE, SEE DETAIL 1 ON SE3.1. LOAD ON SES IS CALCULATED EXCLUDING ANY CAM LOCK LOAD. INSTALL CLEARLY VISIBLE SIGN ON SES OVER CAM LOCK STATING "CAM LOCK IS TO BE AVAILABLE FOR USE ONLY WHEN A MINIMUM OF (2) 50A EVENT RECEPTACLES ARE NOT IN USE".
3. #7 CONCRETE PULL BOX, SEE DETAIL 3 ON SE3.2.
4. 20A 120V GFCI DUPLEX RECEPTACLE, SEE DETAIL 2 ON SE3.2. COORDINATE EXACT LOCATION WITH LANDSCAPE ARCHITECT.
5. (1) 20A 120V GFCI DUPLEX RECEPTACLE, SEE DETAIL 2 ON SE3.1. (1) 50A 120/240V EVENT RECEPTACLE INSTALLED 6" ABOVE 20A RECEPTACLE, SEE DETAIL 4 ON SE3.2. COORDINATE EXACT LOCATION WITH LANDSCAPE ARCHITECT.
6. FESTOON LIGHTING, SEE DETAIL 5 ON SE3.3.
7. 200 AMP, 120/240V, 1ø, 3W, WALL-MOUNTED SUB-PANEL, INSTALLED PER FALCON STRUCTURES RESTROOM PLANS.
8. REPLACE EXISTING EXTERIOR LUMINAIRE ON FALCON STRUCTURES RESTROOM WITH (1) TYPE C LIGHT PER LIGHT FIXTURE SCHEDULE.
9. INGRADE LOW VOLTAGE TRANSFORMER, NUMBER ON SYMBOL INDICATES TRANSFORMER WATTAGE. COORDINATE EXACT LOCATION WITH LANDSCAPE ARCHITECT. TRANSFORMER SHALL BE DIRECT WIRED (NOT PLUG IN). SEE DETAIL 6A AND LOW VOLTAGE WIRING GUIDELINES ON SE3.3 FOR WIRE SIZING.
10. 2" SCH 40 PVC CONDUIT SLEEVE BURIED 24" DEEP FOR LOW VOLTAGE CABLE. EXTEND SLEEVE 2' PAST EDGE OF CONCRETE. STUB CONDUIT UP INSIDE I-BEAM FOR LOW VOLTAGE CABLING IN SHADE STRUCTURE. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.
11. INSTALL CANOPY STRIP LIGHTS PER DETAIL 8 ON SE3.4.
12. ELECTRICAL CONTRACTOR SHALL INSTALL POWER FEED TO IRRIGATION CONTROLLER & MAKE ALL 120V CONNECTIONS. COORDINATE WORK WITH IRRIGATION CONTRACTOR.

LIGHT FIXTURE SCHEDULE

SYMBOL	LETTER ID	MANUFACTURER	CATALOG NUMBER	FINISH COLOR	VOLTS	LAMP	LUMENS (MIN)	CCT	MOUNTING HEIGHT	DETAIL	NOTES
	A	LITHONIA LIGHTING	WDGE2 LED-P3-30K-70CRI-T3M-MVOLT-SRM-DDBXD	DARK BRONZE	120	32W LED	3,369	3000K	12'-0"	AREA LIGHT SEE DETAIL 7 SHEET SE3.3	AREA LIGHT TO BE MOUNTED TO I-BEAM.
	B	LITHONIA LIGHTING	WDGE2 LED-P4-30K-70CRI-T4M-MVOLT-SRM-DDBXD	DARK BRONZE	120	47W LED	4,376	3000K	12'-0"	AREA LIGHT SEE DETAIL 7 SHEET SE3.3	AREA LIGHT TO BE MOUNTED TO I-BEAM.
	C	LITHONIA LIGHTING	WDGE1 LED-P2-30K-70CRI-VW-MVOLT-SRM-DDBXD	DARK BRONZE	120	15W LED	1,872	3000K	7'-0"	AREA LIGHT SEE DETAIL 7 SHEET SE3.3	AREA LIGHT TO REPLACE EXISTING FALCON STRUCTURES RESTROOM LIGHT.
	D	ALUZ LIGHTING	A5-ZOZO-STN-24-30K-GSFL-WET-**	BLACK	120	3W LED	257	3000K	12'-0"	FESTOON LIGHTS SEE DETAIL 5 SHEET SE3.3	CONTRACTOR TO CONFIRM LENGTH OF FESTOON LIGHTING IN FIELD. **LENGTH PER RUN.
		LUMINII LIGHTING	KXLW-**-30K-SO-F-FC-BZ-E-1	BRONZE	24	6.4W/FT	357/FT	3000K	VARIES	CANOPY LIGHTS SEE DETAIL 8 SHEET SE3.4	CONTRACTOR TO CONFIRM LENGTHS OF LED STRIPS AND NUMBER NEEDED IN FIELD. **LENGTH PER STRIP. SEE ARCHITECTURAL REFLECTED CIELING PLAN FOR LOCATIONS AND QUANTITIES.

WIRE & CONDUIT TABLE

CONDUIT NO.	CONDUIT SIZE	WIRE POWER	WIRE GROUND	WIRE TYPE*	REMARKS (CKT #)
50	1"	2-#12	1-#12	CU	TYPICAL
51	1"	2-#10	1-#10	CU	TYPICAL
52	2"	3-#3/0	1-#6	CU	TYPICAL SUB-PANEL
60	2"	PULL	ROPE		SPARE
100	1.5"	3-#4	1-#4	CU	A(15,17)
		2-#10		CU	A-20
101	1.5"	3-#4	1-#4	CU	A(15,17)
		2-#10		CU	A-20
	1"	2-#12		CU	A-1
102	1.5"	3-#4	1-#4	CU	A(12,14)
		2-#12		CU	A-20
103	2"	3-#2	1-#2	CU	A(15,17)
		3-#4		CU	A(12,14)
		2-#6		CU	A-20
	1"	2-#10	1-#10	CU	A-23
		2-#12		CU	A-1
104	1.5"	3-#4	1-#4	CU	A(11,13)
		2-#12		CU	A-20
105	1.5"	3-#4	1-#4	CU	A(8,10)
		2-#12		CU	A-20
106	2"	3-#2	1-#2	CU	A(15,17)
		3-#4		CU	A(12,14)
		3-#4		CU	A(11,13)
	1.5"	3-#4	1-#4	CU	A(8,10)
		2-#4		CU	A-20
	1"	2-#6	1-#6	CU	A-23
		2-#12		CU	A-1
107	1.5"	3-#6	1-#6	CU	A(7,9)
		2-#12		CU	A-19
108	2.5"	3-#2	1-#2	CU	A(15,17)
		3-#2		CU	A(12,14)
		3-#4		CU	A(11,13)
	2"	3-#4	1-#4	CU	A(8,10)
		2-#4		CU	A-20
		2-#4		CU	A-23
	1.5"	3-#6	1-#6	CU	A(7,9)
		2-#12		CU	A-1
	1"	2-#12	1-#12	CU	A-2
		2-#12		CU	A-19
		2-#12		CU	A-22
109	1"	3-#6	1-#6	CU	A(4,6)
		2-#12		CU	A-19
110	1"	3-#6	1-#6	CU	A(3,5)
		2-#12		CU	A-19
111	1"	2-#8	1-#8	CU	A-24
		2-#10		CU	A-21
		2-#12		CU	A-1
112	1.5"	3-#6	1-#6	CU	A(16,18)
		2-#10		CU	A-21
113	1.5"	3-#6	1-#6	CU	A(16,18)
		2-#10		CU	A-21
	1"	2-#8	1-#8	CU	A-24
		2-#12		CU	A-1
114	1.5"	3-#6	1-#6	CU	A(16,18)
		2-#8		CU	A-21
	1"	2-#8	1-#8	CU	A-24
		2-#12		CU	A-29
	1"	2-#12	1-#12	CU	A-1
		2-#12		CU	A-22
115	1.5"	3-#4	1-#4	CU	A(16,18)
		2-#8		CU	A-21
	1"	2-#8	1-#8	CU	A-24
		2-#12		CU	A-29
	1"	2-#12	1-#12	CU	A-1
		2-#12		CU	A-19
		2-#12		CU	A-22

* THIS COLUMN IDENTIFIES THE CONDUCTOR MATERIAL TYPE. CU = COPPER, AL = ALUMINUM.

LEGEND

- 600A 120/240V 1ø PEDESTAL
- POWER COMPANY TRANSFORMER
- NEW UNDERGROUND CONDUIT
- CONDUIT SLEEVE
- NEW PULL BOX
- EVENT RECEPTACLE & 120V DUPLEX RECEPTACLE
- 120V DUPLEX RECEPTACLE
- 300 LOW VOLTAGE TRANSFORMER, NUMBER IN SYMBOL INDICATES SIZE
- IRRIGATION CONTROLLER

GRAPHIC SCALE

10 5 0 5 10 20

1 INCH = 10 FEET

Dig Studio
600 N. 4TH STREET
PHOENIX, ARIZONA 85004
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F 602.595.4149

WRIGHT engineering corporation
ELECTRICAL ENGINEERS • CONSULTANTS
165 EAST CHILTON DRIVE • CHANDLER, ARIZONA 85225
PHONE 480.497.5829 • FAX 480.497.5807
www.wrightengineering.us Project # 21573

Registered Professional Engineer (Electrical) Certificate No. 57159 CLIFFORD M. TOLMAN Date Signed 3-16-23 Expires 3-31-26

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT

2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

SITE ELECTRICAL PLAN

NO	DATE	BY	REVISION
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2	10-7-22	JGW	90% SUBMITTAL
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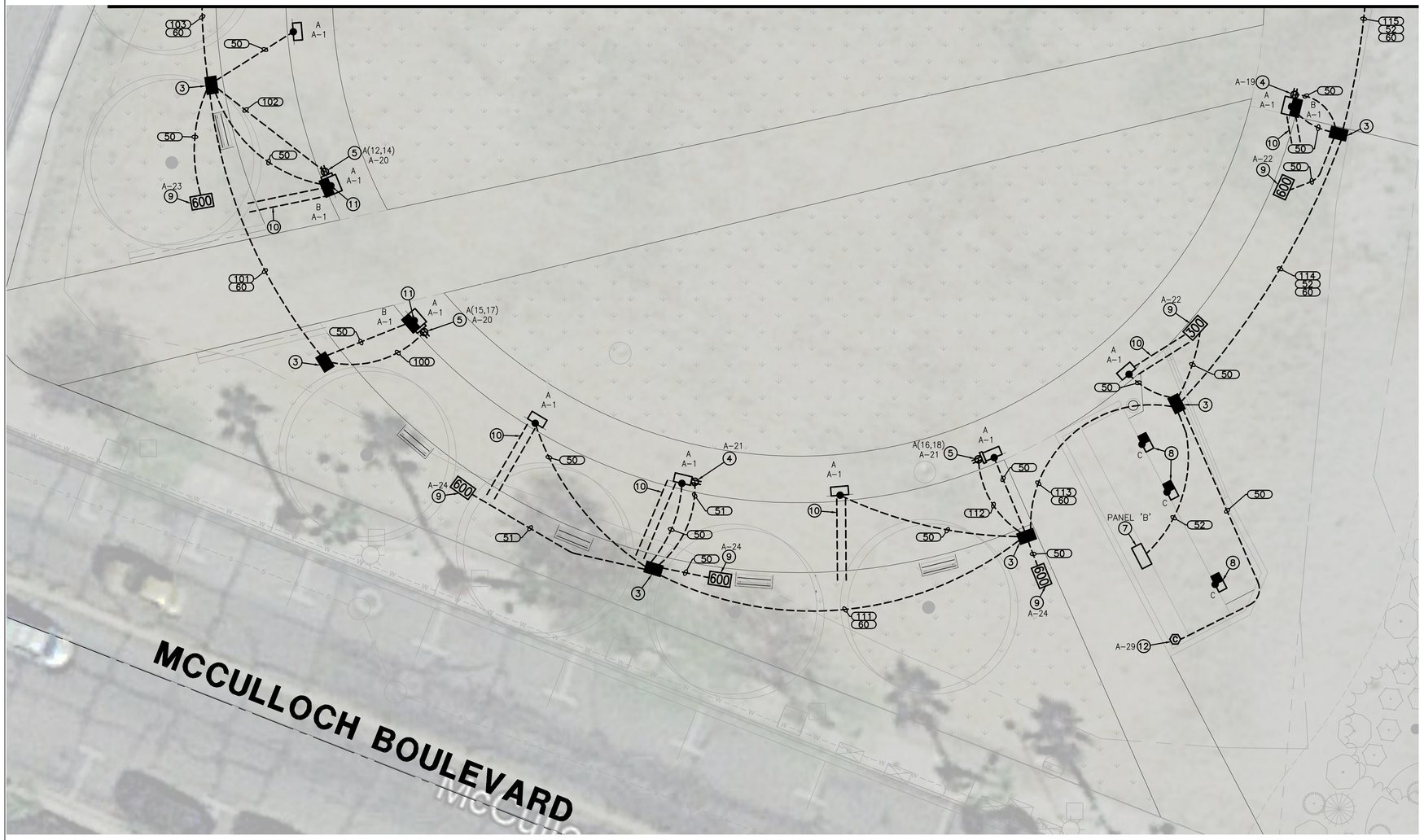
CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

DRAWN: CDC
DESIGN: CDC
CHECKED: CMT
DATE: 6.19.2023

SHEET NO:
SE2.1

MATCHLINE 'A' SEE SE2.1



WIRE & CONDUIT TABLE

CONDUIT		WIRE			REMARKS
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		2-#10		CU	A-20
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		2-#4		CU	A-20
		2-#4		CU	A-23
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		2-#12		CU	A-1
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	1"	2-#12	1-#12	CU	A-1
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- 120V DUPLEX RECEPTACLE
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LIGHT FIXTURE SCHEDULE

SYMBOL	LETTER ID	MANUFACTURER	CATALOG NUMBER	FINISH COLOR	VOLTS	LAMP	LUMENS (MIN)	CCT	MOUNTING HEIGHT	DETAIL	NOTES
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		LUMINII LIGHTING	KXLW-**-30K-SO-F-FC-BZ-E-1	BRONZE	24	6.4W/FT	357/FT	3000K	VARIES	CANOPY LIGHTS SEE DETAIL 8 SHEET SE3.4	CONTRACTOR TO CONFIRM LENGTHS OF LED STRIPS AND NUMBER NEEDED IN FIELD. **LENGTH PER STRIP. SEE ARCHITECTURAL REFLECTED CIELING PLAN FOR LOCATIONS AND QUANTITIES.

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1 INCH = 10 FEET

Dig Studio
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LAKE HAVASU CITY, AZ

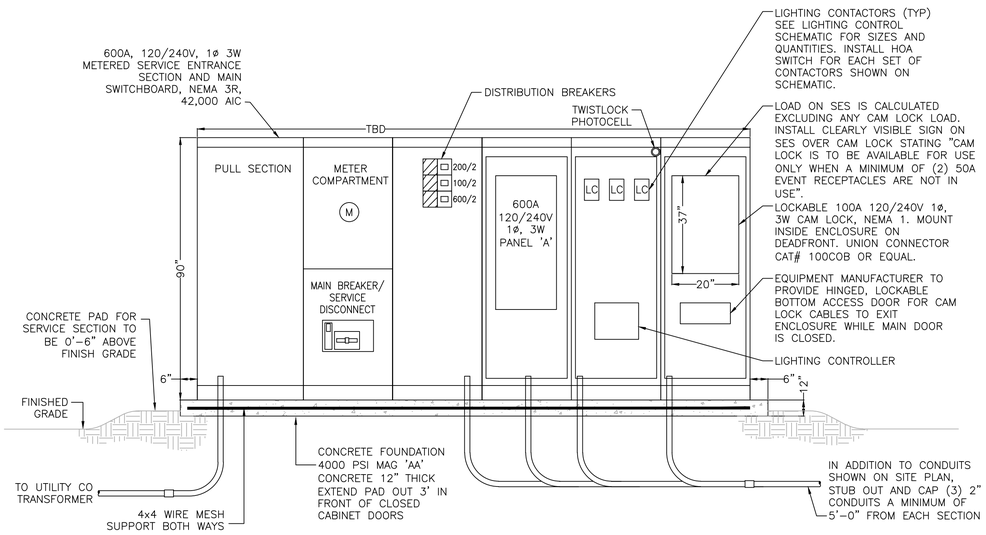
SITE ELECTRICAL PLAN

NO	DATE	BY	REVISION
1	7-19-22	JGW	60% SUBMITTAL
2	10-7-22	JGW	90% SUBMITTAL
3	6-19-23	CDC	100% SUBMITTAL

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

DRAWN: CDC
DESIGN: CDC
CHECKED: CMT
DATE: 6.19.2023

SHEET NO:
SE2.2

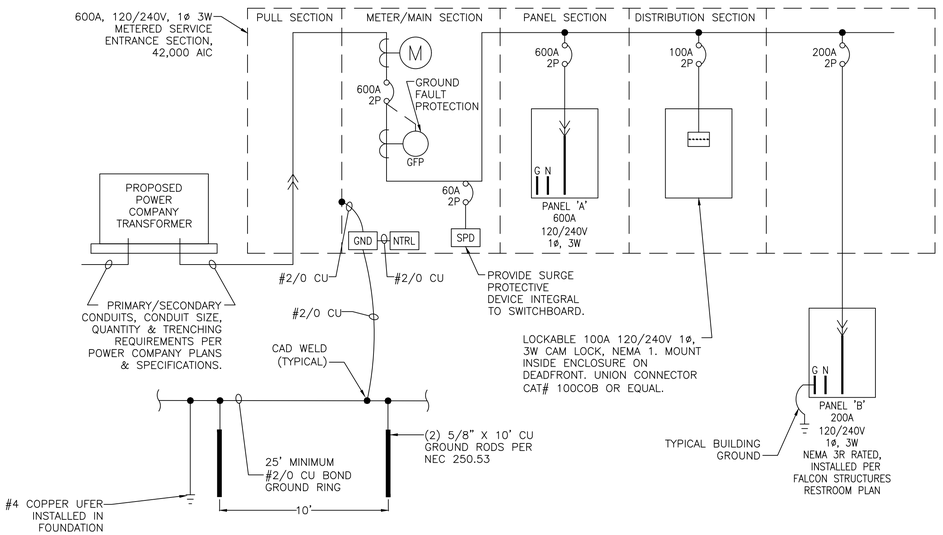


1A SES ELECTRICAL ELEVATION

NO SCALE

120/240V 1ø 3W

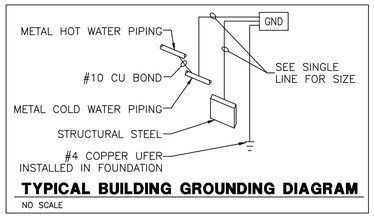
PANEL NAME: A			120/240V, 1ø, 3W				600A MAIN BKR		
LOCATION: SEE SITE PLAN			TYPE: PLUG-IN				PED MTD., NEMA 3R		
CKT NO.	BKR SIZE	DESCRIPTION	LOAD	Aø	Bø	LOAD	DESCRIPTION	BKR SIZE	CKT NO.
1	20/1	AREA LIGHTING*	915	1255		340	FESTOON LIGHTING*	20/1	2
3	50/	EVENT RECEPTACLE 1	4800		9600	4800	EVENT RECEPTACLE 2	50/	4
5	/2		4800	9600		4800		/2	6
7	50/	EVENT RECEPTACLE 3	4800		9600	4800	EVENT RECEPTACLE 4	50/	8
9	/2		4800	9600		4800		/2	10
11	50/	EVENT RECEPTACLE 5	4800		9600	4800	EVENT RECEPTACLE 6	50/	12
13	/2		4800	9600		4800		/2	14
15	50/	EVENT RECEPTACLE 7	4800		9600	4800	EVENT RECEPTACLE 8	50/	16
17	/2		4800	9600		4800		/2	18
19	20/1	RECEPTACLES 1	1920		3840	1920	RECEPTACLES 2	20/1	20
21	20/1	RECEPTACLES 3	960	2760		1800	LV TRANSFORMERS 1	20/1	22
23	20/1	LV TRANSFORMERS 2	1500		3300	1800	LV TRANSFORMERS 3	20/1	24
25	20/1	SPARE	0	0		0	SPARE	20/1	26
27	20/1	SPARE	0		0	0	SPARE	20/1	28
29	20/1	IRRIGATION CONTROLLER	200	400		200	LIGHTING CONTROL	20/1	30
31		BUSSED SPACE	0		0	0	BUSSED SPACE		32
33		BUSSED SPACE	0	0		0	BUSSED SPACE		34
35		BUSSED SPACE	0		0	0	BUSSED SPACE		36
37		BUSSED SPACE	0	0		0	BUSSED SPACE		38
39		BUSSED SPACE	0		0	0	BUSSED SPACE		40
41		BUSSED SPACE	0	0		0	BUSSED SPACE		42
CODE TOTAL VA/ø				42815	45540		*INDICATES LOAD @ 125%		
CODE TOTAL AMPS/ø				356.8	379.5		42,000 AIC BREAKERS		



1B SINGLE LINE DIAGRAM

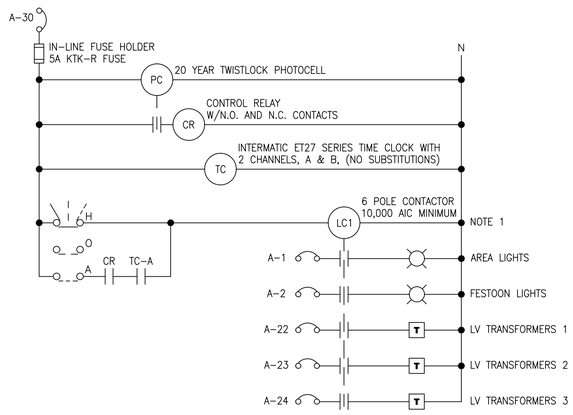
NO SCALE

120/240V 1ø 3W



TYPICAL BUILDING GROUNDING DIAGRAM

NO SCALE



1C LIGHTING CONTROL SCHEMATIC

NO SCALE

120V

CONTROL SCHEMATIC LEGEND

- HAND-OFF-AUTO SWITCH
- PC — PHOTOCELL RELAY
- CR# — CONTROL RELAY
- TC# — TIME CLOCK
- LC# — LIGHTING CONTACTOR
- N.O. — NORMALLY OPEN CONTACT
- CIRCUIT BREAKER

CONTROLLER NOTES

1. THIS CIRCUIT TO BE ACTIVATED FROM DUSK TO DAWN.

Dig Studio
600 N. 4th STREET
PHOENIX, ARIZONA 85004
t 602.595.4151
f 602.595.4156

WRIGHT engineering corporation
ELECTRICAL • MECHANICAL • PLUMBING
165 EAST CHILTON DRIVE • CHANDLER, ARIZONA 85225
PHONE 480.497.5829 • FAX 480.497.5807
www.wrightengineering.us Project # 21573

Registered Professional Engineer (Retired)
Certificate No. 57159
CLIFFORD M. TOLMAN
Date Signed 6-16-23
Expires 3-31-26

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

SITE ELECTRICAL DETAILS

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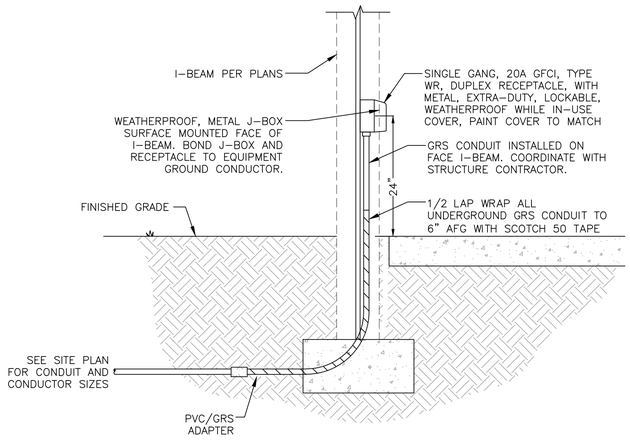
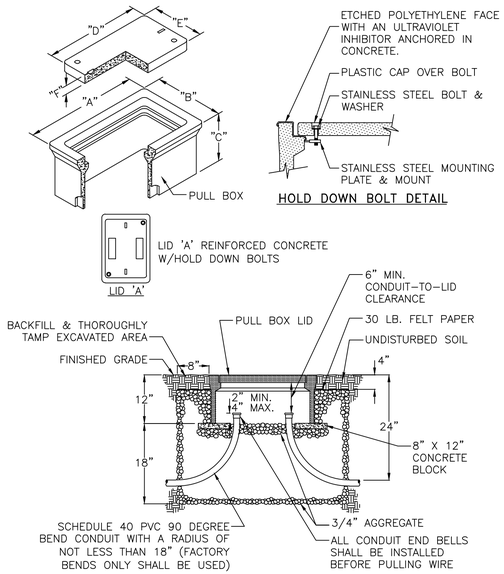


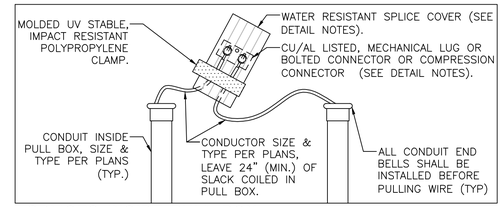
2 RECEPTACLE DETAIL - SURFACE MOUNTED

NO SCALE



3 PULL BOX INSTALLATION

NO SCALE

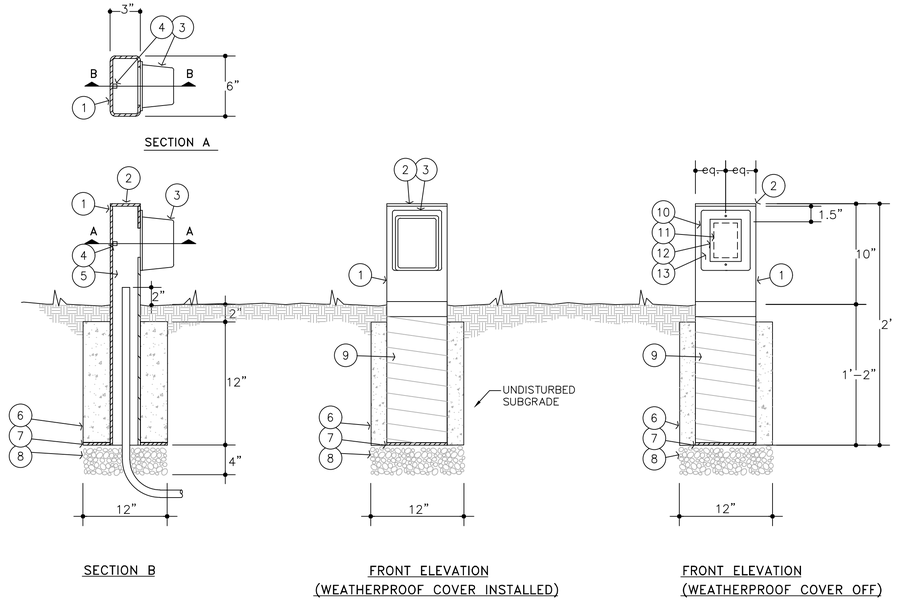


SPLICES INSIDE PULL BOX

DETAIL NOTES:

1. THE PULL BOX SHALL BE MADE OF A HIGH DENSITY REINFORCED CONCRETE MATERIAL WITH END & SIDE KNOCKOUTS, & NON-SETTLING SHOULDERS TO MAINTAIN GRADE, MANUFACTURED WITH APPROXIMATE DIMENSIONS AS SHOWN.
2. STEEL REINFORCEMENT SHALL BE AS REGULARLY USED IN STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. COVER LETTERING SHALL BE 1" LETTERS CAST IN STANDARD MARKINGS: "ELECTRIC" OR "HIGH VOLTAGE" OR "COMMUNICATIONS". AS REQUIRED.
4. THE PULL BOX SHALL HAVE AN ETCHED POLYETHYLENE FACE WITH AN ULTRAVIOLET INHIBITOR ANCHORED IN CONCRETE.
5. ALL CABLE & CONDUCTOR SPLICES MADE USING CU/AL LISTED, MECHANICAL LUG OR BOLTED CONNECTOR OR COMPRESSION CONNECTOR, (TYCO ELECTRONICS, NSI INDUSTRIES, ILSCO OR APPROVED EQUAL). CONNECTION TO BE INSULATED & MADE WATER RESISTANT WITH TYCO ELECTRONICS GELCAP-SL, NSI INDUSTRIES ESSLK-2/0 OR 3M SCOTCHCAST SPLICE KIT 85 SERIES.

DATA TABLE						
PULLBOX TYPE	PULLBOX LENGTH	PULLBOX WIDTH	PULLBOX HEIGHT	LID LENGTH	LID WIDTH	LID HEIGHT
	"A"	"B"	"C"	"D"	"E"	"F"
#3-1/2	19-3/4"	14-1/4"	12"	15-1/2"	10"	1-3/4"
#5	25-1/8"	15-5/8"	12"	20-3/4"	10-5/8"	2"
#7	35"	22"	12"	30-1/2"	17-1/2"	2"



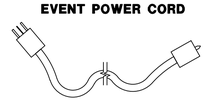
KEYED NOTES

1. RECTANGULAR STRAIGHT GALVANIZED STEEL TUBE, 3"x6"x24" LONG, 3/16" THICK.
2. 1/8" THICK STEEL TOP. PROVIDE CONTINUOUS WELD ALONG PERIMETER OF CAP.
3. 50A RECEPTACLE WITH A METAL, EXTRA-DUTY, WEATHERPROOF LOCKABLE SNAP SHUT OUTLET COVER. KEYED LOCK PER OWNER REQUIREMENTS, ALL RECEPTACLE COVER LOCKS ON PROJECT TO BE KEYED THE SAME. RECEPTACLE CONFIGURATION TO MATCH RECEPTACLE ON SPIDER BOX.
4. WELD A 1/4" STEEL NUT ONTO THE INSIDE FACE OF THE STEEL TUBE OPPOSITE THE CONVENIENCE RECEPTACLES FOR ATTACHING SYSTEM GROUND WIRING.
5. STUB UNDERGROUND CONDUITS 2" ABOVE FINISHED GRADE INSIDE STEEL TUBE.
6. MAG 'A' 3000 PSI CONCRETE.
7. TWO 3"x6"x3/16" STEEL PLATES (ONE EACH SIDE) WELDED TO THE BASE OF THE STEEL TUBE.
8. 3/8" WASHED RIVER ROCK FOR DRAINAGE.
9. PROVIDE 1/8" THICK BITUMINOUS COATING ON THE INSIDE AND OUTSIDE OF THE STEEL TUBE AS INDICATED. WRAP THE OUTSIDE OF THE TUBE WITH 10 MIL PLASTIC TAPE, HALF LAPPED.
10. OUTLINE OF WEATHERPROOF COVER.
11. OUTLINE OF HOLE IN STEEL TUBE FOR RECEPTACLE.
12. OUTLINE OF CONVENIENCE RECEPTACLE FORM.
13. DRILL AND TAP HOLES IN STEEL TUBE FOR MOUNTING RECEPTACLE AND WEATHERPROOF COVER.

4A EVENT RECEPTACLE DETAIL

NO SCALE

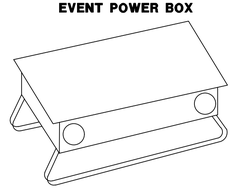
EVENT POWER CORD



NOTES

50A RATED 4 WIRE CORDSET, WITH MALE AND FEMALE ENDS TO MATCH EVENT RECEPTACLE AND SPIDER BOX INLET. INCLUDE WEATHERPROOF BOOTS AND RINGS FOR ALL CORDS AND OUTLETS, ERICSON CAT# 7717 & 510RR OR EQUAL. 10'-0" MINIMUM CORD IN LENGTH. CORD COLOR AND ENDS TO BE YELLOW.

EVENT POWER BOX



NOTES

TEMPORARY POWER DISTRIBUTION CENTER WITH 120/208V 1ø INPUT AND (6)20A 1 POLE 120V RECEPTACLES WITH OVERLOAD PROTECTION AND (1) 30A 2 POLE 208V RECEPTACLE WITH OVERLOAD PROTECTION. (ERICSON OSCAR SERIES TEMPORARY POWER DISTRIBUTION CENTER CAT# 1066-BFS OR EQUAL). INCLUDE WEATHERPROOF COVERS FOR ALL 50A OUTLETS ON POWER BOX, ERICSON CAT# 7788-CR OR EQUAL.

CONTRACTOR TO PROVIDE THE OWNER WITH (8) EIGHT EVENT POWER BOX ASSEMBLIES AND (8) EIGHT CORDSETS WITH THIS PROJECT.

4B EVENT POWER BOX ASSEMBLY

NO SCALE

Dig Studio
800 N. 4th STREET
PHOENIX, ARIZONA 85004
t 602.595.4181
f 602.595.1396

WRIGHT engineering corporation
ELECTRICAL • MECHANICAL • PLUMBING
165 EAST CHILTON DRIVE • CHANDLER, ARIZONA 85225
PHONE 480.497.5829 • FAX 480.497.5807
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Registered Professional Engineer (Retired) Certificate No. 57159 CLIFFORD M. TOLMAN State of Arizona 6-16-23 Expires 3-31-26

100% CONSTRUCTION DOCUMENTS

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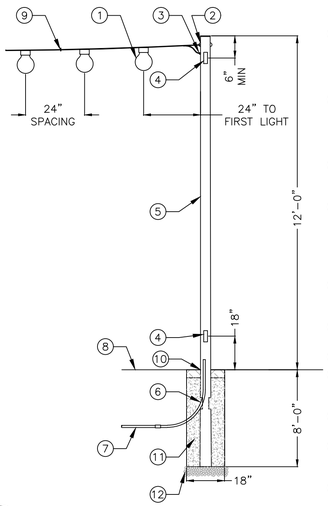


NOTES

1. 2.5W FESTOON STYLE LIGHTING, CALI LIGHTING MARKETLITE 2000 LED SERIES CAT# ML2000/24"/LED-2.7K/WET. SEE SITE PLAN FOR LOCATIONS.
2. COORDINATE WITH POLE MANUFACTURER TO INSTALL (2) 3/4" EYELETS, 180 DEGREES APART, ON POLE 2" FROM TOP, 90 DEGREES FROM HANDHOLE IN BOTH DIRECTIONS. PAINT TO MATCH POLE. ATTACH STAINLESS STEEL AIRCRAFT CABLE FROM FESTOON LIGHTING TO EYELETS.
3. ROUTE POWER CABLE FOR LIGHTING INTO POLE USING WEATHERPROOF COMPRESSION FITTING SCREWED INTO POLE. COORDINATE WITH POLE MANUFACTURER TO INSTALL 3/4" WELDED COUPLING 4" BELOW TOP OF POLE ON SAME SIDE OF POLE AS LIGHT CONNECTION.
4. COORDINATE WITH POLE MANUFACTURER TO PROVIDE 3"X5" HAND HOLE AND COVER. USE TAMPER PROOF STAINLESS STEEL HARDWARE TO ATTACH COVER TO POLE. FINISH TO MATCH POLE.
5. 5-9/16" OD X 0.375" THICK ROUND STEEL POLE. POLE SHAFT TO HAVE MINIMUM YIELD STRENGTH OF 46,000 PSI, AND DESIGNED TO 90 MPH WIND RATING. FINISH TO BE HIGH QUALITY POLYESTER POWDER COAT ELECTROSTATICALLY APPLIED AND CURED TO A MINIMUM 2.5 MIL. THICKNESS. COLOR PER LANDSCAPE ARCHITECT.
6. COORDINATE WITH POLE MANUFACTURER TO PROVIDE 2"X3" CONDUIT OPENING IN BASE OF POLE FOR CONDUIT ENTRY TAPE OPENINGS PRIOR TO BACKFILLING HOLE.
7. PVC CONDUIT AND CONDUCTORS. SEE SITE PLAN FOR SIZE AND QUANTITY.
8. FINISHED GRADE.
9. ATTACH LIGHTING WIRE TO TENSIONED AIRCRAFT CABLE USING STAINLESS STEEL HOG RINGS AT 24" MINIMUM, CENTERED BETWEEN LIGHTS.
10. POLE FOUNDATION BELOW FINISHED GRADE TO BE HALF-LAPPED WRAPPED WITH 50 MIL. TAPE TO 4" ABOVE FINISHED GRADE.
11. AFTER THE POLE HAS BEEN PLUMBED, BACKFILL HOLE WITH 3,000 PSI CONCRETE TO A POINT 4" BELOW FINISHED GRADE, BACKFILL REMAINING HOLE WITH CLEAN NATIVE SOIL.
12. 6" OF COMPACTED PEA GRAVEL FOR DRAINAGE.

5 FESTOON STYLE LIGHTING DETAIL
NO SCALE

ALUZ

A5 Series | String / Festoon
ZOZO Standard
(A5-ZOZO-STN)

TYPE

10 DAY QUICK SHIP · FIELD CUTTABLE · DIMMING · DRY ☆ WET ☆ · MADE IN USA

CANOPY OPTIONS
(Click image to see individual submittal)

Round Canopy (A5-ZOZO-RND) · Round Canopy with Cage (A5-ZOZO-RNC) · Cone Canopy (A5-ZOZO-CON) · Cone Canopy with Cage (A5-ZOZO-COC) · Bell Canopy (A5-ZOZO-BLL) · Flat Canopy (A5-ZOZO-FLT) · Mesh Canopy (A5-ZOZO-MSH) · Barrel Canopy (A5-ZOZO-BRL) · Hat Canopy (A5-ZOZO-HAT)

GENERAL FEATURES

Applications	Indoor and Outdoor
Length	Built to Order (+/- 1/8" Tolerance)
Finish	Black
Feed	Standard 6' Power Lead
Strain Relief	Cable (Included, Not for Mounting)
Mounting	Mounting Aircraft Cable (Sold Separately)
Listing	Dry or Wet Location ANSI/UL1598 CSA 22.2 No. 250.0-04, 2nd Edition
Options	Mesh, Canopies, or Cages
UV Rating	Sun Light Resistance
Installation Link	Link to Installation Instructions

ELECTRICAL

Dimming	Forward Phase
Maximum Run	250' without Canopies 100' with Canopies
System	20 Amps (12 Gauge Wire)
Wattage	1W or 3W Lamps
Luminaire Voltage	120V

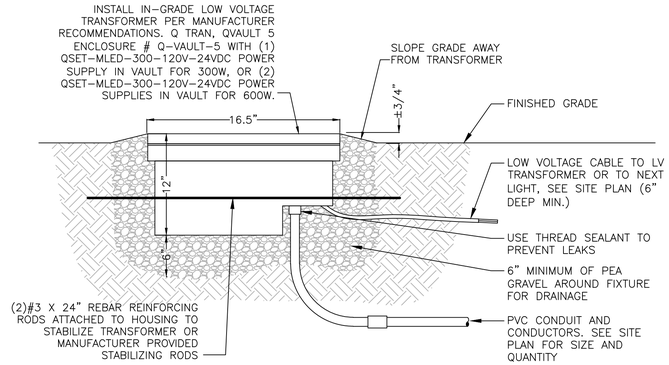
LAMP SPECIFICATIONS

Lamp Number	Correlated Color Temperature	Description
24K	2400 Kelvin	Incandescent White
27K	2700 Kelvin	Warm White
30K	3000 Kelvin	Warm White
50K	5000 Kelvin	Cool White
R	Red	621nm
G	Green	525nm
B	Blue	470nm
A	Amber	590nm

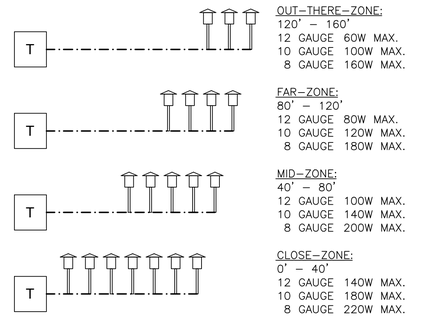
1170 North Red Gum Street, Anaheim, CA 92806
aluz.lighting · info@aluz.lighting · 866.ALUZ.LTG | 714.535.7900

Specification Submittal

2 / 1 / 2022 / Rev 3



6A IN-GRADE LOW VOLTAGE TRANSFORMER DETAIL
NO SCALE



OUT-THERE-ZONE:
120' – 160'
12 GAUGE 60W MAX.
10 GAUGE 100W MAX.
8 GAUGE 160W MAX.

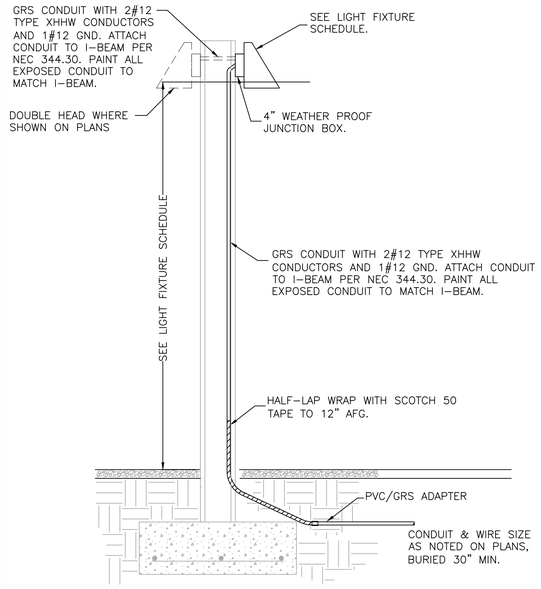
FAR-ZONE:
80' – 120'
12 GAUGE 80W MAX.
10 GAUGE 120W MAX.
8 GAUGE 180W MAX.

MID-ZONE:
40' – 80'
12 GAUGE 100W MAX.
10 GAUGE 140W MAX.
8 GAUGE 200W MAX.

CLOSE-ZONE:
0' – 40'
12 GAUGE 140W MAX.
10 GAUGE 180W MAX.
8 GAUGE 220W MAX.

NOTES:
1. THE WATTAGE LOADS ARE PER CABLE. ADD CABLE RUNS AS NECESSARY TO COMPLETE PROJECT. MULTIPLE QUANTITY OF CABLES RUN FROM EACH TRANSFORMER, UP TO 80% OF TOTAL WATTAGE ON TRANSFORMER IS ALLOWED.
2. WIRING IS SHOWN SCHEMATICALLY TO INDICATE WHICH TRANSFORMERS ARE INTENDED FOR EACH FIXTURE. CONTRACTOR SHALL ROUTE LOW VOLTAGE CABLE TO AVOID IRRIGATION, HARDSCAPE, AND PLANTING CONFLICTS. ALL ROADWAY, DRIVEWAY, AND SIDEWALK CROSSINGS SHALL BE INSTALLED IN A PVC SLEEVE.
3. LONGER RUNS TO BE CONNECTED TO 13 VOLT TAP OR HIGHER AS NEEDED.

6B TYPICAL LOW VOLTAGE LUMINAIRE RECOMMENDED CIRCUITING GUIDELINES
NO SCALE



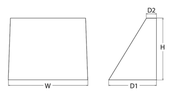
7 STEEL I-BEAM MOUNTED AREA LIGHT
NO SCALE

WDGE2 LED
Architectural Wall Sconce
Precision Refractive Optic

Catalog Number · Notes · Type
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1):	7"
Depth (D2):	1.5"
Height:	9"
Width:	11.5"
Weight: (without options)	13.5 lbs



Introduction
The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 with industry leading precision refractive optics provides great uniform distribution and optical control. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

WDGE LED Family Overview

Luminaire	Optics	Standard EM, 0°C	Cold EM, -20°C	Sensor	Approximate Lumens (4000K, 80CRI) P0	P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W		--	250	1,200	2,000	--	--	--	--
WDGE2 LED	Visual Comfort	10W	18W	Standalone / nLight	--	1,200	2,000	3,000	4,500	6,000	--
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	700	1,200	2,000	3,200	4,200	--	--
WDGE3 LED	Precision Refractive	15W	18W	Standalone / nLight	--	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	Precision Refractive			Standalone / nLight	--	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information
EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE2 LED	P0[1]	27K 2700K	70CRI[2]	TFTS Type I Short	MVOLT	**Shipped included**
	P1[1]	30K 3000K	80CRI	T2M Type II Medium	347[3]	SRM Surface mounting bracket
	P2[1]	40K 4000K	LIM[4] Limited Wavelength	T3M Type III Medium	480[3]	ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[5]
	P3[1]	50K 5000K		T4M Type IV Medium		
	P4[1]	AMBF Amber		TFTM Forward Throw Medium		

Shipped separately
AWS 18inch Architectural wall spacer
PBBW Surface-mounted back box (top, left, right conduit entry) Use when there is no junction box available.

Options
- E10WH Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 0°C min)
- E20WC Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min)
- PE[1] Photocell, Button Type
- DMG[1] 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
- BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points.
- BAA Buy American Act Compliant

Standalone Sensors/Controls
- PIR Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.
- PIRH Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.
- PIR1FC1V Bi-level (100/35%) motion sensor for 8-15 mounting heights with photocell pre-programmed for dusk to dawn operation.
- PIRH1FC1V Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.

Networked Sensors/Controls
- NLTAIR2 PIR nLight AIR Wireless enabled bi-level motion/ambient sensor for 8-15' mounting heights.
- NLTAIR2 PIRH nLight AIR Wireless enabled bi-level motion/ambient sensor for 15-30' mounting heights.

See page 4 for out of box functionality

Finish
DDBXD Dark bronze · DBLXD Black · DNAXD Natural aluminum · DWHXD White · DSSXD Sandstone · DDBTXD Textured dark bronze · DBLBXD Textured black · DNATXD Textured natural aluminum · DWHGXD Textured white · DSSTXD Textured sandstone

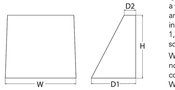
LITHONIA LIGHTING® COMMERCIAL OUTDOOR
One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com

WDGE1 LED
Architectural Wall Sconce

Catalog Number · Notes · Type
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1):	5.5"
Depth (D2):	1.5"
Height:	8"
Width:	9"
Weight: (without options)	9 lbs



Introduction
The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (3000K) P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	--	--	1,200	2,000	--	--	--	--
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	--
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	--	--	Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information
EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE1 LED	P1	27K 2700K	80CRI	VF Visual comfort forward throw	MVOLT	**Shipped included**
	P2	30K 3000K	90CRI	VW Visual comfort wide	347[3]	SRM Surface mounting bracket
		35K 3500K				ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[5]
		40K 4000K				**Shipped separately**
		50K[1] 5000K				AWS 18inch Architectural wall spacer
						PBBW Surface-mounted back box (top, left, right conduit entry) Use when there is no junction box available.

Options
- E4WH[1] Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min)
- PE[4] Photocell, Button Type
- DS Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details)
- DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
- BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points.
- BAA Buy American Act Compliant

Accessories
Ordered and shipped separately.
- WDGEAWS DDBXD — WDGE 1 18inch Architectural Wall Spacer (specify finish)
- WDGE1PBBW DDBXD U — WDGE1 surface-mounted back box (specify finish)

Finish
DDBXD Dark bronze · DBLXD Black · DNAXD Natural aluminum · DWHXD White · DSSXD Sandstone · DDBTXD Textured dark bronze · DBLBXD Textured black · DNATXD Textured natural aluminum · DWHGXD Textured white · DSSTXD Textured sandstone

NOTES
1. 50K not available in 90CRI.
2. 70CRI only available with E4WH, DS or PE.
3. E4WH not available with PE or DS.
4. PE not available with DS.
5. Not qualified for DLC. Not available with E4WH.

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www.wrightengineering.us Project # 21573

Registered Professional Engineer (Retired)
Certificate No.
57159
CLIFFORD M. TOLMAN
Date Signed 3-16-23
Expires 3-31-26

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

SITE ELECTRICAL DETAILS

NO	DATE	BY	REVISION
1	7-19-22	JGW	60% SUBMITTAL
2	10-7-22	JGW	90% SUBMITTAL
3	6-19-23	CDC	100% SUBMITTAL

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
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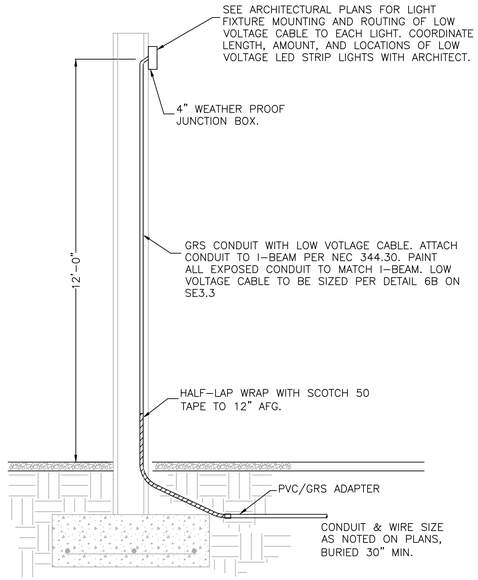
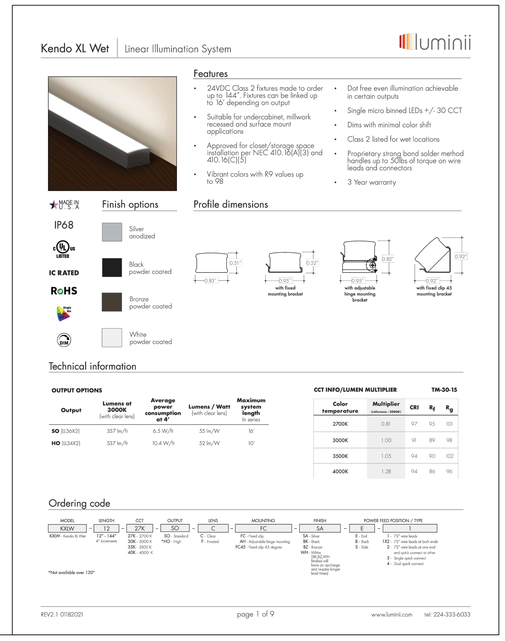
SHEET NO:
SE3.3



8 CANOPY STRIP LIGHT

1 INCH = 20 FEET



Kendo XL Wet | Linear Illumination System

luminii

Features

- 24VDC Class 2 fixtures made to order up to 144". Fixtures can be linked up to 10' depending on output
- Suitable for undercabinet, millwork recessed and surface mount applications
- Approved for closet/storage space installation per NEC 410.16(A)(3) and 410.16(C)(5)
- Vibrant colors with R9 values up to 98
- Dot free even illumination achievable in certain outputs
- Single micro binned LEDs +/- 30 CCT
- Dims with minimal color shift
- Class 2 listed for wet locations
- Proprietary strong bond solder method handles up to 30lbs of torque on wire leads and connectors
- 3 Year warranty

IP68

IC RATED

RoHS

Finish options

- Silver anodized
- Black powder coated
- Bronze powder coated
- White powder coated

Profile dimensions

Technical information

OUTPUT OPTIONS

Output	Lumens at 3000K (with clear lens)	Average power consumption at 4'	Lumens / Watt (with clear lens)	Maximum system length In series
SO (L154X2)	357 lm/ft	6.9 W/ft	55 lm/W	16'
HO (L154X2)	537 lm/ft	10.4 W/ft	52 lm/W	10'

CCT INFO/LUMEN MULTIPLIER TM-30-15

Color temperature	Multiplier (reference: 3000K)	CRI	R_f	R_g
2700K	0.81	97	95	101
3000K	1.00	91	89	98
3300K	1.05	94	90	102
4000K	1.28	94	86	96

Ordering code

MODEL	LENGTH	CCT	OUTPUT	LENS	MOUNTING	FINISH	POWER FEED POSITION / TYPE
KXXW	12	27K	SO	C	FC	SA	E	1

KXXW - Kendo XL Wet

12" - 144" 4" increments

27K - 2700 K
30K - 3000 K
33K - 3300 K
40K - 4000 K

SO - Standard
*HO - High

C - Clear
F - Frosted

FC - Fixed clip
AH - Adjustable hinge mounting
FC45 - Fixed clip 45 degree

SA - Silver
BK - Black
BZ - Bronze
WH - White
(RAL 9001 finishes will require longer lead time and supply by-pat lead times)

E - End
B - Back
S - Side

1 - 72" wire leads
1X2 - 72" wire leads at both ends
2 - 72" wire leads at one end and quick connect at other end
3 - Single quick connect
4 - Dual quick connect

*Not available over 120"

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600 N. 4th STREET
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f: 602.595.4156

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2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

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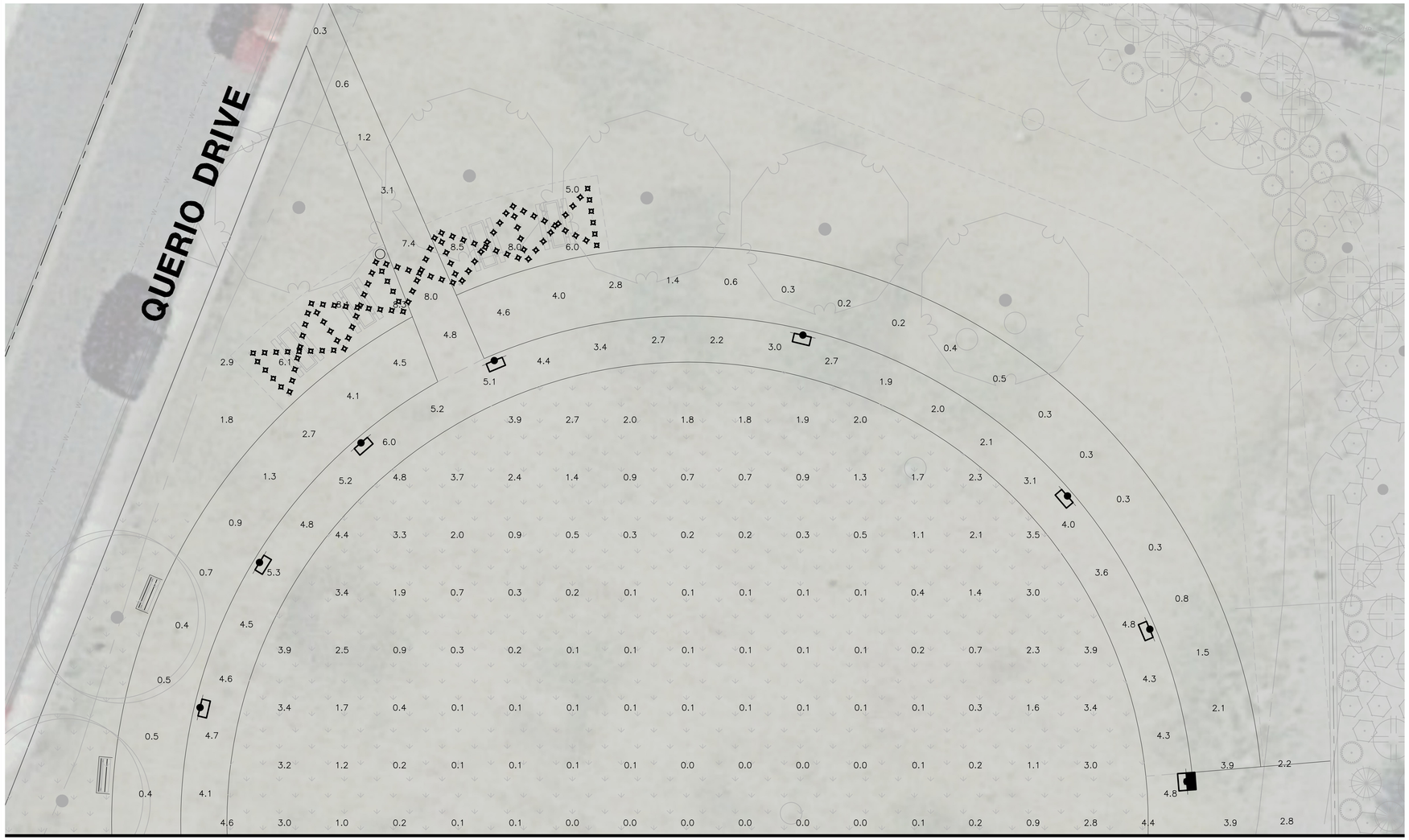
SHEET NO:
SE3.4



MATCHLINE 'A' SEE SE4.2

PHOTOMETRIC RESULTS

Interior Ring Pathway
57 points
HORIZONTAL FOOTCANDLES
Average 4.4
Maximum 15.8
Minimum 1.9
Avg:Min 2.34
Max:Min 8.32
Coef Var 0.49

Exterior Ring Pathway
47 points
HORIZONTAL FOOTCANDLES
Average 1.5
Maximum 4.8
Minimum 0.2
Avg:Min 7.53
Max:Min 24.00
Coef Var 0.99

Entry Pathways
24 points
HORIZONTAL FOOTCANDLES
Average 1.3
Maximum 8.0
Minimum 0.0
Avg:Min N/A
Max:Min N/A
Coef Var 1.68

Informal Stage Area
8 points
HORIZONTAL FOOTCANDLES
Average 3.2
Maximum 4.1
Minimum 2.2
Avg:Min 1.45
Max:Min 1.86
Coef Var 0.21

Picnic Area
9 points at z=0, sp 10ft by 10ft
HORIZONTAL FOOTCANDLES
Average 6.1
Maximum 8.5
Minimum 1.8
Avg:Min 3.38
Max:Min 4.72
Coef Var 0.38
UnifGrad 2.40

Center of Park
195 points at z=0, sp 10ft by 10ft
HORIZONTAL FOOTCANDLES
Average 1.2
Maximum 4.8
Minimum 0.0
Avg:Min N/A
Max:Min N/A
Coef Var 1.14
UnifGrad N/A

PHOTOMETRIC LEGEND

Bathroom Light
candela file 'WDGE1 LED P2 30K 80CRI VW.ies'
1 lamp(s) per luminaire, photometry is absolute
Light Loss Factor = 0.910, watts per luminaire =
number locations= 5, number luminaires= 5
kw all locations= 0.1
Occurrences: 3 at mounting height 7 ft

WDGE2 P3 T3M
candela file 'WDGE2_LED_P3_30K_70CRI_T3M.ies'
1 lamp(s) per luminaire, photometry is absolute
Light Loss Factor = 0.910, watts per luminaire =
number locations= 19, number luminaires= 19
kw all locations= 0.6
Occurrences: 17 at mounting height 12 ft

WDGE2 P4 T4M
candela file 'WDGE2_LED_P4_30K_70CRI_T4M.ies'
1 lamp(s) per luminaire, photometry is absolute
Light Loss Factor = 0.910, watts per luminaire =
number locations= 6, number luminaires= 6
kw all locations= 0.3
Occurrences: 4 at mounting height 12 ft

Aluz Festoon
candela file 'ML2000-27K-GSFL-3W.ies'
1 lamp(s) per luminaire, photometry is absolute
Light Loss Factor = 1.200, watts per luminaire =
number locations= 110, number luminaires= 110
kw all locations= 0.4
Occurrences: 106 at mounting height 12 ft

GRAPHIC SCALE
10 5 0 5 10 20
1 INCH = 10 FEET

Dig Studio
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FAX 602.595.0788

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57159
CLIFFORD M. TOLMAN
Expires 3-31-26

100% CONSTRUCTION DOCUMENTS

LAKE HAVASU CATALYST PROJECT
2117 McCULLOCH BLVD.
LAKE HAVASU CITY, AZ

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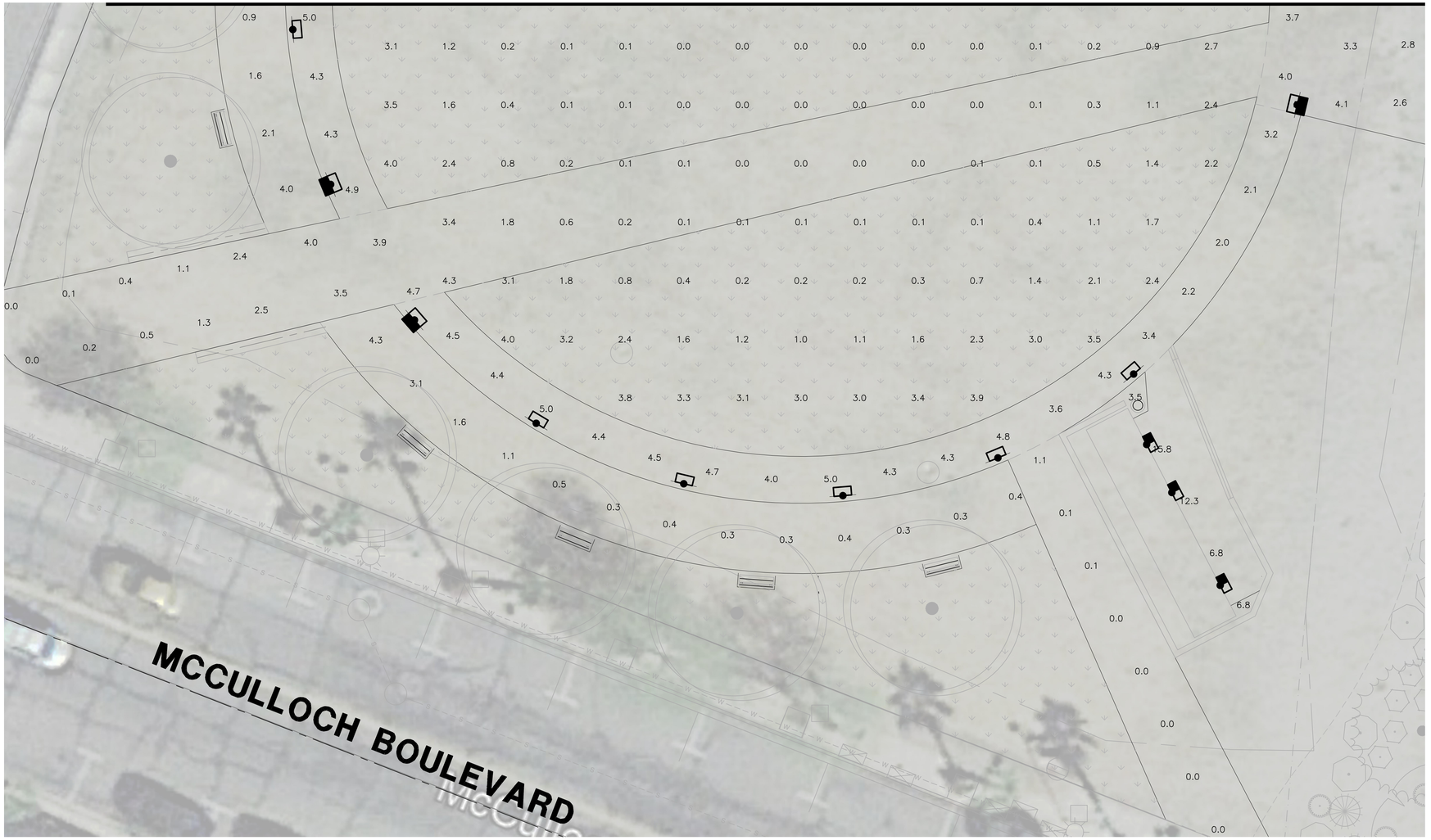
SE4.1

MATCHLINE 'A' SEE SE4.1



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number locations= 19, number luminaires= 19
kw all locations= 0.6
Occurrences: 17 at mounting height 12 ft

WDGE2 P4 T4M
candela file 'WDGE2_LED_P4_30K_70CRI_T4M.ies'
1 lamp(s) per luminaire, photometry is absolute
Light Loss Factor = 0.910, watts per luminaire = .
number locations= 6, number luminaires= 6
kw all locations= 0.3
Occurrences: 4 at mounting height 12 ft

Aluz Festoon
candela file 'ML2000-27K-GSFL-3W.ies'
1 lamp(s) per luminaire, photometry is absolute
Light Loss Factor = 1.200, watts per luminaire = .
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kw all locations= 0.4
Occurrences: 106 at mounting height 12 ft

GRAPHIC SCALE
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1 INCH = 10 FEET

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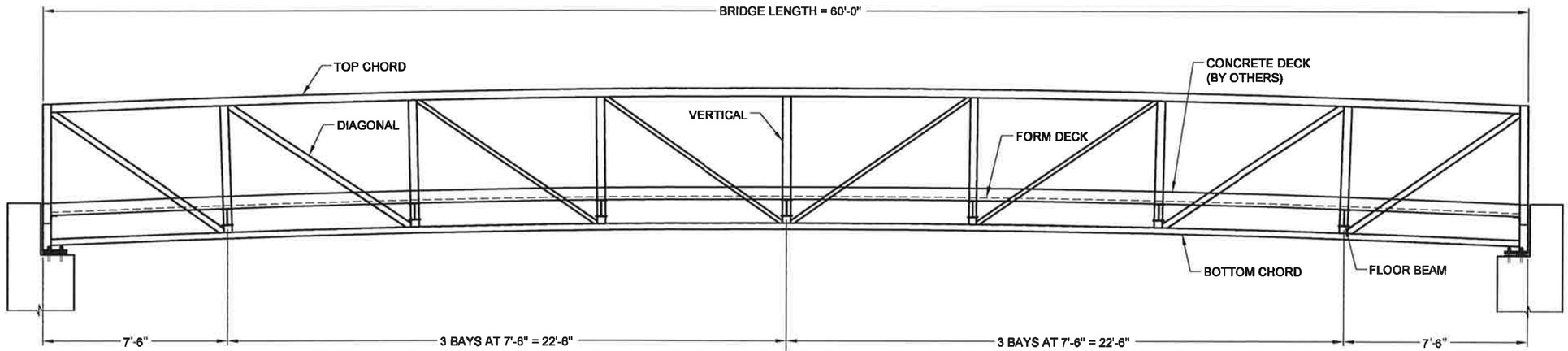
SE4.2

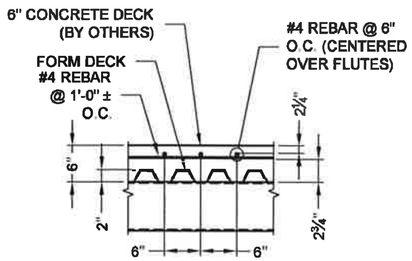
BID ADDITIVE ALTERNATE NUMBER 2



BRIDGE ELEVATION

GENERAL NOTES

1. DESIGN PROCEDURE IS IN ACCORDANCE WITH "LRFD BRIDGE DESIGN SPECIFICATIONS" 6TH EDITION & "GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES" BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) 2009.
2. BRIDGE MEMBERS ARE FABRICATED FROM HIGH STRENGTH, LOW ALLOY, ENHANCED ATMOSPHERIC CORROSION RESISTANT ASTM A847 COLD-FORMED WELDED SQUARE AND RECTANGULAR TUBING, AND ASTM A588, ASTM A606, OR ASTM A242 PLATE AND STRUCTURAL SHAPES (Fy=50,000 PSI).
3. CONCRETE DECK: GALVANIZED FORM DECK SUPPLIED BY CONTECH. CONCRETE, REINFORCING AND EXPANSION MATERIAL SUPPLIED BY OTHERS. SEE CONCRETE DECK SHEET.
4. THE GAS METAL ARC WELDING PROCESS OR FLUX CORED ARC WELDING PROCESS WILL BE USED. WELDING TO BE IN ACCORDANCE WITH AWS D1.1.
5. ALL TOP AND BOTTOM CHORD SHOP SPLICES TO BE COMPLETE PENETRATION TYPE WELDS. WELD BETWEEN TOP CHORD AND END VERTICAL SHALL BE AS DETAILED.
6. UNLESS OTHERWISE NOTED, WELDED CONNECTIONS SHALL BE FILLET WELDS (OR HAVE THE EFFECTIVE THROAT OF A FILLET WELD) OF A SIZE EQUAL TO THE THICKNESS OF THE LIGHTEST GAGE MEMBER IN THE CONNECTION. WELDS SHALL BE APPLIED AS FOLLOWS:
   - A. BOTH ENDS OF VERTICALS, DIAGONALS, AND FLOOR BEAMS SHALL BE WELDED ALL AROUND.
   - B. BRACE DIAGONALS WILL BE WELDED ALL AROUND.
   - C. MISCELLANEOUS NON-STRUCTURAL MEMBERS WILL BE STITCH WELDED TO THEIR SUPPORTING MEMBERS.
7. BRIDGE DESIGN WAS ONLY BASED ON COMBINATIONS OF THE FOLLOWING LOADS WHICH WILL PRODUCE MAXIMUM CRITICAL MEMBER STRESSES.
   - A. 85 PSF UNIFORM LIVE LOADING ON THE FULL DECK AREA OR ONE 10,000 LB VEHICLE LOAD. THE LOAD SHALL BE DISTRIBUTED AS A FOUR-WHEEL VEHICLE WITH 80% OF THE LOAD ON THE REAR WHEELS. THE WHEEL TRACK WIDTH OF THE VEHICLE SHALL BE 6'-0" AND THE WHEEL BASE SHALL BE 10'-0". THE VEHICLE SHALL BE POSITIONED SO AS TO PRODUCE THE MAXIMUM STRESSES IN EACH MEMBER, INCLUDING DECKING.
   - B. 35 PSF WIND LOAD ON THE FULL HEIGHT OF THE BRIDGE, AS IF ENCLOSED.
   - C. 20 PSF UPWARD FORCE APPLIED AT THE WINDWARD QUARTER POINT OF THE TRANSVERSE BRIDGE WIDTH (AASHTO 3.8.2).
8. CLEANING: ALL EXPOSED SURFACES OF STEEL SHALL BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACES PREPARATION SPECIFICATIONS NO. 7 BRUSH-OFF BLAST CLEANING. SSPC-SP7-LATEST EDITION.
9. MINIMUM MATERIAL THICKNESS OF 1/4" ON ALL STRUCTURAL MEMBERS.



2/1 TYP SLAB REINFORCEMENT DETAIL

f'c = 3,500 PSI (MINIMUM 28 DAY STRENGTH)
GRADE 60 REINFORCING (fy = 60,000 PSI)

COMBINE REACTIONS AS PER LOCAL OR GOVERNING BUILDING CODES AS REQUIRED

BRIDGE REACTIONS		+ DOWNWARD LOAD - UPWARD LOAD	
	P (LBS)	H (LBS)	L (LBS)
DEAD LOAD ②	12,525		
UNIFORM LIVE LOAD	13,500		
VEHICLE LOAD	5,000		
WIND UPLIFT 20 PSF — WINDWARD / LEEWARD	-4,875 / -1,625		
WIND	±1,925	5,995	
THERMAL ②			1,680

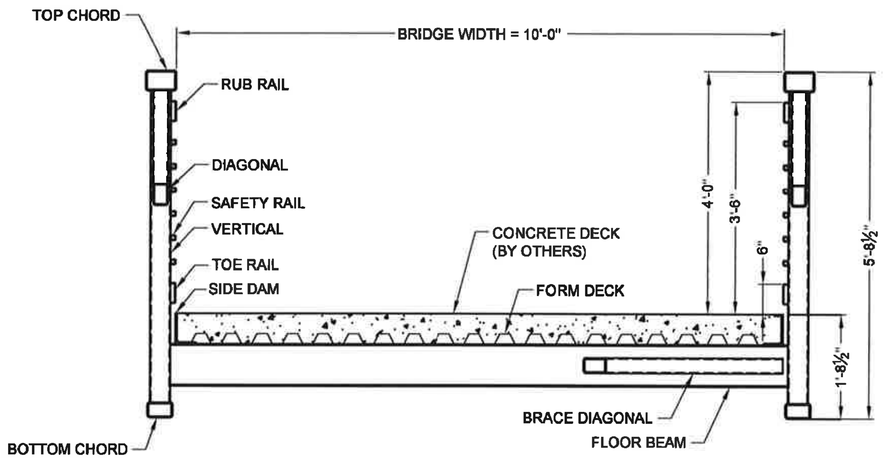
"P" - VERTICAL LOAD EACH BASE PLATE (4 PER BRIDGE)
"H" - HORIZONTAL LOAD EACH FOOTING (2 PER BRIDGE)
"L" - LONGITUDINAL LOAD EACH BASE PLATE (4 PER BRIDGE)

① BRIDGE LIFTING WEIGHT: 13,500 LBS

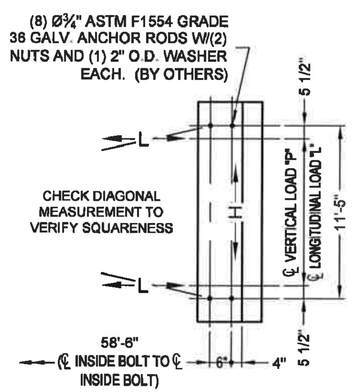
BRIDGE FINAL WEIGHT: 50,100 LBS

① DOES NOT INCLUDE CONCRETE WEIGHT

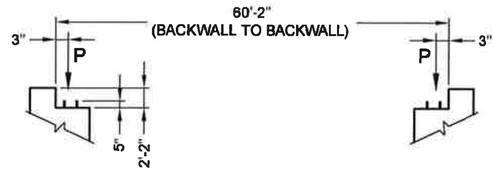
② INCLUDES CONCRETE WEIGHT



1/1 BRIDGE SECTION



PLAN



ANCHOR BOLT ELEVATION

CONTECH
CONTRACT
DRAWING

AISC CERTIFIED FABRICATOR

MARK	DATE	REVISION DESCRIPTION	BY

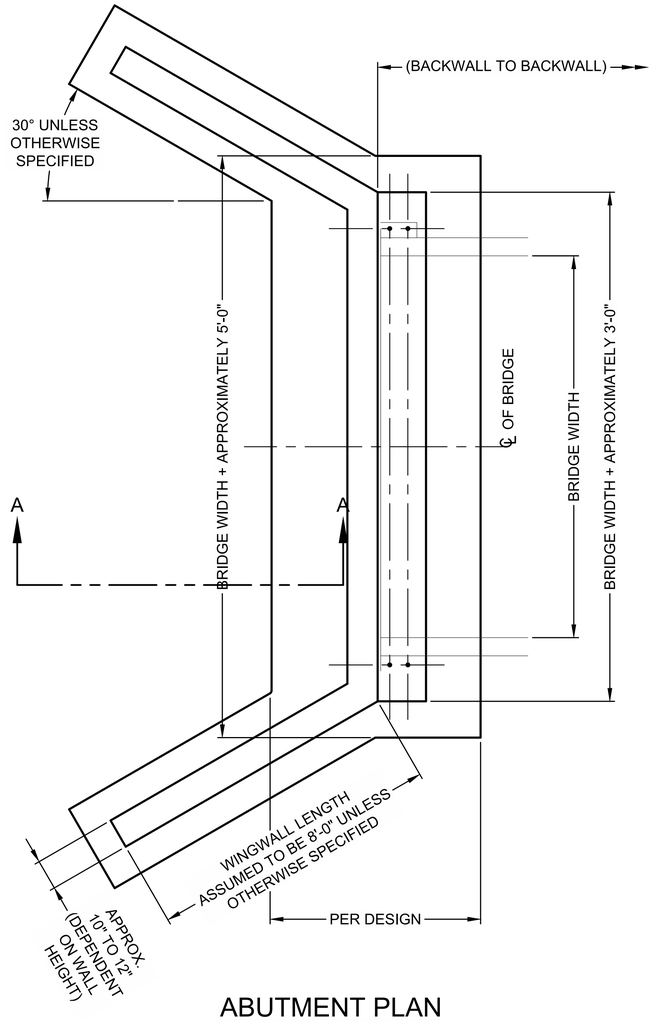
60'-0" X 10'-0" AASHTO EXPRESS PEDESTRIAN BRIDGE STANDARD CONCRETE DECK

CONTECH® ENGINEERED SOLUTIONS LLC
www.ContechES.com
8301 State Highway 29 North, Alexandria, MN 56308
800-338-2047 320-852-7500 320-852-7065 FAX
EXPRESS

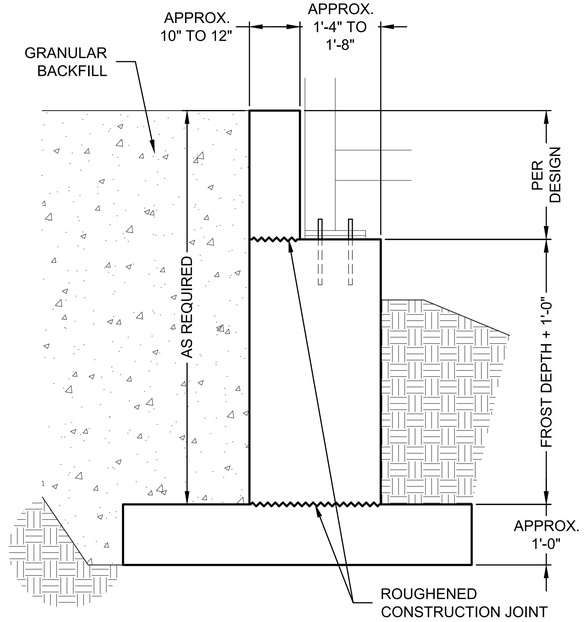
DATE: 10/22/2014	
DESIGNED: XXX	DRAWN: JNG
CHECKED: XXX	APPROVED: XXX
PROJECT No.:	SEQUENCE No.: 001
SHEET: 1 OF 1	

F:\ENGINEERING\AASHTO EXPRESS\960' BRIDGES\10-0\CONCRETE DECK\60' X 10' CONC SALES.DWG 11/3/2015 9:58 AM

BID ADDITIVE ALTERNATE NUMBER 2

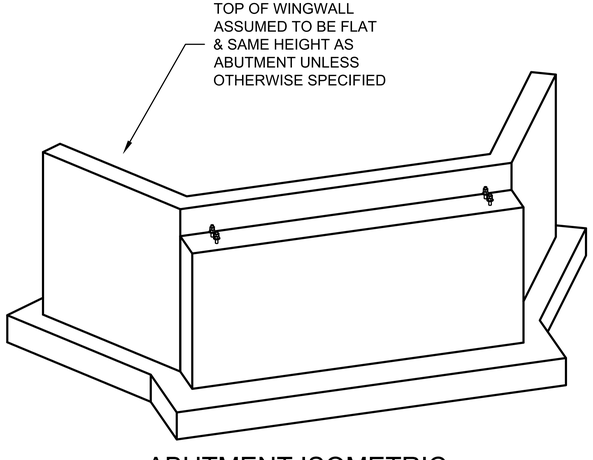


ABUTMENT PLAN



SECTION A - A

CONTRACTOR/OWNER NOTE:
ALL ABUTMENT MATERIALS, INCLUDING ANCHOR RODS, ARE TO BE SUPPLIED BY OTHERS, NOT CONTECH.



ABUTMENT ISOMETRIC

NOT TO SCALE

ABUTMENT DESIGN

1. DESIGN WILL BE BASED ON AN ASSUMED ALLOWABLE NET SOIL BEARING PRESSURE OF 1,500 POUNDS PER SQUARE FOOT UNLESS ADDITIONAL SOILS INFORMATION IS PROVIDED.
2. ABUTMENT DESIGN WILL BE BASED ON LOAD REACTIONS FOR A CONTECH PEDESTRIAN BRIDGE ONLY. IF BRIDGE IS IN A SEISMIC REGION OR IS SUBJECT TO OTHER EXTERNAL LOADS (SNOW LOADING, UTILITIES, ETC.), STANDARD DETAILS DO NOT APPLY. PLEASE CONTACT ENGINEERING FOR ADDITIONAL REQUIREMENTS.
3. ABUTMENT DETAILS SHOWN ARE FOR ABUTMENTS ON EACH SIDE OF THE CROSSING. TOP OF ABUTMENTS TO BE THE SAME ON EITHER SIDE OF THE CROSSING.

FOUNDATION NOTES

1. CONTRACTOR TO CONFIRM ABUTMENT ELEVATION AND LOCATION ARE CONSISTENT WITH PROJECT CIVIL PLANS.
2. BACKFILLING OF ABUTMENTS TO BE DONE WITH GOOD, CLEAN GRANULAR MATERIAL, PLACED IN 8" LOOSE LIFTS AND COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY AS SHOWN BY ASTM D-698 STANDARD PROCTOR TEST.
3. IF GROUNDWATER IS EVIDENT, THE EXCAVATION SHOULD BE PUMPED DRY BEFORE PLACEMENT OF FORMWORK AND CONCRETE.

GEOTECHNICAL NOTES

1. OWNER DESIGNATED INSPECTOR SHALL OBSERVE FOUNDATION EXCAVATIONS PRIOR TO PLACEMENT OF FORMS OR STEEL REINFORCING BARS.
2. SCOUR HAS NOT BEEN EVALUATED BY, AND IS NOT THE RESPONSIBILITY OF CONTECH ENGINEERED SOLUTIONS, LLC. IF SCOUR DESIGN & PROTECTION IS REQUIRED, CONTACT ENGINEERING FOR ADDITIONAL REQUIREMENTS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SHORING, DEWATERING AND CAVING SOILS, IF NECESSARY, DURING EXCAVATIONS.

CONCRETE NOTES

1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 318 FOR MATERIALS, QUALITY, MIXING, PLACING, FORMWORK AND DETAILING.
2. ALL CONCRETE SHALL ACHIEVE A COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS.
3. MAXIMUM AGGREGATE SIZE SHALL BE 3/4".
4. ALL EXPOSED CORNERS OR EDGES SHALL BE FORMED WITH A 1/2" RADIUS CURVED EDGE, U.O.N. ON STRUCTURAL OR ARCHITECTURAL DRAWINGS.
5. MAXIMUM WATER CEMENT RATIO SHALL BE 0.5.

REINFORCING NOTES

1. ALL REINFORCING STEEL IS TO MEET ASTM 615-60 OR EQUAL.
2. REINFORCING BARS SHALL BE PROVIDED, PREPARED, PLACED AND PROTECTED IN ACCORDANCE WITH ACI 318.11.
3. REINFORCING BARS SHALL BE HELD SECURELY IN PLACE DURING PLACING OF CONCRETE BY TIES AT ALL INTERSECTIONS, DOBIES OR EQUIVALENT SHALL BE USED TO SUPPORT BARS, OTHER METHODS MAY BE APPROVED TO SECURE AND/OR SUPPORT BARS.
4. CONCRETE COVER FOR REINFORCING BARS SHALL BE AS SHOWN ON THE PLANS AND SHALL COMPLY WITH ACI 318.11 OR:
   - 4.1. CONCRETE CAST AGAINST EARTH...3"
   - 4.2. OTHER EXTERIOR CASES... 2"
5. REINFORCING BARS SHALL BE IN AS LONG OF LENGTHS AS PRACTICABLE AND AS DETAILED.
6. SPLICES SHALL BE 40 BAR DIAMETERS. STAGGERED WITH SPLICES IN ADJACENT BARS AND A MINIMUM OF 30 INCHES.

MARK	DATE	REVISION DESCRIPTION	BY

FOR BIDDING
PURPOSES ONLY
NOT FOR CONSTRUCTION

CONTECH® ENGINEERED SOLUTIONS LLC
www.ContechES.com
800-338-2047
8301 State Highway 29 North, Alexandria, MN 56308
320-852-7500
320-852-7067 FAX
CONTINENTAL BRIDGE®

DATE: 2/23/2017	
DESIGNED:	DRAWN:
CHECKED:	APPROVED:
PROJECT No.:	SEQUENCE No.:
SHEET: 1 OF 1	

AISC CERTIFIED FABRICATOR

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