FARRAGUT CONNECTOR REPLACEMENT PROJECT

Project Description:
Widen and replace the existing Farragut Connector passageway between Jackson Avenue and Farragut Drive, enhanced by new paving, landscaping, security lighting, as well as calming traffic methods to accommodate both pedestrians and cyclists.

Total Square Footage: 3290 Sq. Ft.

Landscape Footage: 1150 Sq. Ft.

Neighborhood Map:

SHEET INDEX

PROJECT TEAM:

Design:

Linda Endler Design & Associates, Landscape Architect
lindaendlerdesign@gmail.com

Russ Owens, West Coast Design Group, Electrical & Lighting Engineers
russ@wcdg.biz

City of Culver City:

Joe Susca, Senior Analyst, City of Culver City Public Works
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Matthew Withers, Parks Supervisor, City of Culver City Parks & Recreation
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CITY OF CULVER CITY
PUBLIC WORKS DEPARTMENT
CULVER CITY, CALIFORNIA

LINDA ENDLER DESIGN & ASSOCIATES
Linda Endler, P.L.A., *License #6390*
lindaendlerdesign@gmail.com
310-614-6323

LICENSED LANDSCAPE ARCHITECT — Linda T. Endler, LA 6390 — Signature — Renewal Date 1-31-25 — Date — STATE OF CALIFORNIA

NO.	REVISION	BY	APPR.	DATE
1		LTE		5-23-23
2		LTE		7-20-23
3				

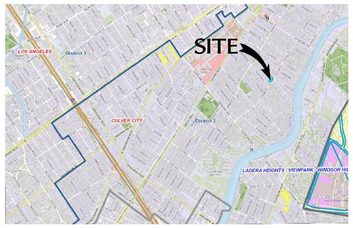
FARRAGUT CONNECTOR REPLACEMENT PROJECT

COVER SHEET

REVIEWED BY

SENIOR ENGINEER DATE

SHEET NO. C-0



VICINITY MAP
NO SCALE

NOTE:

1. BOUNDARIES SHOWN HEREON ARE PRORATED BY FOUND MONUMENTS AND RECORD INFORMATION.
2. LANDSCAPING AND LANDSCAPE IRRIGATION DEVICES MAY EXIST WITHIN THE PROPERTY AND ARE NOT SHOWN.
3. TREE CANOPIES ARE PICTORIAL, AND MAY NOT REFLECT TRUE DRIP LINES.
4. IF RETAINING WALLS OR SIMILAR STRUCTURES ARE TO BE DESIGNED FROM TOPOGRAPHY SHOWN HEREON, THE ELEVATIONS OF CRITICAL POINTS CONTROLLING THE DESIGN MUST BE VERIFIED PRIOR TO ADOPTION OF FINAL DESIGN.
5. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF THE TITLE REPORT. EASEMENTS IF ANY ARE NOT SHOWN HEREON

BASIS OF BEARINGS:

THE BASIS BEARINGS FOR THIS SURVEY IS BASED ON THE CENTERLINE OF JACKSON AVENUE AS SHOWN ON THE P.W.F.B. 1116, PAGES 463-464 AS N 38° 35' 15" W

BENCHMARK:

BENCH MARK NO. 17-05511 NAVD 1988 DATUM OF CITY OF LOS ANGELES

SPIKE WEST CURB JEFFERSON BOULEVARD NORTH OF LEAHY STREET ON SOUTH BLDG LINE OF # 10001

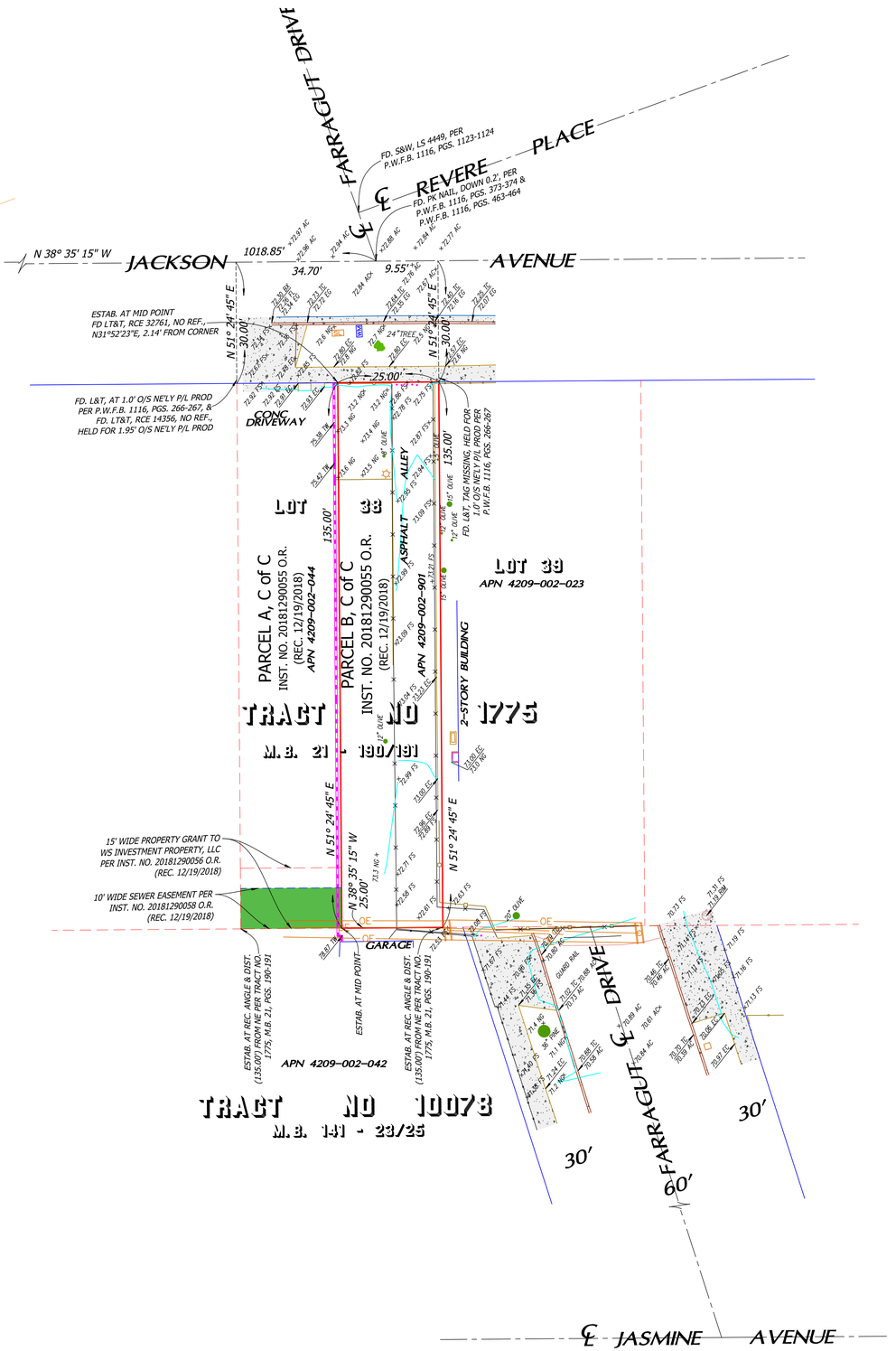
ELEVATION = 84.017 FEET (ADJUSTMENT OF 2000)

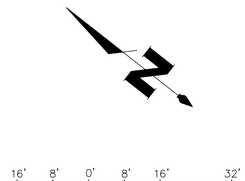
ATTENTION:

IF THIS MAP IS PROVIDED IN AN ELECTRONIC FORMAT (IE: CAD) AS A COURTESY TO THE CLIENT, THE DELIVERY OF THE ELECTRONIC FILE DOES NOT CONSTITUTE THE DELIVERY OF OUR PROFESSIONAL WORK PRODUCT. ONLY THE SURVEYOR'S SIGNED AND SEALED PAPER PRINT OR PDF FORMATTED DRAWING CONSTITUTES OUR PROFESSIONAL WORK PRODUCT. IN THE EVENT THAT THE ELECTRONIC FILE IS ALTERED, THE SURVEYOR'S SIGNED AND SEALED PRINT OR PDF FORMATTED DRAWING MUST BE REFERRED TO FOR THE ORIGINAL AND CORRECT SURVEY INFORMATION. CHRIS NELSON AND ASSOCIATES, INC. SHALL NOT BE RESPONSIBLE FOR ANY MODIFICATIONS MADE TO THE PROVIDED CAD FILE OR FOR ANY PRODUCTS THAT HAVE BEEN DERIVED FROM THE CAD FILE, WHICH ARE NOT REVIEWED, SIGNED AND SEALED BY US.

PROFESSIONAL LAND SURVEYOR
CHRIS D. NELSON
NO. 6385
STATE OF CALIFORNIA

DATED:DECEMBER 20, 2022





LEGEND:

- FLOOD LIGHT
- GUARD POST
- STREET LIGHT PULL BOX
- WATER METER
- SEWER MAN HOLE
- POWER POLE
- CHAINLINK FENCE/ VYNL FENCE
- METAL FENCE (WROUGHT IRON FENCE)
- WOOD FENCE
- WALL
- CENTERLINE
- PROPERTY LINE
- LOT LINE
- ROW LINE
- OVERHEAD ELECTRIC WIRE

ABBREVIATIONS:

ASPH.	ASPHALT CONCRETE
CONC.	CONCRETE
AC	ASPHALT
EC	EDGE OF CONCRETE
EG	EDGE OF GUTTER
FL	FLOW LINE
FS	FINISHED FLOOR
NG	NATURAL GROUND
TC	TOP OF CURB
TW	TOP OF WALL

REVISION NOTES

DATE	DESCRIPTION	BY
1/10/2023	UPDATED BOUNDARY PER CLIENT PROVIDED DOCUMNETS	SJW

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SURVEYORS AND ENGINEERS
31238 Via Colinas Suite H, Westlake Village, CA. 91362
P: 818.991.1040
www.chrisnelsonassociates.com

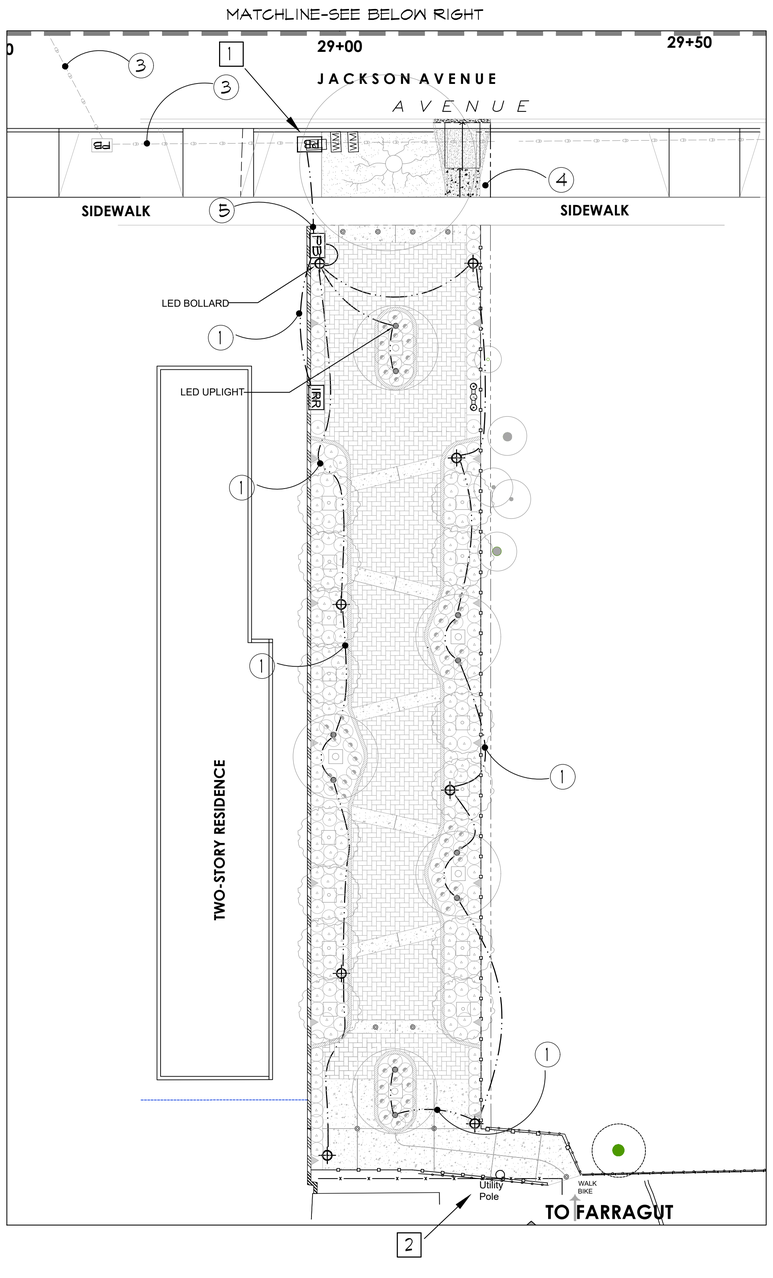
PREPARED FOR:
CULVER CITY PARKS & RECREATION

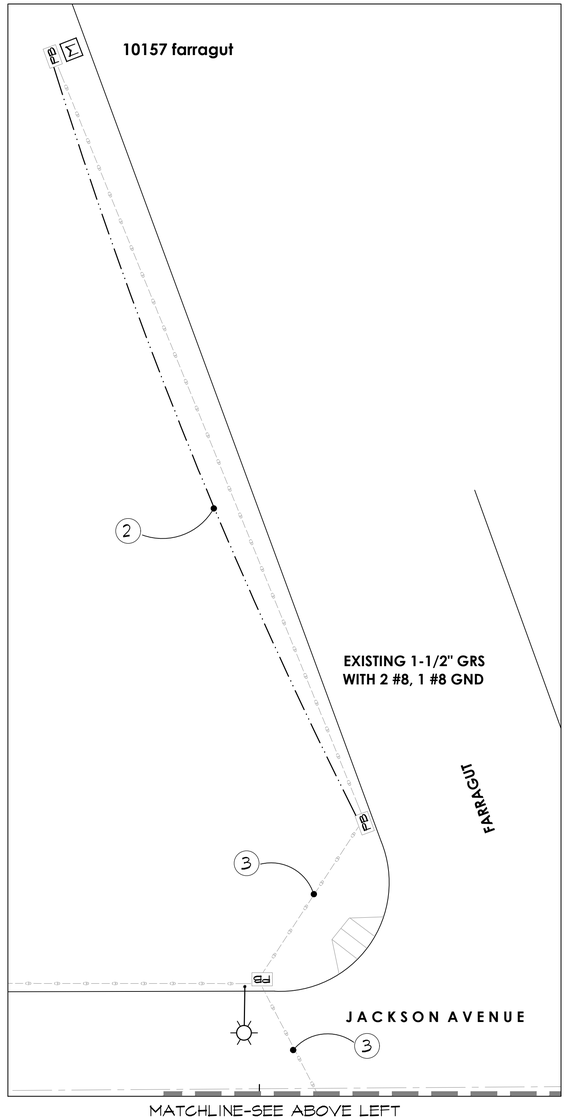
TOPOGRAPHIC SURVEY MAP

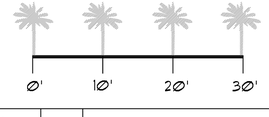
POR. LOT 38, BLOCK 4, TRACT NO 1775
M.B. 21-190/191
4201 JACKSON AVENUE,
CITY OF LOS ANGELES, COUNTY OF LOS ANGELES

JOB NO. 21-6472
SCALE: 1" = 16'
DATE: DEC., 2022
DRAFTED: SDN

SHEET NO.
C-1
OF 1 SHEET







MEGGER TEST

ALL WIRING SHALL BE INSTALLED IN A METHOD THAT UPON COMPLETION THE SYSTEM IS FREE FROM SHORT CIRCUITS AND GROUNDS (OTHER THAN REQUIRED GROUNDING).

THE CONTRACTOR SHALL PROVIDE A "MEGGER" INSULATION TEST (IN THE PRESENCE OF THE CITY REPRESENTATIVE) WHICH APPLIES A MINIMUM OF 500 VOLTS D.C. EACH CIRCUIT SHALL MEET THE REQUIREMENTS FOR INSULATION RESISTANCE. THE TEST SHALL BE PERFORMED AFTER WIRING HAS BEEN INSTALLED IN THE CONDUIT, IS SPLICED AND CONTINOUS FROM PANEL TO END OF RUN FOR EACH WIRING SYSTEM (REMOVE FUSES IN BASE OF POLE FOR DURATION OF TEST).

LOW AND HIGH VOLTAGE CIRCUITS SHALL COMPLY WITH THE FOLLOWING MINIMUM REQUIREMENTS FOR INSULATION RESISTANCE:

- CIRCUITS OF #4 OR SMALLER WIRES - 1,000,000 OHMS
- CIRCUITS OF #2 OR LARGER WIRES - 500,000 OHMS

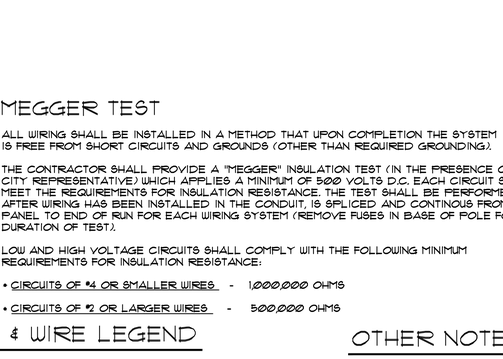
CONDUIT & WIRE LEGEND

ALL WIRE TO BE STRANDED COPPER.

1. 2 #10 THWN & 1 #10 THWN E/G-3/4"C.
2. 4 #8 THWN & 1 #8 THWN E/G-2"C. SEPARATE NEUTRALS
3. 4 #8 THWN & 1 #8 THWN E/G-(E) C. ADDITIONAL WIRES TO BE INSTALLED SEPARATE NEUTRALS
4. 4 #8 THWN & 1 #8 THWN E/G-1" C. INSTALL FROM NEW PULL BOX TO IRRIGATION CONTROLLER BOX
5. 4 #10 THWN & 1 #10 THWN E/G-1" C.

OTHER NOTES

1. INTERCEPT EXISTING CONDUIT AND INSTALL NEW PULL BOX. REPLACE EXISTING WIRES FROM THE NORTH PULL BOX TO THE SOUTH PULL BOX ALONG FARRAGUT. INSURE THE BURRS FROM THE CUTTING OF CONDUIT ARE SMOOTHED OUT
2. REMOVE ALL EQUIPMENT MOUNTED ON WOOD POLE. CONTACT SCE TO SAFETY OFF ANY EXPOSED EQUIPMENT



PLACE PULL BOX ON 12" OF CRUSHED ROCK. ROCK BASE SHALL BE 6" LARGER IN ALL DIMENSIONS THAN PULL BOX. ROCK TO BE 3/4" NOMINAL. ALL WIRES SHALL BE ABLE TO EXTEND A MINIMUM OF 18" OUT OF BOX. INSTALL CONDUITS TO BE STUBBED UP HALFWAY INTO PULL BOX

ALL WIRE TERMINATIONS SHALL USE EITHER IMMERSION RATED SPLICE KITS OR LISTED DIRECT BURY WIRE NUTS. INSTALL PER MFG. INSTRUCTIONS PER NEC ARTICLE 314.30(C): ALL ENCLOSED CONDUCTORS AND ANY SPLICES OR TERMINATIONS, IF PRESENT, SHALL BE LISTED AS SUITABLE FOR WET LOCATIONS.

CONCRETE PULL BOX DETAIL

NO SCALE

DIGALERT
DIAL TOLL FREE
1-800-227-2600
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT (USA)

LINDA ENDLER DESIGN & ASSOCIATES
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WEST COAST DESIGN GROUP
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COSTA MESA, CA 92627
(949) 735-1000

REGISTERED PROFESSIONAL ENGINEER
RUSSELL A. MARK
No. E11028
Exp. 06/30/23
ELECTRICAL
STATE OF CALIFORNIA

NO.	REVISION	BY	APPR.	DATE
1				
2				
3				

CITY OF CULVER CITY
PUBLIC WORKS DEPARTMENT
CULVER CITY, CALIFORNIA

FARRAGUT CONNECTOR REPLACEMENT PROJECT

ELECTRICAL SITE PLAN

REVIEWED BY

SENIOR ENGINEER DATE

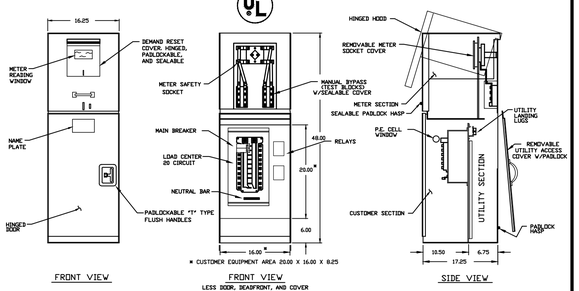
SHEET NO.
E1.01
Sheet of Sheets

MEUG16X–200

MYERS CUSTOM PRODUCTS

DESIGNED TO SUPPLY METERED POWER TO REMOTE LOCATIONS
TYPICAL APPLICATIONS INCLUDE PARKING LOT LIGHTING, PUMP STATIONS & STREET LIGHTING

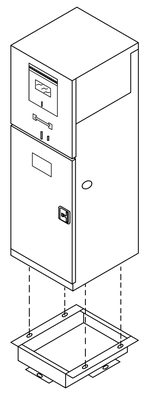
2950 E. PHILADELPHIA STREET (909) 923-1800
ONTARIO CA 91761

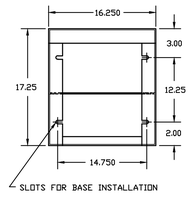


MYERS TYPE MEUG16X

CATALOG NO.	AMPS	VOLTAGE	MAIN	AIC RATING
MEUG16X-M200	200	120/240	200	10,000

* PAD MOUNTING BASE NOT INCLUDED.





BOTTOM VIEW
MOUNTING SLOT DETAIL

SPECIFICATIONS

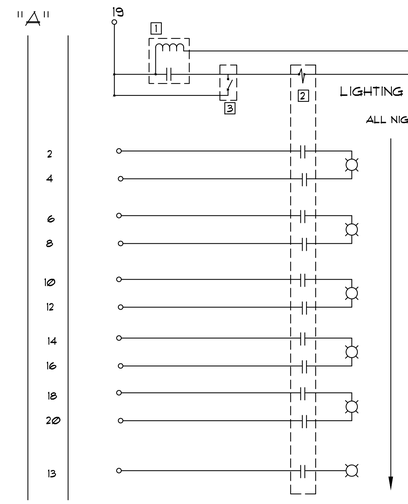
- METER SOCKET 4 JAW 100 AMPS OR 200 AMPS.
- METER SOCKET WITH TEST BLOCKS.
- STANDARD VOLTAGE 120/240V 1Ø 3W.
- 20 CIRCUIT COPPER BUSSED INTERIOR.
- MAIN BREAKER 200 AMP AMP 10KAIC.
- UTILITY LANDING LUGS 200 AMPS.
- UTILITY TEST SECTION.
- RAINPROOF TYPE 3R ENCLOSURE.
- HINGED DOOR & DEADFRONT.
- P.E. CELL, TEST SWITCH, LIGHTING RELAYS, AS SHOWN.
- STAINLESS STEEL CONSTRUCTION
- LISTED BY UNDERWRITERS LABORATORIES, INC.
- PAD MOUNT BASE AVAILABLE FOR CONCRETE FOUNDATION.
- VANDAL-RESISTANT ENCLOSURE HAS SIDE-HINGED DOOR AND DEADFRONT FOR EASY INSTALLATION AND MAINTENANCE.
- ALL FACTORY WIRING IS 600 VOLT RATED COPPER.
- MEETS EUSERC 308 REQUIREMENTS.

CIRCUIT SCHEDULE

PANEL: A @ MAIN METER — VOLTAGE: 120/240
PHASE: 1P., 3W. — BUS SIZE: 200A
MOUNTING: PEDESTAL - NEMA 3R — MAIN: 200A - 2P — A.I.C.: 10KAIC

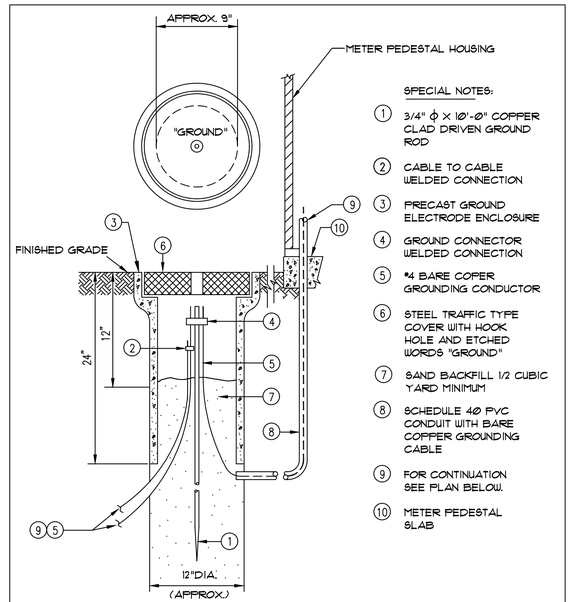
CKT #	LOAD	BKR	AMPS L1	AMPS L2	AMPS L1	AMPS L2	BKR	LOAD	CKT #
1	MAIN BREAKER	2/100	X		8		2/30	* STREET LIGHTS	2
3	MAIN BREAKER	2/100		X		8	2/30	* STREET LIGHTS	4
5	SPACE	1/20			8		2/30	* STREET LIGHTS	6
7	SPACE	2/30				8	2/30	* STREET LIGHTS	8
9	SPACE	2/30			8		2/30	* STREET LIGHTS	10
11	SPACE	1/20		3		8	2/30	* STREET LIGHTS	12
13	* CONNECTOR LIGHTS	1/20	8		8		2/30	* STREET LIGHTS	14
15	CONNECTOR IRR CONTROLLER	1/20		2		8	2/30	* STREET LIGHTS	16
17	SPACE	1/20			8		2/30	* STREET LIGHTS	18
19	PHOTOCELL-LIGHTING CONTROL	1/20	1			8	2/30	* STREET LIGHTS	20
	TOTALS		49	45					

* CIRCUITS CONTROLLED BY PHOTOCELL & (6) 2P 30A RELAYS. MOUNT RELAY IN METER PEDESTAL. RELAY SHALL BE SQ. D. CAT NO. 8910DPA32V02-FORM U1. PHOTOCELL TO BE INTERMATIC #LC4521C, NO SUBSTITUTION. PROVIDE "TEST-AUTO" SWITCH IN CABINET.



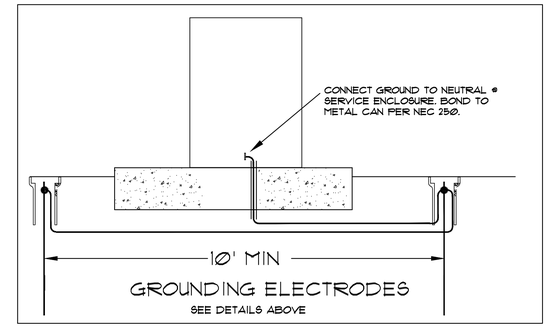
[1] PHOTOCELL.
[2] LIGHTING RELAY
[3] TOGGLE SWITCH SPST 120V. LABLE PLATE "TEST" & "AUTO"
MOUNT TIME CLOCK, RELAY & SWITCH IN METER PEDESTAL

(3) CONTROL WIRING SCHEMATIC
NTS



SPECIAL NOTES:
1. 3/4" ϕ X 10'-Ø" COPPER CLAD DRIVEN GROUND ROD
2. CABLE TO CABLE WELDED CONNECTION
3. PRECAST GROUND ELECTRODE ENCLOSURE
4. GROUND CONNECTOR WELDED CONNECTION
5. #4 BARE COPER GROUNDING CONDUCTOR
6. STEEL TRAFFIC TYPE COVER WITH HOOK HOLE AND ETCHED WORDS "GROUND"
7. SAND BACKFILL 1/2 CUBIC YARD MINIMUM
8. SCHEDULE 40 PVC CONDUIT WITH BARE COPPER GROUNDING CABLE
9. FOR CONTINUATION SEE PLAN BELOW.
10. METER PEDESTAL SLAB

GROUND WELL
N.T.S



GROUNDING ELECTRODES
SEE DETAILS ABOVE

CONNECT GROUND TO NEUTRAL @ MAIN GEAR AT SERVICE ENCLOSURE

ENTRY ELECTRICAL METER DETAIL-SPECIFICATIONS

NO SCALE

LEGEND: 10157 farragut

ELECTRICAL METER ENCLOSURE TO BE FROM STAINLESS STEEL. SEE SHEET E-101 FOR LOCATION COORDINATE INSTALLATION WITH LOCAL INSPECTION AUTHORITY AND SCE. REPLACE EXISTING PEDESTAL WITH NEW STAINLESS STEEL PEDESTAL.

PROVIDE (2) 10' x 5/8" COPPER CLAD GROUND RODS AS SHOWN ON THIS SHEET. PROVIDE LISTED CONNECTIONS FOR GROUNDING & BONDING.

SCOPE OF WORK:

1. ORDER NEW METER PEDESTAL (BY CITY)
2. INSTALL NEW CONDUIT FROM EXISTING PEDESTAL
3. INSTALL A NEW QUADPLEX BREAKER, 1 OUTER 2P 30A AND 1 INNER 2P 30A CONNECT (2) CIRCUITS TO NEW BERAKER.
4. INSTALL (2) NEW 1P 20A BREAKERS FOR THE WORK AT THE CONNECTOR.
5. INSTALL A NEW 2P 30A LIGHTING RELAY FOR NEW LIGHTS
6. INSTALL NEW PEDESTAL WHEN READY (APPROX 9 MONTHS)

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lindaendlerdesign@gmail.com
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COSTA MESA, CA 92627
(949) 735-1000

REGISTERED PROFESSIONAL ENGINEER — RUSSELL A. [illegible] — No. E11028 Exp. 06/30/23 — ELECTRICAL — STATE OF CALIFORNIA

NO.	REVISION	BY	APPR.	DATE
1				
2				
3				

CITY OF CULVER CITY
PUBLIC WORKS DEPARTMENT
CULVER CITY, CALIFORNIA

FARRAGUT CONNECTOR REPLACEMENT PROJECT

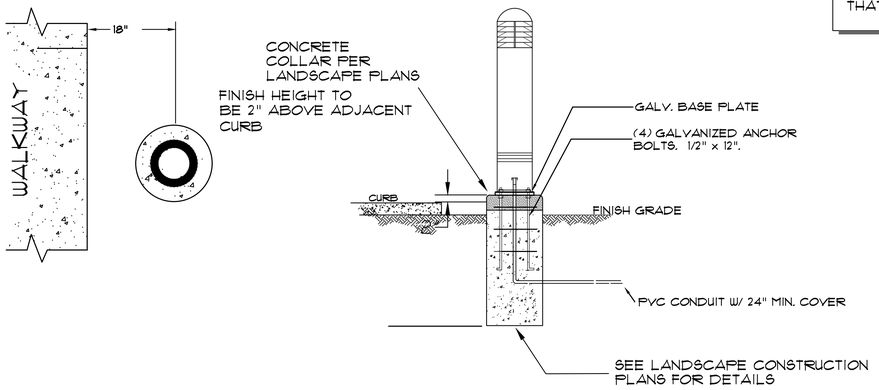
ELECTRICAL SITE DETAILS

REVIEWED BY
SENIOR ENGINEER DATE

SHEET NO.
E1.02
Sheet of Sheets

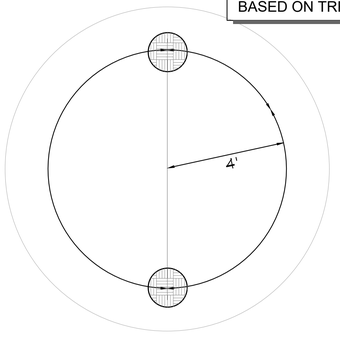
ALL EXPOSED CONCRETE SHALL MATCH ADJACENT COLOR AND FINISH AND SHALL BE DONE BY A CONCRETE CONTRACTOR.

THE HAND HOLE COVERS ON THE LIGHT POLES ARE TO BE ORIENTATED IN A WAY THAT FACES THE OPPOSITE SIDE OF WALKWAY



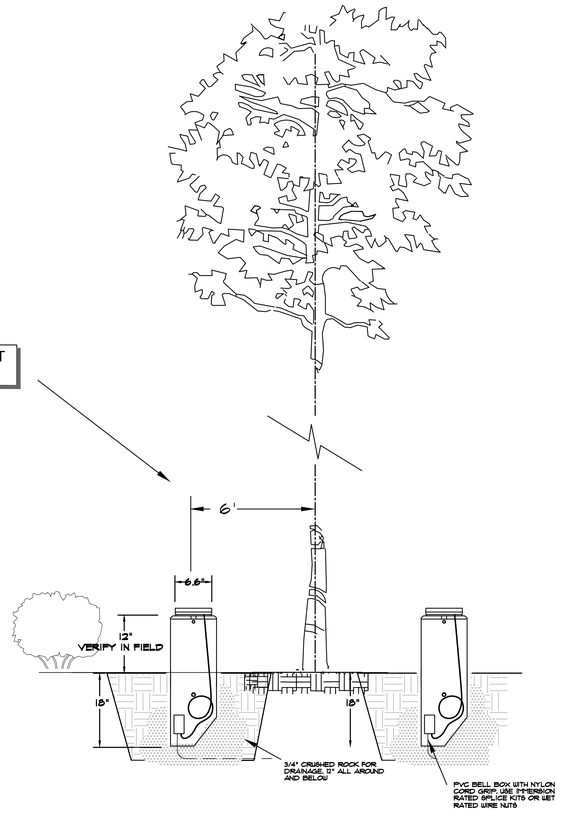
TYPE "B" FIXTURES

** SEVERE SULFATE SOIL EXPOSURE REQUIRES CONCRETE IN CONTACT WITH SOIL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI, TYPE V CENEMT AND A WATER/CEMENT RATIO OF 0.45 UNLESS SOILS REPORT SHOWS OTHERWISE.



TYPICAL DETAIL FOR THE TREE WITH 2 LIGHTS

VERIFY DISTANCE WITH LANDSCAPE ARCHITECT BASED ON TREE HEIGHT AND ROOT BALL SIZE



TYPE "A" FIXTURE ON TREES

N.T.S.

NO SUBSTITUTION OF LIGHT FIXTURES WITHOUT PRIOR WRITTEN APPROVAL FROM ENGINEER. SUBSTITUTION SUBJECT TO REDESIGN FEES

LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	MANUFACTURER CATALOG#	LAMP QTY. & TYPE	FIXTURE WATTAGE	VOLTS	REMARKS / MOUNTING
	A	LED COMPANY # CLI000-AGN-3000K-M-BRONZE-NONDIM-15-HEX 12" ABOVE GRADE	3K 15 WATT LED	15	120	PLACE NEAR TREES AS DIRECTED ON SHEET E-101
	B	KIM # VRBI-15L3K-UV-DB	19W LED MODULE	19	120	PROVIDE CONCRETE FOOTING COLOR TO MATCH ADJACENT SIDEWALK

DIGALERT
DIAL TOLL FREE
1-800-227-2600
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT (USA)

LINDA ENDLER DESIGN & ASSOCIATES
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REGISTERED PROFESSIONAL ENGINEER
RUSSEL T. A.
No. E11028
Exp. 06/30/23
ELECTRICAL
STATE OF CALIFORNIA

NO.	REVISION	BY	APPR.	DATE
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2				
3				

CITY OF CULVER CITY
PUBLIC WORKS DEPARTMENT
CULVER CITY, CALIFORNIA

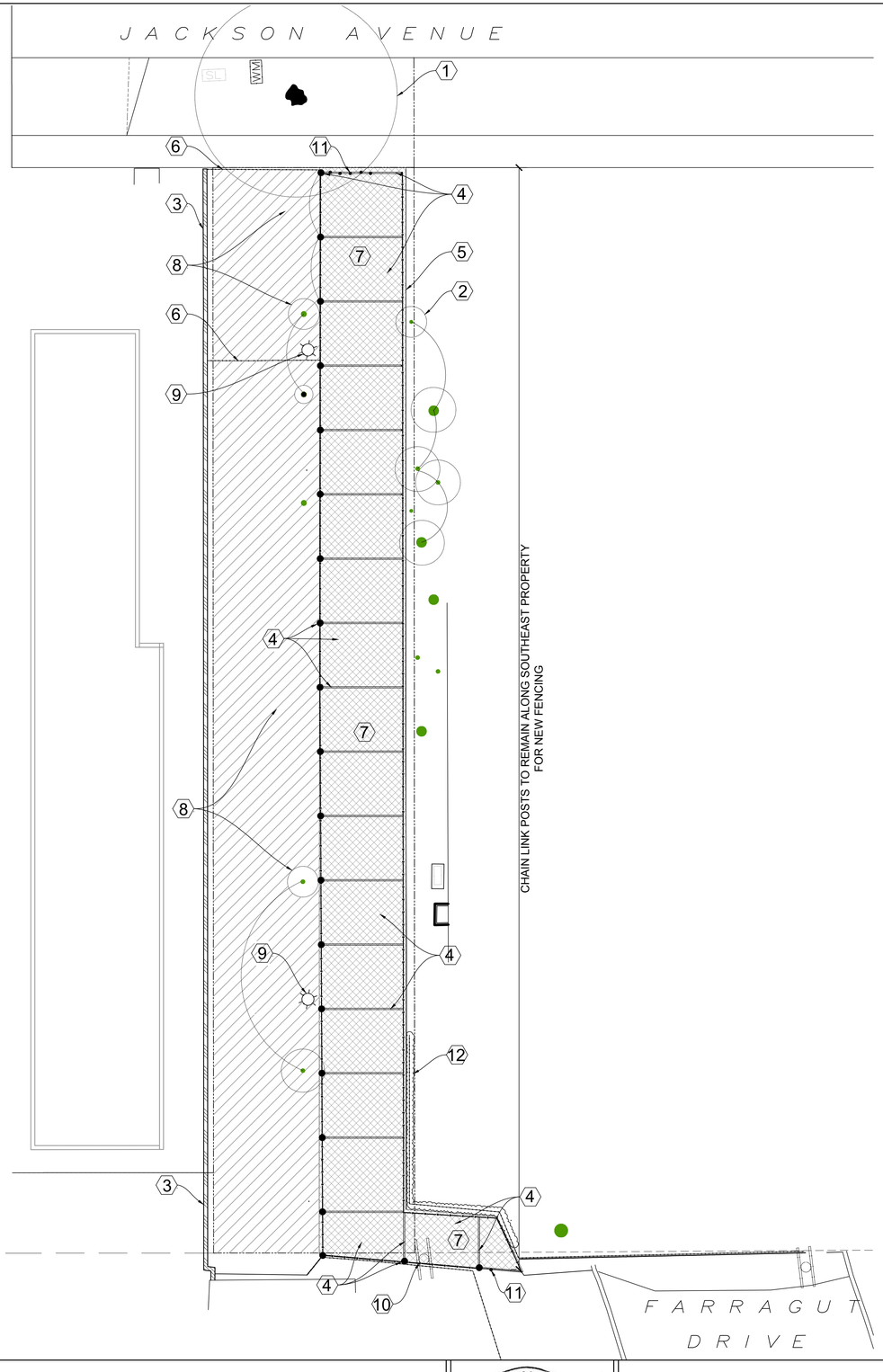
FARRAGUT CONNECTOR REPLACEMENT PROJECT

ELECTRICAL SITE DETAILS

REVIEWED BY

SENIOR ENGINEER DATE

SHEET NO.
E1.03
Sheet of Sheets



DEMOLITION PLAN:

1. EXISTING FICUS TREE ON PARKWAY - PROTECT IN PLACE
2. EXISTING ACACIA TREES ON SOUTH NEIGHBOR'S PROPERTY - PROTECT IN PLACE
3. EXISTING CONCRETE WALL TO REMAIN - PROTECT IN PLACE
4. REMOVE CHAIN LINK FABRIC, TOP RAIL, OVERHEAD TUBING, METAL POSTS & FOOTINGS AS SHOWN & HAUL AWAY
5. RETAIN EXISTING CHAIN LINK POSTS ALONG SOUTHEAST PROPERTY LINES TO REUSE FOR NEW FENCING, SAWCUTTING PER DETAIL SHEET L-1.4
6. REMOVE EXISTING WOOD FENCING ON WEST SIDE OF SITE & HAUL AWAY
7. REMOVE EXISTING CONCRETE WITHIN PROJECT SITE & HAUL AWAY
8. REMOVE EXISTING TREES, ALL VEGETATION & WEEDS AS SHOWN & HAUL AWAY
9. REMOVE 2 EXISTING COBRA STREET LIGHTS *(Per Electrical Plan)* AND RETURN TO PUBLIC WORKS.
10. ON EXISTING POWER POLE TERMINATE CIRCUIT ON JUNCTION BOX (per Electrical Plan)
11. REMOVE METAL VERTICAL POSTS (5) @ JACKSON ENTRY & (1) @ FARRAGUT ENTRY & HAUL AWAY
12. PROTECT FLOWERING VINE ON NEIGHBOR'S FENCE

SYMBOLS LEGEND

- VEGETATION, WEEDS & SOIL TO BE REMOVED
- CONCRETE PAVING TO BE REMOVED
- CHAIN LINK FENCING TO BE REMOVED
- OVERHEAD STEEL TUBING TO CHAIN LINK FENCING TO BE REMOVED
- STEEL POST & FOOTING TO BE REMOVED
- NEIGHBOR'S WOOD FENCING TO BE REMOVED (NORTH SIDE)
- STEEL VERTICAL POSTS @ JACKSON & FARRAGUT (6)
- EXISTING COBRA STREET LIGHTS (2) TO BE REMOVED

DEMOLITION NOTES

1. The Contractor shall verify the location of all site utilities prior to beginning demolition. The Contractor bears full responsibility for this work. Any damage to utilities which are to remain caused by any person, vehicle, equipment, or tool related to the execution of the contract shall be repaired immediately at no expense to the owner. The Contractor shall notify Dig Alert (811) 48 hours prior to any excavation. Refer toSurvey Drawing, Sheet C-1.
2. All debris created by removal operations shall become the property of the contractor and shall be disposed of away from the job site daily in a manner and in a location acceptable to the owner.
3. Prior to demolition in the contract limit area, the contractor shall walk the area to be demolished with the Landscape Architect and Parks Supervisor to identify specific limits of work.
4. Notify Landscape Architect & Parks Supervisor prior to construction to verify the final location of sawcuts and concrete removal.
5. Remove 18" of soil in planting areas where paving has been removed. Replace with plant mix as specified in the soil survey attached.

0 4' 8' 16' 24' 32'

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

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Linda Endler, P.L.A., *License #6390*
lindaendlerdesign@gmail.com
310-614-6323

LICENSED LANDSCAPE ARCHITECT — Linda T. Endler, LA 6390 — Signature — Renewal Date 1-26-23 — Date — STATE OF CALIFORNIA

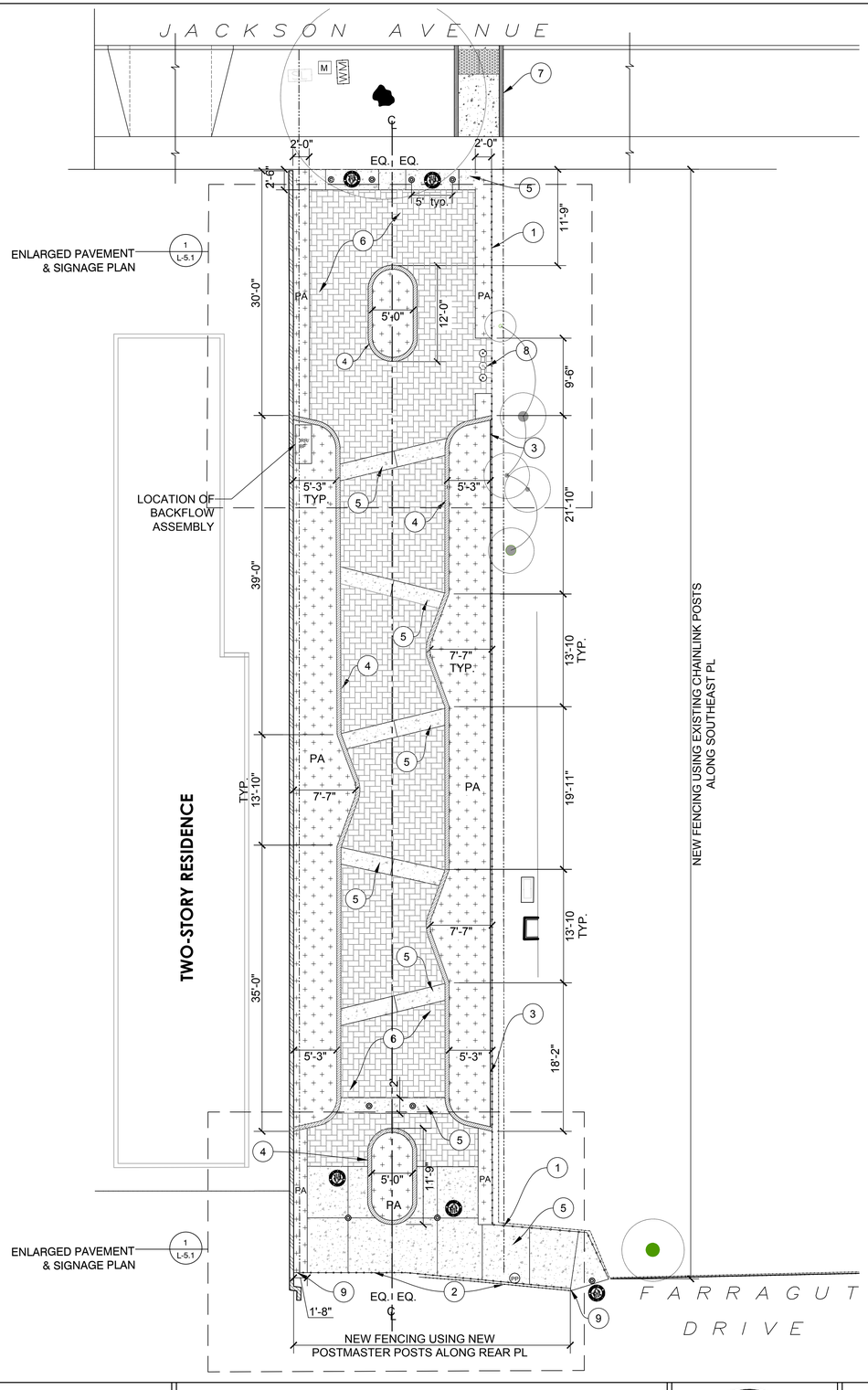
NO.	REVISION	BY	APPR.	DATE
1		LTE		5-23-23
2		LTE		7-20-23
3				

FARRAGUT CONNECTOR REPLACEMENT PROJECT

DEMO PLAN

REVIEWED BY
SENIOR ENGINEER DATE

SHEET NO. L-1.0



MATERIALS LEGEND

#	ITEM	MATERIAL	COLOR	SIZE	FINISH/MODEL #	SUPPLIER/MANUFACTURER	COMMENTS	DETAIL
1	FENCING - SOUTHEAST PL	POST - EXISTING CHAINLINK STEEL POST		2 7/8"				2/ L-1.4
	• FENCING	SELECT REDWOOD		1" x 6" x 6'				
	• POST LINE ADAPTOR BRACKET	GALVANIZED STEEL		2 1/2" X 8"	PART # WSA212X8	CHAIN LINK FITTINGS	CHAINLINKFITTINGS.COM	2/ L-1.4
	• CHAIN LINK ROUND DOME EXTERNAL POST CAP	PRESSED STEEL		2 3/4"	PART # PCD212	CHAIN LINK FITTINGS	CHAINLINKFITTINGS.COM	2/ L-1.4
2	FENCING - REAR PL	POST - METAL POSTMASTER		8'		POSTMASTER BY HALCO	MASTERHALCO.COM	2/ L-1.4
	• FENCING	SELECT REDWOOD		1" x 6" x 6'				
3	PLANTING EDGER-SOUTHEAST SIDE	WOLMANIZED PRESSURE TREATED WOOD OR EQ.		2" X 8"			SEE DETAIL	3 / L-1.2
4	CURBING	CONCRETE	NONE	6" X 6"				7 / L-1.2
5	CONCRETE PAVEMENT	COLORED CONCRETE	OUTBACK			DAVIS COLORS		4 / L.2
6	INTERLOCKING PAVER	CONCRETE	GRAY-MOSS-CHARCOAL	6" X 12"	PERMEABLE HOLLAND	ANGELUS PAVING STONES	100% HERRINGBONE PATTERN	2 / L-1.3
7	ADA RAMP	CONCRETE	SIDEWALK GRADE	AS SHOWN			PROVIDED BY PW	3 / L-1.3
8	DRINKING FOUNTAIN/BOTTLE FILLER		GREEN		MODEL # 10145SM	MOST DEPENDABLE FOUNTAINS	OPTIONAL PET FOUNTAIN	1/ L-1.4
9	24" OUTDOOR HEAVY DUTY ACRYLIC CONVEX MIRROR	ACRYLIC, METAL		24" DIAMETER	MODEL # 68062S	THE CONVEX MIRROR SHOP	QUANTITY - 2	1/ L-1.3

SIGNAGE, STRIPING & SAFETY BOLLARDS - SEE ENLARGED PLAN, SHEET L-5

BOLLARD, INTERNAL LOCKING REMOVABLE	40 GUAGE STEEL, DOME CAP	#4 BRUSHED FINISH	4 1/2" DIA., 36" HIGH.	SSR04040_CS	ATKORE CALPIPE SECURITY	SEE SHEET L-1.5, DETAIL 1	1 & 2 / L-1.2
'WALK YOUR WHEELS' - PAVEMENT SIGNAGE	TEMPLATE, THERMOPLASTIC	TO BE DETERMINED	24" DIAMETER	ST-2030	MY PARKING SIGN	SEE SHEET L-1.5, DETAIL 1	1 / L-1.5
PAVEMENT STRIPING & ARROWS	TEMPLATE, PAINT	YELLOW				SEE SHEET L-1.5, DETAIL 1	2-6 / L-1.5
R4-7 KEEP RIGHT SIGN & SIGN POST	ALUMINUM, ENGINEER GRADE REFLECTIVE		CUSTOM-18" X 24"	PART #: X-R4-7 SPN#: DVME	MY PARKING SIGN.COM	SEE SHEET L-1.5, DETAIL 1	

MATERIALS LEGEND:

PERMEABLE PAVER

CONCRETE PAVING

PLANTING AREA

ABBREVIATIONS:

EQ	EQUAL
PA	PLANTING AREA
CL	CENTER LINE
PP	POWER POLE
PL	PROPERTY LINE

LAYOUT AND MATERIALS NOTES

1. The contractor shall lay out and verify all dimensions prior to construction. Any discrepancies shall be brought to the attention of the Landscape Architect or Parks Supervisor.
2. Written dimensions take precedence over scale.
3. Where dimensions are called as "equal", all referenced items shall be spaced equally, measured to their center lines.
4. All measurements are to face of building, wall or other fixed site improvement. Dimensions to center lines are indicated.
5. Install all intersecting elements at 90 degrees to each other unless otherwise noted.
6. Provide expansion joints where concrete flatwork meets vertical structures such as walls, curbs, steps and building.
7. Expansion joints in walkways shall be located (20'-0") on center maximum unless otherwise noted.
8. Score joints in walkways shall be located as shown in the drawings.

x1 32 16 8 4
0
GRAPHIC SCALE
SCALE: 1/8"=1'-0"

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Linda T. Endler, LA 6390
Signature
Professional Stamp
1-12-23
Date
STATE OF CALIFORNIA

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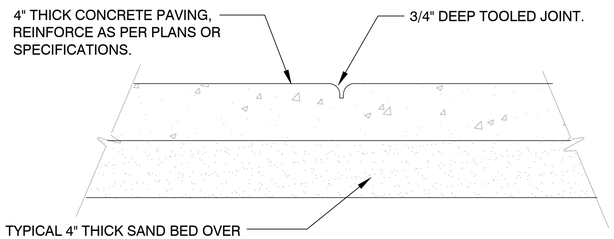
3				

FARRAGUT CONNECTOR REPLACEMENT PROJECT

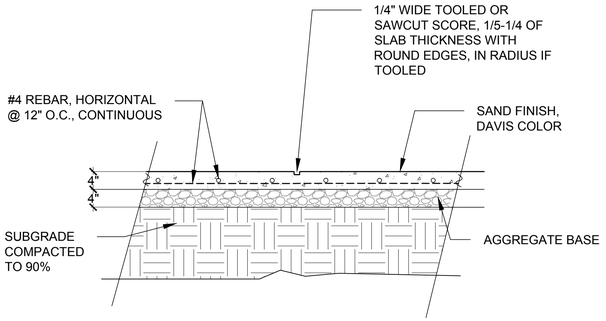
LAYOUT & MATERIALS PLAN

REVIEWED BY
SENIOR ENGINEER DATE

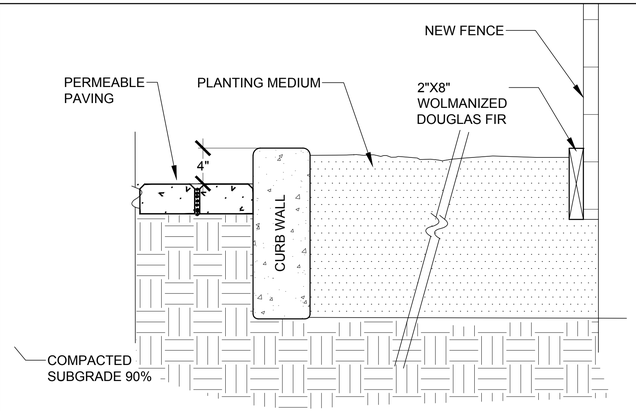
SHEET NO. L-1.1
Sheet 7 of 18 Sheets



CONTROL JOINT
NO SCALE — 5



CONCRETE PAVING
SCALE: 3/4" = 1'-0" — 4

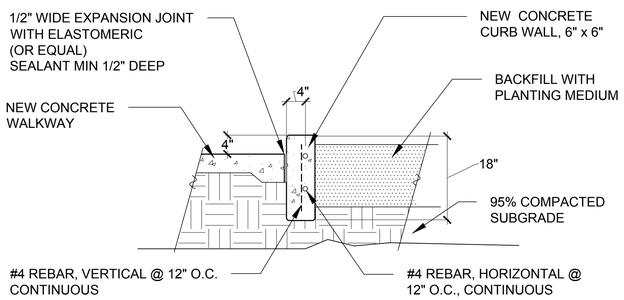


'EDGER' CURB
NO SCALE — 3

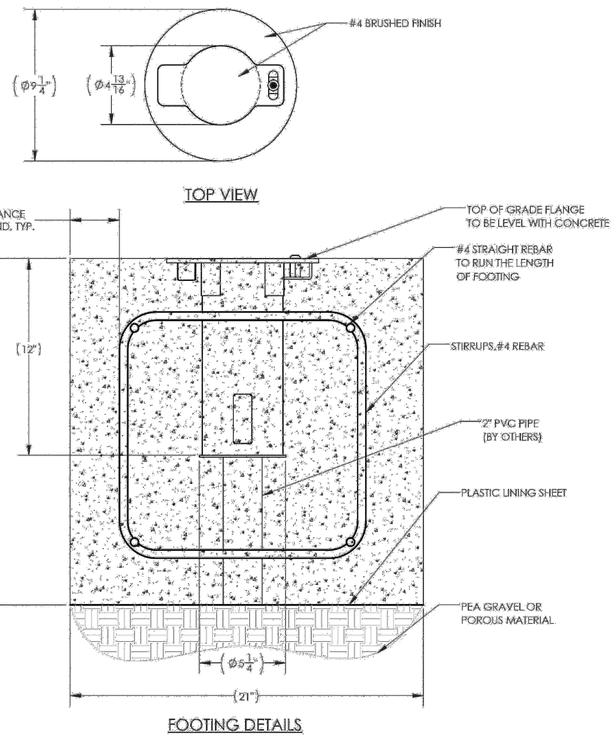
BUILD SPECIFICATIONS

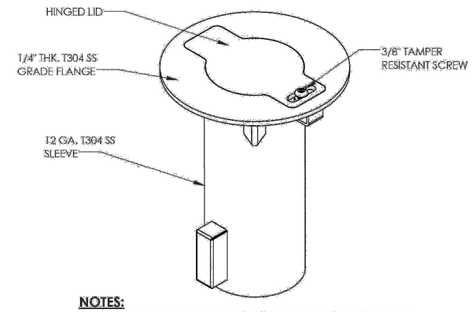
⚠1 PIPE SCHEDULE: (SELECT ONE)	☒ SSR04040 SCH40	☐ SSR04080 SCH80
PIPE MATERIAL: (SELECT ONE)	☒ T304 (STANDARD)	☐ T316
BOLLARD CAP STYLE: (SELECT ONE)	☐ FLAT ☒ DOME	☐ KNIGHT ☐ VIKING
⚠2 BOLLARD FINISH: (SELECT ONE)	☒ #4 BRUSHED (STANDARD)	
	☐ OTHER: _____	
⚠3 DIMENSIONS (SUPPLY "A-DIM")	A-DIMENSION (INCHES): _____	
OPTIONS: (SELECT ALL REQUIRED)	☐ CHAIN EYE QTY:____ HEIGHT:____	
	☐ LIFTING HANDLE QTY:____ HEIGHT:____	

EXPANSION JOINT
NO SCALE — 6



CONCRETE CURBING
NO SCALE — 7

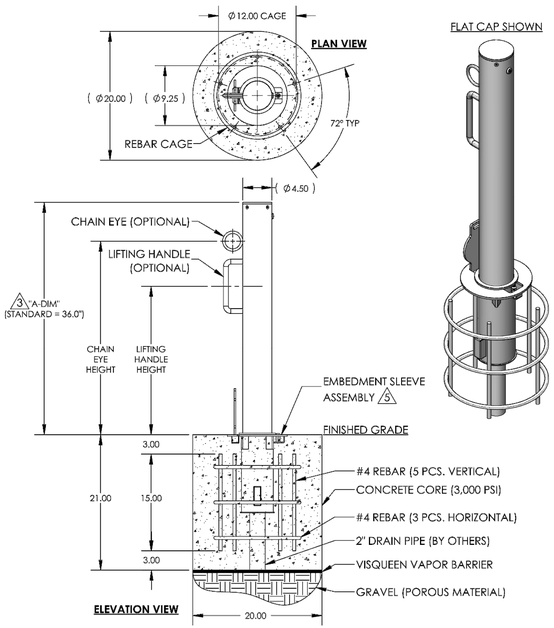




NOTES:
1. EMBEDMENT DEPTH SHOULD MATCH BOLLARD EMBEDMENT DEPTH. REFER TO CORRESPONDING BOLLARD SUBMITTAL.
2. FOOTING SHOWN IS A RECOMMENDED FOOTING ENGINNERED BY OTHERS.
3. PLASTIC LINING SHEET TO BE PLACED ON TOP OF PEA GRAVEL OR POROUS MATERIALO TO PREVENT CONCRETE FROM SEEPING INTO SLEEVE DURING POUR. CUT OUT AFTER CONCRETE HAS CURED FOR DRAINAGE.
4. SLEEVE TO BE CLEAR OF CONCRETE OR DEBRI THE FULL DEPTH EMBEDMENT.
5. LID WILL BE SECURED WITH A 3/8" TAMPER PROOF SCREW WHEN LID IS IN THE CLOSED POSITION.

Purchaser/contractor/installer is responsible for following all local building, electrical and construction codes and must verify soil/site conditions are appropriate for installation. Crash Rated products must be installed per manufacturer's requirements. Failure to comply with installation requirements will void warranty and crash rating.

BOLLARD EMBEDMENT DETAIL
NO SCALE — 2



BOLLARD
NO SCALE — 1

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NO.	REVISION	BY	APPR.	DATE
⚠1		LTE		5-23-23
⚠2		LTE		7-20-23
⚠3				

FARRAGUT CONNECTOR REPLACEMENT PROJECT

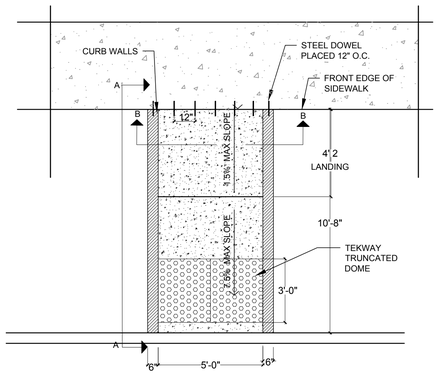
CONSTRUCTION DETAILS

REVIEWED BY _____ SENIOR ENGINEER DATE

SHEET NO. L-1.2

Sheet 8 of 18 Sheets

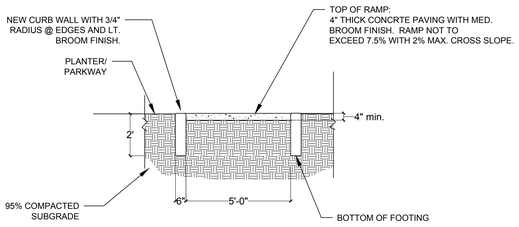
NOTE: ADA CURB RAMP TO BE PROVIDED BY CULVER CITY DEPT. OF PUBLIC WORKS



PLAN

NOTES:

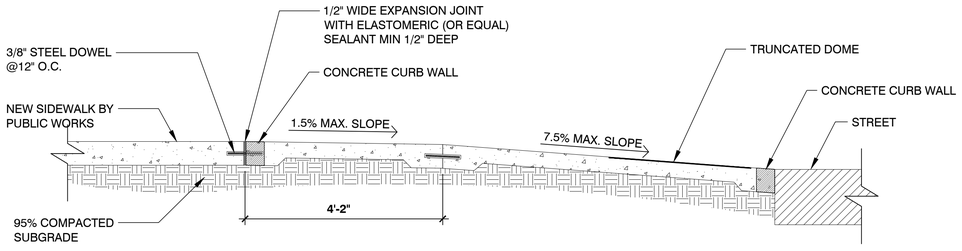
- ALL REBAR TO BE #3 BAR DIAM. @ MIN. 12" O.C.BOTH WAYS CONTINUOUS (TYP.)
- ALL REBAR LAP SPLICES TO BE MIN. 12" OVERLAP (TYP.)
- ALL INTERSECTING REBARS TO BE WIRE-TIED (TYP.)
- MIN. CLEARANCE FROM REBAR TO CONCRETE EXTERIOR 2" (TYP.)
- MIN. DOWEL EMBEDMENT TO BE 4" (TYP.)
- PUMP MIX CONCRETE REQUIRED TO BE 2500 PSI MINIMUM, PER SPECS
- EXPANSION JOINTS REQUIRED AT ALL COLD JOINTS WITH $\frac{1}{4}$" FELT AND ELASTOMERIC FILLER TO COVER (SIKA OR EQUAL)
- SUBGRADE TO BE COMPACTED @ 95% (TYP.)



SECTION B-B

NOTES:

1. ALL REBAR TO BE #3 BAR DIA. @ MIN. 12" O.C. BOTH WAYS CONTINUOUS (TYP.)
2. ALL REBAR LAP SPLICES TO BE MIN. 12" OVERLAP (TYP.)
3. ALL INTERSECTING REBARS TO BE WIRED TIED (TYP.)
4. MINIMUM CLEARANCE FROM REBAR TO CONCRETE EXTERIOR 2" (TYP.)
5. MINIMUM DOWEL EMBEDMENT 4" (TYP.)
6. PUMP MIX CONCRETE REQUIRED TO BE 2500 PSI MINIMUM, PER SPECS.
7. EXPANSION JOINTS RQUIRED @ ALL COLD JOINTS (WITH 1/4" FELT AND ELASTOMERIC FILLER TO COVER (SIKA OR EQUAL)
8. SUBGRADE COMPACTED @ 95% TYP.

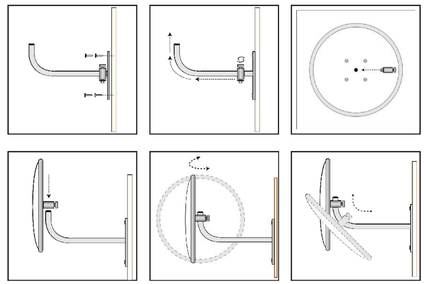


SECTION A-A

ADA CURB RAMP
NO SCALE
3

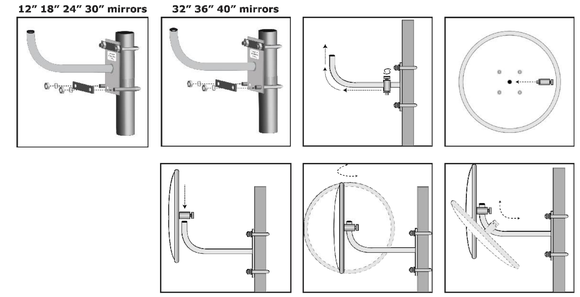
Mounting Bracket To A Flat Surface:

1. Decide the appropriate place to site the mirror to give maximum vision.
2. Fix J-Bracket to wall or ceiling using suitable fixing hardware (ie: screws, bolts). Allowing enough room to get the mirror on to the J-Bracket.
3. Thread adaptor into the back of the mirror
4. Slide the adaptor and mirror over the J-Bracket and adjust mirror to the desired position.
5. Tighten the locking bolt on the adaptor securely.
6. (Remove protective film on acrylic model).



Mounting Bracket To 3" Pole With U-Bolts: (U-Bolt Pack Purchased Separately)

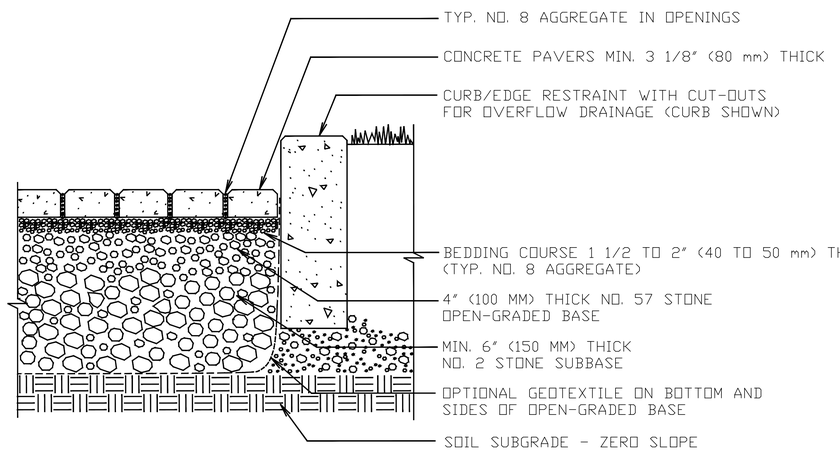
1. Choose a 3" Round pole to attach the U-Bolts to.
2. For **12" - 18" - 24" - 30"** diameter mirrors:
   Thread the U-Bolts around the J-Bracket and through the U-Bolt Flat Plate.
3. For **32" - 36" - 40"** diameter mirrors:
   Thread the U-Bolts through one side of the J-Bracket and then through both sides of the U-Bolt Flat Plate.
4. Thread the Washer and Nut onto the U-Bolts and tighten.
5. Thread adaptor into the back of the mirror.
6. Slide the adaptor and mirror over the J-Bracket and adjust mirror to the desired position.
7. Tighten locking bolt on adaptor securely. (remove protective film on acrylic model).



The Convex Mirror Shop
3 Bert Dr, Unit 10
West Bridgewater
MA 02379
United States

Call: 781-344-8459
www.convexmirrorshop.com

24" OUTDOOR CONVEX MIRROR
NO SCALE
1



NOTES:
1. 2 3/8" (60 MM) THICK PAVERS MAY BE USED IN PEDESTRIAN APPLICATIONS.
2. NO. 2 STONE SUBBASE THICKNESS VARIES WITH DESIGN. CONSULT ICPI PERMEABLE INTERLOCKING CONCRETE PAVEMENT MANUAL.

PERMEABLE PAVEMENT WITH FULL EXFILTRATION TO SOIL SUBRADE
NO SCALE
2

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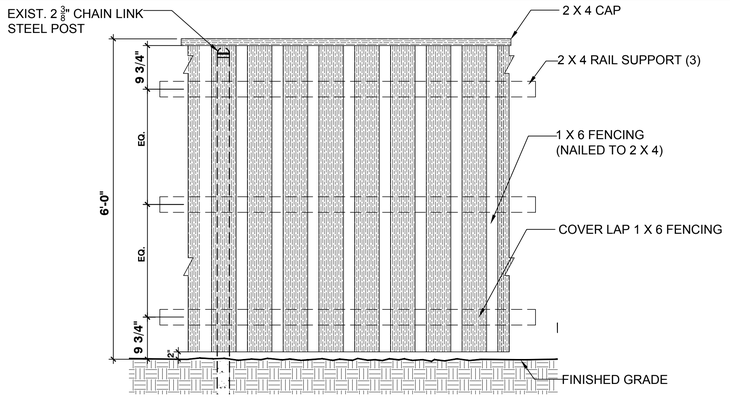
3				

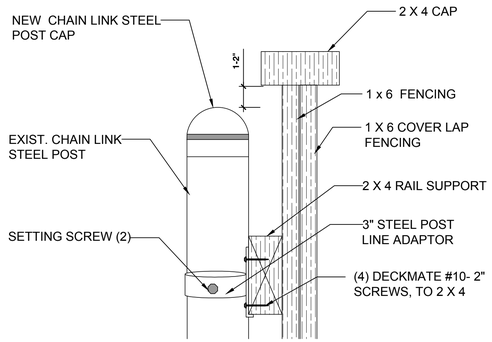
FARRAGUT CONNECTOR REPLACEMENT PROJECT
CONSTRUCTION DETAILS

REVIEWED BY
SENIOR ENGINEER DATE

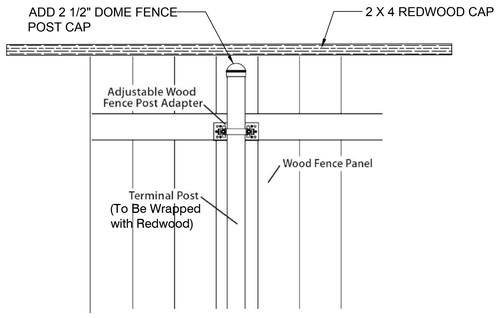
SHEET NO. L-1.3
Sheet 9 of 18 Sheets



A. FRONT VIEW: FENCING, BOARD ON BOARD

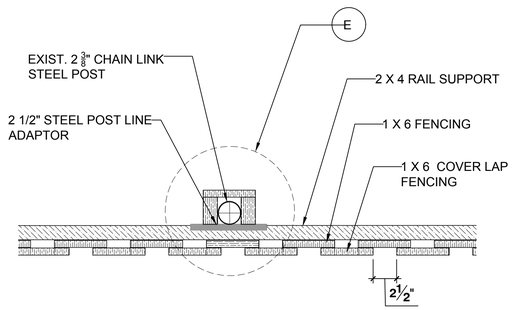


B. SIDE VIEW: STEEL POST ADAPTOR TO NEW FENCING

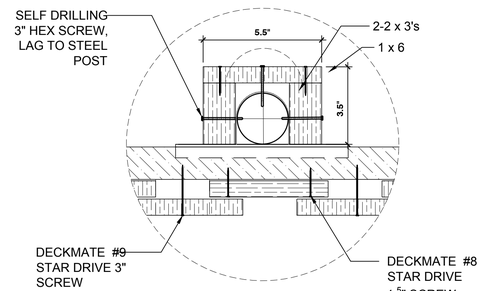


NOTES:
1. ON BACK SIDE OF FENCE (NEIGHBOR'S SIDE), WRAP CHAIN LINK POSTS AS SHOWN ON 2D & E

C. BACK VIEW: POST ADAPTOR TO NEW FENCING



D. TOP VIEW : FENCING & STEEL POST ADAPTOR

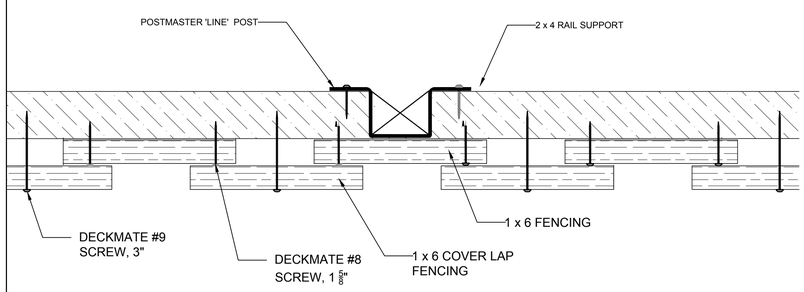


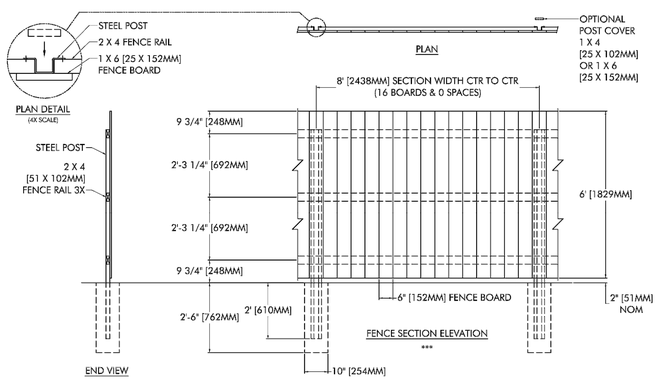
NOTES:
1. ON BACK SIDE OF FENCE (NEIGHBOR'S SIDE), WRAP CHAIN LINK POSTS AS SHOWN

E. DETAIL: POST WRAP & NAILING GUIDE

WOOD FENCE USING EXISTING CHAINLINK POSTS (2)

NO SCALE:



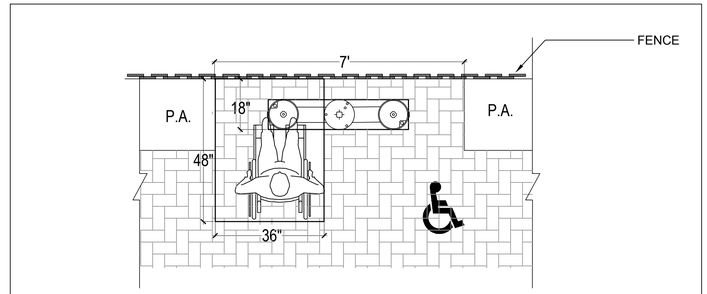


NOTES: 1. METRIC DIMENSIONS ARE NOMINAL EQUIVALENTS TO U.S. DIMENSIONS.
2. SPECIFICATIONS SHOWN CAN BE CHANGED BY MASTER-HALCO ONLY.
3. FOOTING WIDTH TO BE 10" [254MM], MINIMUM DEPTH 30" [762MM].
4. DIMENSIONS SHOWN ARE NOMINAL FOR WOOD.

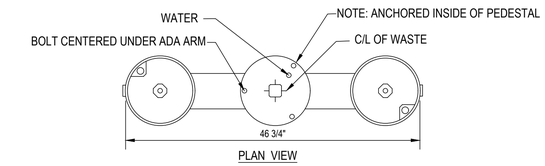
WOOD FENCE WITH POSTMASTER POSTS (REAR FENCE) (3)

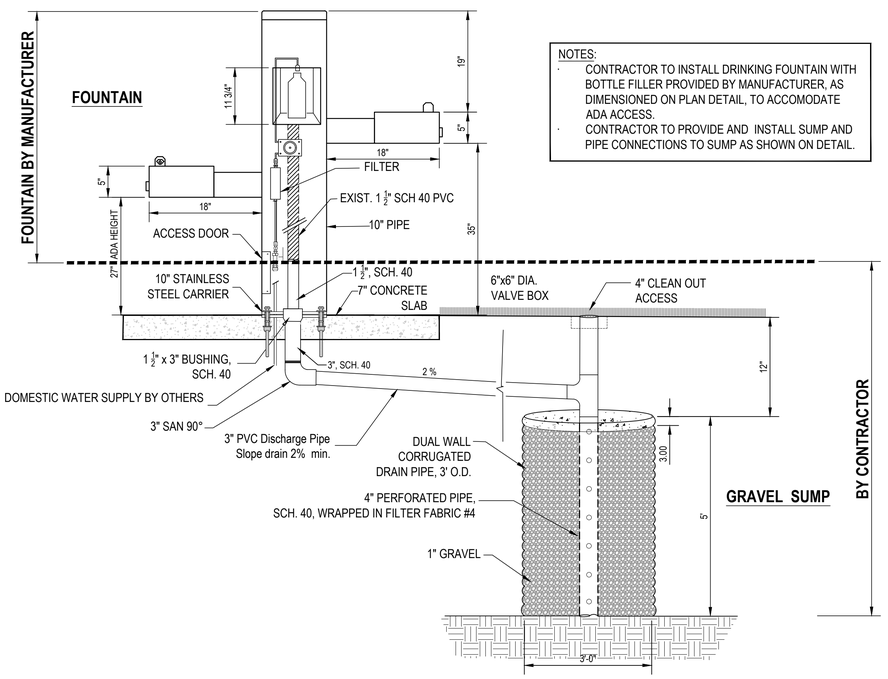
NO SCALE:

CONSTRUCTION NOTES/FENCE:
1. FENCING ALONG SOUTHEAST PROPERTY LINE TO USE EXISTING CHAIN LINK METAL POSTS AND STEEL ADAPTOR AS SHOWN.
2. FENCING ALONG REAR PROPERTY LINE TO USE NEW POSTMASTER POSTS BY HALCO. FOR FURTHER DETAILS, REFER TO SPECIFICATION SHEETS IN BID PKG.
3. ALL FENCING MATERIAL TO BE SELECT REDWOOD OR EQUAL.
4. ALL NEW FENCING TO BE BOARD ON BOARD AS SHOWN ON DETAIL
5. USE 'DECKMATE' SCREWS OR EQUAL, COLOR: RED



ADA DRINKING FOUNTAIN CLEARANCE/ENLARGED PLAN





NOTES:
- CONTRACTOR TO INSTALL DRINKING FOUNTAIN WITH BOTTLE FILLER PROVIDED BY MANUFACTURER, AS DIMENSIONED ON PLAN DETAIL, TO ACCOMODATE ADA ACCESS.
- CONTRACTOR TO PROVIDE AND INSTALL SUMP AND PIPE CONNECTIONS TO SUMP AS SHOWN ON DETAIL.

DRINKING FOUNTAIN & SUMP (1)

SCALE: 1/2" = 1'-0"

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CULVER CITY, CALIFORNIA

DIGALERT
DIAL TOLL FREE
1-800-227-2600
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT (USA)

LINDA ENDLER DESIGN & ASSOCIATES
Linda Endler, P.L.A., License #6390
lindaendlerdesign@gmail.com
310-614-6323

LICENSED LANDSCAPE ARCHITECT Linda T. Endler, LA 6390 Signature 1-30-23 Renewal Date Date STATE OF CALIFORNIA

NO.	REVISION	BY	APPR.	DATE
1		LTE		5-23-23
2		LTE		7-20-23
3				

FARRAGUT CONNECTOR REPLACEMENT PROJECT

CONSTRUCTION DETAILS

REVIEWED BY

SENIOR ENGINEER DATE

SHEET NO. L-1.4

Sheet 10 of 18 Sheets

NOTE:
- PAINT PER CITY STANDARD COLORS

SOLID 4" YELLOW STRIPE

SCALE: 1/2" = 1'-0"

4

NOTES:
SIGN ON PAVEMENT TO BE A PREFORM THERMOPLASTIC MATERIAL

"WALK YOUR WHEELS" SIGN

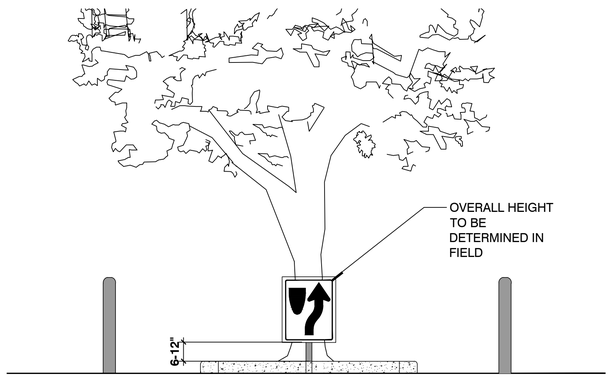
N.T.S.

5

STRAIGHT ARROW

SCALE: 1/2" = 1'-0"

6

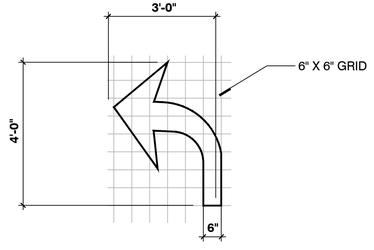


NOTES:
- SIZE 18" X 24"
- SIGN #R4-7 "KEEP RIGHT"
- AVAILABLE FROM WWW.ROADTRAFFICSIGNS.COM or EQ.

KEEP RIGHT R4-7 SIGN @ MEDIAN

SCALE: 1/2" = 1'-0"

2

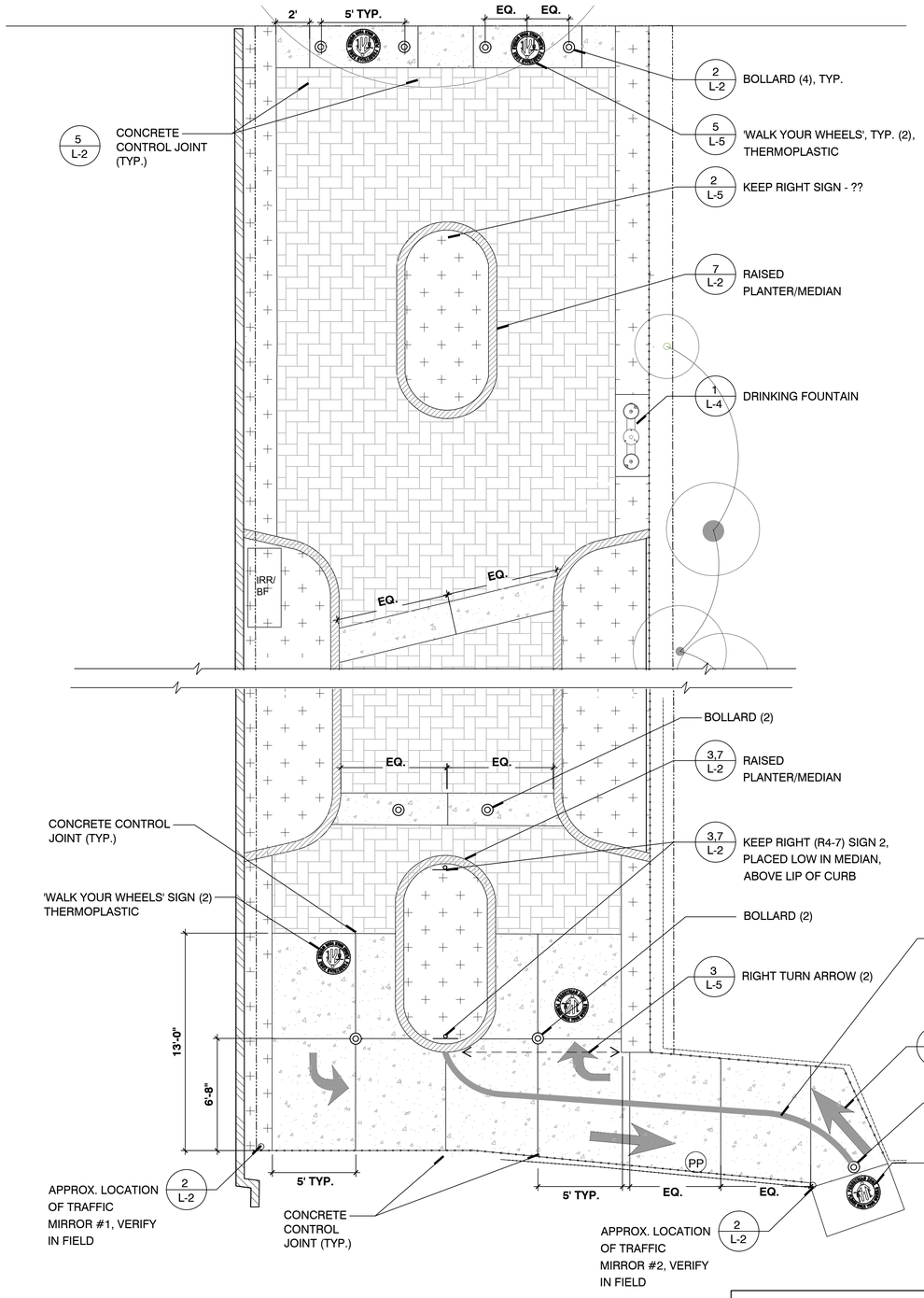


NOTE:
REVERSE FOR LEFT TURN ARROW

RIGHT TURN ARROW

SCALE: 1/2" = 1'-0"

3



ENLARGED PLAN - PAVEMENT, SIGNAGE & BOLLARDS

SCALE: 1/4" = 1'-0"

1

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Linda T. Endler, LA 6390
Signature
Renewal Date 1-20-23
Date
STATE OF CALIFORNIA

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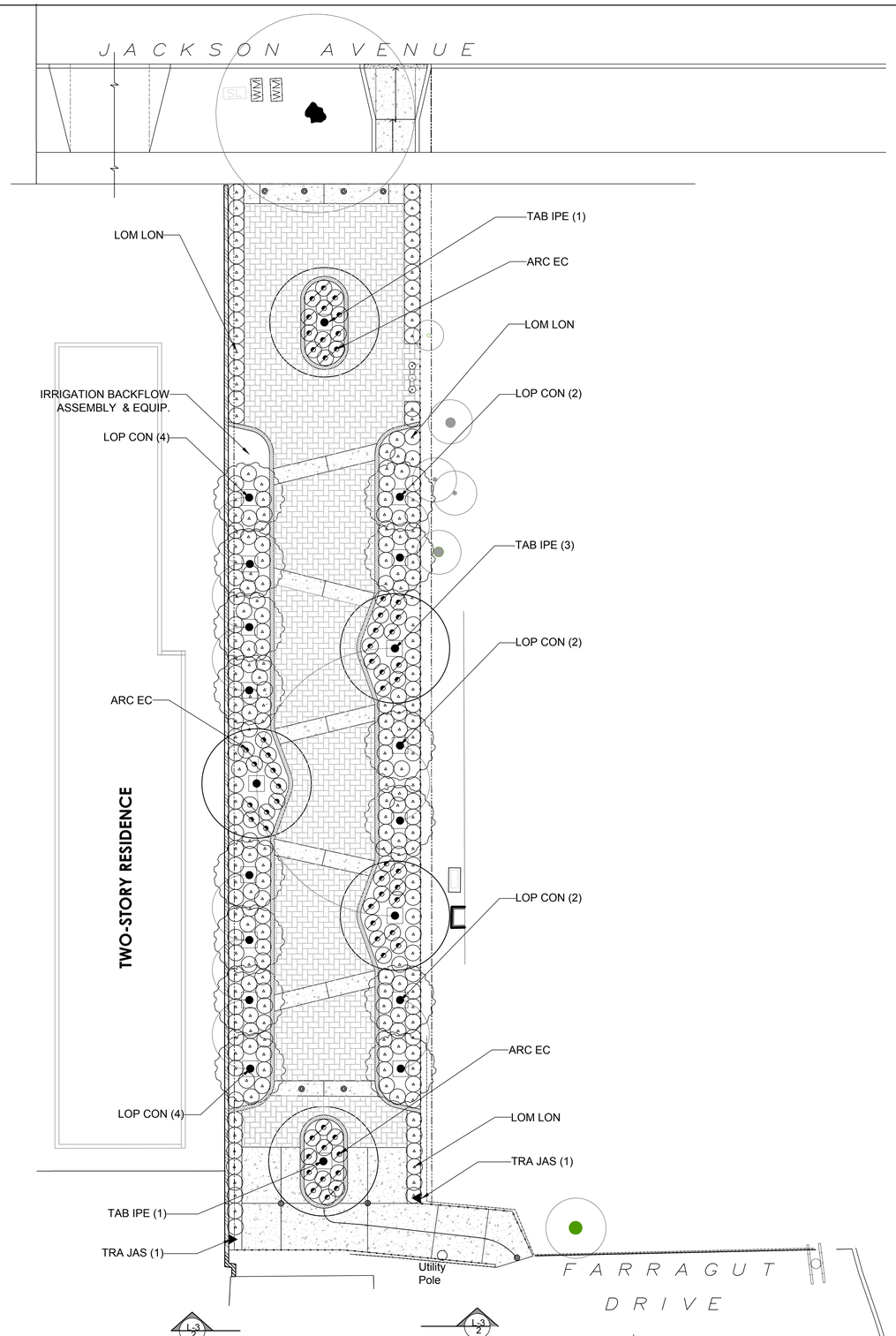
FARRAGUT CONNECTOR REPLACEMENT PROJECT

PAVEMENT SIGNAGE & STRIPING

REVIEWED BY

SENIOR ENGINEER DATE

SHEET NO. L-1.5



PLANTING LEGEND

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	SPACING	REMARKS
TREES:						
TAB IPE	TABEBUIA IMPETIGINOSA	PINK TRUMPET TREE	24" or 36" BOX	5	AS SHOWN	
LOP CON	LOPHOSTEMON CONFERTUS	BRISBANE BOX/TRISTANIA	24" BOX	14	AS SHOWN	LOW BRANCHING, 2 - 4' TRUNK
SHRUBS & GROUND COVER:						
LOM LON	LOMANDRA LONGIFOLIA 'BREEZE'	DWARF MAT RUSH	5 GAL.		24" -30" O.C.	
ARC EC	ARCTOSTAPHYLOS 'EMERALD CARPET'	EMERALD CARPET MANZANITA	5 GAL.		18" O.C.	
VINES:						
TRA JAS	TRACHELOSPERMUM JASMINOIDES	STAR JASMINE	5 GAL.	2		TRAIN ON REAR FENCE PORTIONS TOWARDS FARRAGUT ENTRANCE

PLANTING NOTES

1. Verify locations of all pertinent site improvements. If any part of this plan cannot be followed due to site conditions, contact the Landscape Architect for instructions prior to commencing work.
2. Provide one (1) agricultural suitability soil test. Soils testing is to be provided by City. Follow the recommendations attached to the soils test for amending site soils.
3. Exact locations of plant materials shall be approved by the Landscape Architect in the field prior to installation.
4. All box size plant material shall be approved by the Landscape Architect at the nursery prior to shipping. Submit pictures in separate photographs for preliminary approval. Each photograph shall contain the subject plant with a person or object in the photo for scale. Upon preliminary approval of the plant materials in the photographs, schedule a time with the Landscape Architect to review the plants at the nursery.
5. Provide matching forms and sizes for all plant materials within each specie and size designated on the drawings.
6. Prune newly planted plant materials only as directed by Landscape Architect.
7. Align and equally space in all directions all plants designed per these notes and drawings.
8. Plants shall bear same relation to finish grade as at place of growth.
9. Finish grades of all shrubs shall be 2 1/2" below adjacent curb, pavement or header to allow for installation of mulch.
10. Provide a 2" layer of mulch at shrub and ground cover areas as shown in the drawings. Mulch shall be "1/2-1 1/2" Forest Floor" by Aguinaga (714)786-9558, or approved equal.
11. The Contractor shall notify DigAlert (811) 48 hours prior to any excavation.

x1 32 16 8 4
0
GRAPHIC SCALE
SCALE: 1/8"=1'-0"

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Renewal Date 1-20-23
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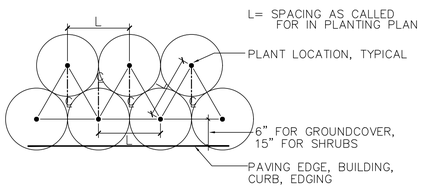
3				

FARRAGUT CONNECTOR REPLACEMENT PROJECT
PLANTING PLAN

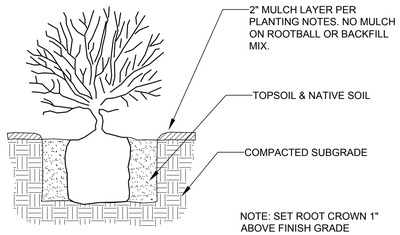
REVIEWED BY
SENIOR ENGINEER DATE

SHEET NO. L-2.0
Sheet 12 of 18 Sheets

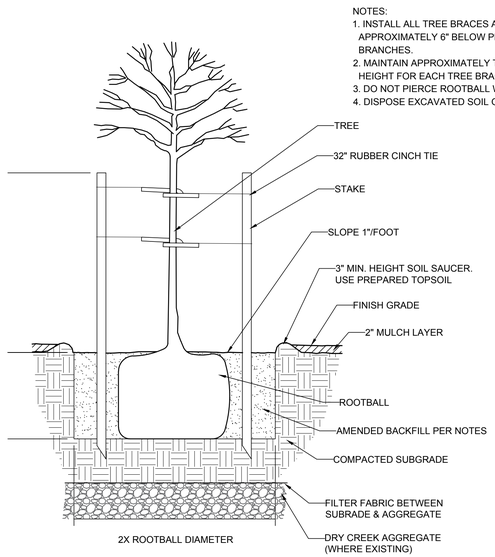


NOTE:
SPACING DIAGRAM REFERS TO ALL PLANTING UNLESS NOTED OTHERWISE

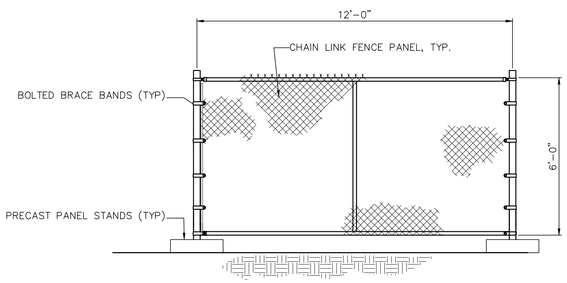
TRIANGULAR SPACING



NOTE: SET ROOT CROWN 1" ABOVE FINISH GRADE



1 TREE PLANTING DETAIL



NOTES:
1. MAINTAIN FENCING AT CANOPY DRIP LINES OF EXISTING TREES OR AS SHOWN ON THE DRAWINGS DRUING ENTIRE PERIOD OF CONSTRUCTION ACTIVITY.
2. ATTACH CHAIN LINK FENCE PANELS TO ONE ANOTHER WITH BOLTED BRACE BANDS.

TREE PROTECTION

PLANTING NOTES

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Linda T. Endler, LA #6390
Signature
Renewal Date
1-31-23
Date
STATE OF CALIFORNIA

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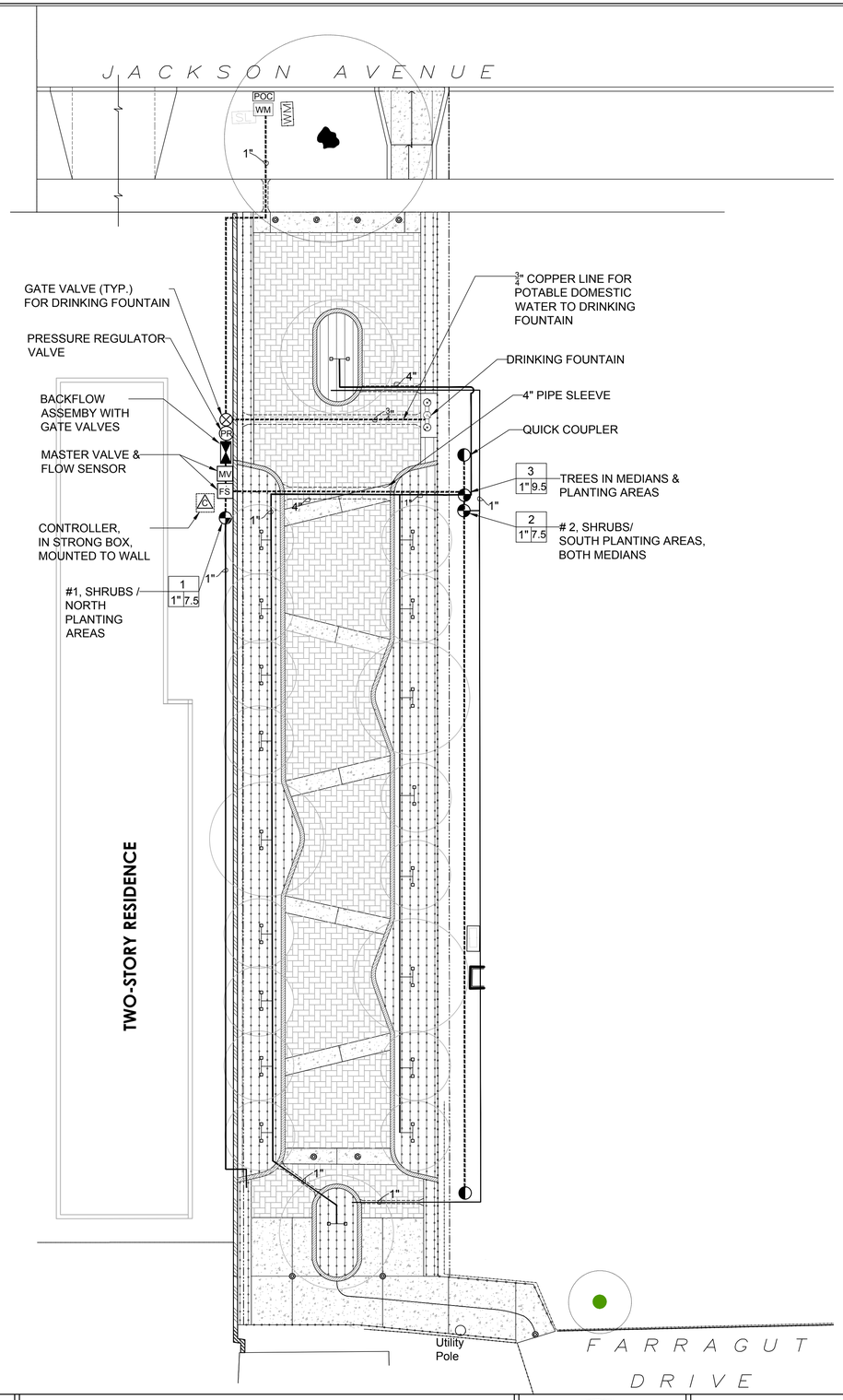
CULVER CITY, CALIFORNIA

FARRAGUT CONNECTOR REPLACEMENT PROJECT

PLANTING DETAILS

REVIEWED BY
SENIOR ENGINEER DATE

SHEET NO. L-2.1
Sheet 13 of 18 Sheets



IRRIGATION LEGEND

	ITEM	DESCRIPTION	MODEL NO.	MANUFACTURER	NOTES	DETAIL
C	CONTROLLER	8 STATION OUTDOOR SMART CONTROLLER	ESP-LXMEF ICA6-RB3-12/SP/WRS/IQ-GPRS-1	RAINBIRD	MOUNT INSIDE STRONG BOX TO WALL FACE, VERIFY LOCATION WITH PARKS SUPERVISOR	1/ L-3.1
	METAL CABINET, WALL MOUNT	16" WIDE HEAVY DUTY ENCLOSURE, STAINLESS STEEL	SB-16SSW	STRONG BOX	CONTROLLER (ONLY) PROVIDED BY PARKS	
	RAIN SENSOR	WIRED RAIN SENSOR		RAINBIRD	MOUNT ON WALL (LOCATED CLOSEST TO CONTROLLER)	2/ L-3.1
PR	PRESSURE REGULATOR	WATER PRESSURE REDUCING VALVE, BRONZE, DOUBLE UNION FNPT, STRAINER	1-70XLDU	ZURN WILKINS		
FS	FLOW SENSOR	1" ULTRASONIC FLOW SENSOR, NPT	USF100 1" ULTRA	RAINBIRD	SET IN VALVE BOX, AT 5 - FPS MAX. FOR SHUT OFF AFTER 2 MINUTES	3/ L-3.1
MV	MASTER VALVE	AUTOMATIC INLINE VALVE, 1"	100-EFB-CP	RAINBIRD	BRASS CONSTRUCTION, NORMALLY CLOSED	3/ L-3.1
	BACKFLOW PREVENTER	REDUCED PRESSURE ASSEMBLY, 1" SIZE	825Y	FEBCO	WITH "Y" TYPE STRAINER BRONZE/ 20 MESH SS.	5/ L-3.1
	GATE VALVE	BRASS BALL VALVE, 1"	T-580-A	NIBCO		6/ L-3.1
	REMOTE CONTROL VALVE	1" LOW FLOW BRASS VALVE	100-EFB-CP	RAINBIRD	ADD PRB-QKCHK-100, 1" PRESSURE REGULATING BASKET FILTER WITH 200 MESH. SEE VALVE LEGEND FOR FLOW RATES	4/ L-3.1
	QUICK COUPLER VALVE			RAINBIRD		
AR	AIR RELIEF VALVE			RAINBIRD	1 PER VALVE	10/ L-3.2
FV	FLUSH VALVE			RAINBIRD	1 PER VALVE	
	OPERATION INDICATOR	DL-2000 POP-UP OPERATION INDICATOR	T-DL-MP-9	RAINBIRD		8/ L-3.2
	DRIP BUBBLER & FITTINGS	.25 GPM BUBBLER	RWS-M-B-C-1401	RAINBIRD	18" RISER, 2 PER TREE	12/ L-3.2

	XFD ON SUBSURFACE DRIPLINE	.9 GPH, 12" EMITTER SPACING, 500 FT. COIL	XFD-09-12-500	RAINBIRD
	MAIN LINE	1" SCHEDULE 40 PVC		
	PIPE SLEEVE			
	LATERAL LINES	1" SCHEDULE 40 PVC		

NOTE: CONTACT DAVE GIDDENS, RAINBIRD REPRESENTATIVE, FOR IRRIGATION EQUIPMENT SUPPORT (949) 300-8914

VALVE #
VALVE SIZE | GPM

HYDROZONE & VALVE LEGEND

HYDROZONE	VALVE	GPM	VALVE SIZE	DESCRIPTION
HYDROZONE 1	VALVE 1	7.5	1"	NORTH PLANTER 1: SHRUBS/ DRIP
HYDROZONE 1	VALVE 2	7.5	1"	SOUTH PLANTER 2 + BOTH MEDIANS: SHRUBS/ DRIP
HYDROZONE 2	VALVE 3	9.5	1"	PLANTERS 1 & 2 , MEDIANS 1 & 2: TREES/ ROOT WATER

x1 32 16 8 4
0
GRAPHIC SCALE
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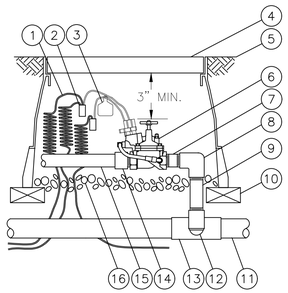
FARRAGUT CONNECTOR REPLACEMENT PROJECT

IRRIGATION PLAN

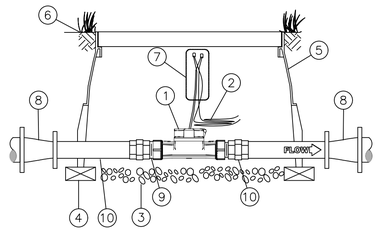
REVIEWED BY
SENIOR ENGINEER DATE

SHEET NO. L-3.0



MASTER VALVE, EFB-CP SERIES

1. 30-INCH LINEAR LENGTH OF WIRE COILED
2. WATERPROOF CONNECTION RAIN BIRD SPLICE-1 (1 OF 2)
3. ID TAG: RAIN BIRD VID SERIES
4. VALVE BOX WITH COVER: RAIN BIRD VB-STD
5. FINISH GRADE/TOP OF MULCH
6. REMOTE CONTROL VALVE: RAIN BIRD EFB-CP -PRS-D WITH NP-HAN
7. PVC SCH 80 NIPPLE (CLOSE)
8. PVC SCH 40 ELL
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
10. BRICK (1 OF 4)
11. PVC MAINLINE PIPE
12. SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
13. PVC SCH 40 TEE OR ELL
14. PVC SCH 40 MALE ADAPTER
15. PVC LATERAL PIPE
16. 3.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL



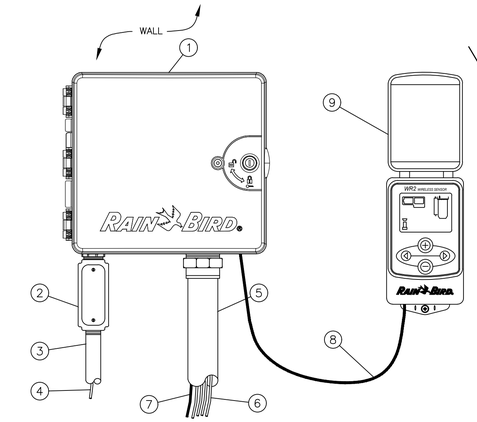
ULTRASONIC FLOW SENSOR

NOTES:
1. THE UFS CAN BE INSTALLED IN A VERTICAL POSITION WITH THE FLOW ARROW POINTING UPWARDS.
2. THE UFS SIZE MUST BE EQUAL TO OR SMALLER THAN THE INCOMING PIPE SIZE.
3. THE UFS DOES NOT REQUIRE STRAIGHT PIPE BEFORE OR AFTER SENSOR PLACEMENT.
4. NO BRICKS REQUIRED FOR RAIN BIRD VB-SERIES VALVE BOXES ONLY.

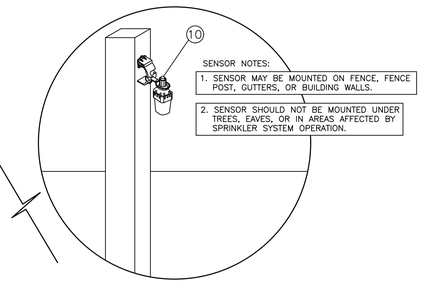
1. RAIN BIRD UFS SERIES FLOW SENSOR
2. 36" LENGTH OF COILED CONTROL WIRE
3. 3" MINIMUM DEPTH OF ¾" WASHED GRAVEL
4. BRICK (1 OF 4)
5. STANDARD VALVE BOX WITH COVER
6. FINISH GRADE
7. SEE FLOW SENSOR WIRING DETAIL FOR WIRING DIAGRAM
8. CONCENTRIC REDUCER
9. PVC CLOSE NIPPLE (1 OF 2)
10. PVC UNION (1 OF 2)

MODEL	SIZE	K	OFFSET	FLOW RANGE
UFS100	1"	0.25	0	0.3 – 50 GPM
UFS150	1.5"	1.70	-0.316	0.5 – 110 GPM
UFS200	2"	2.849	0.1439	1.0 – 200 GPM

3 MASTER VALVE & FLOW SENSOR
NTS

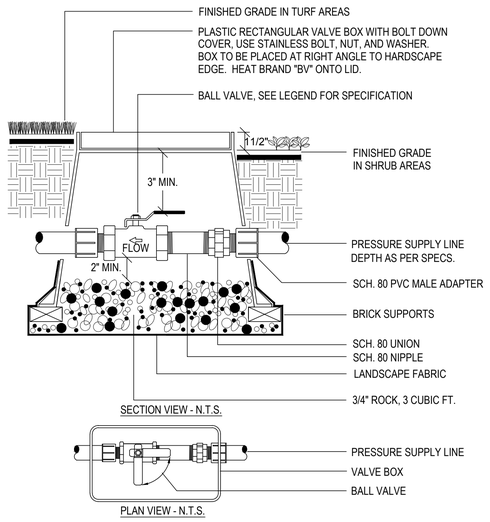


NOTES:
1. ESP-LXMEF CONTROLLER IS AVAILABLE IN 8- OR 12-STATION BASE MODELS. ADDITIONAL MODULES IN 8- AND 12-STATION VERSIONS MAY BE ADDED TO BRING THE CONTROLLER UP TO 48 STATIONS MAXIMUM.
2. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
3. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
4. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.



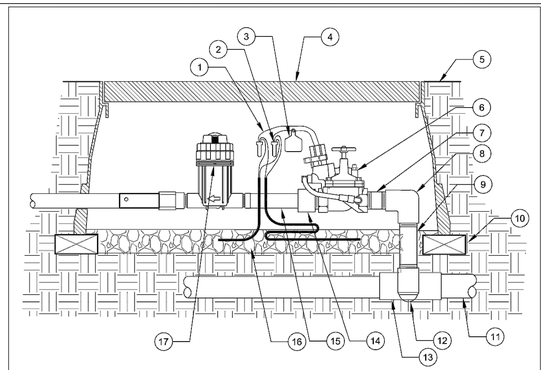
1. IRRIGATION CONTROLLER: RAIN BIRD ESP-LXMEF CONTROLLER WITH FLOW SMART MODULE IN PLASTIC CABINET WITH WALL MOUNT. INSTALL CONTROLLER AND CABINET ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
2. JUNCTION BOX
3. 1-INCH CONDUIT AND FITTINGS TO POWER SUPPLY
4. POWER SUPPLY WIRE
5. 2-INCH CONDUIT AND FITTINGS FOR STATION WIRES
6. MASTER VALVE AND REMOTE CONTROL VALVE WIRES
7. FLOW SENSOR WIRE (PE 39, 89 OR 54) TO FLOW SENSOR
8. CABLE HARNESS FOR CONTROLLER INTERFACE (30" MAXIMUM)
9. RAIN BIRD WR2 WIRELESS SENSOR CONTROLLER INTERFACE
   1. FOR BEST PERFORMANCE, THE CONTROLLER INTERFACE SHOULD BE INSTALLED AT LEAST FIVE FEET ABOVE THE GROUND.
   2. IT IS RECOMMENDED THAT THE CONTROLLER INTERFACE BE INSTALLED AWAY FROM SOURCES OF ELECTRICAL INTERFERENCE (SUCH AS TRANSFORMERS, GENERATORS, PUMPS, FANS, ELECTRICAL METER BOXES) AND METAL OBJECTS TO MAXIMIZE COMMUNICATION RANGE.
10. RAIN BIRD WR2 SENSOR

1 CONTROLLER & WIRED RAIN SENSOR
NTS



NOTE:
- BOX TO BE INSTALLED AS TO ALLOW FOR PROPER OPERATION OF BALL VALVE INSTALL AT RIGHT ANGLE TO HARDSCAPE EDGE, INSTALL VALVE OFF-CENTER IN BOX.
- INSTALL VALVE BOX EXTENSIONS AS REQUIRED TO ACHIEVE PROPER VALVE INSTALLATION AT MAIN LINE DEPTH.

5 BALL VALVE ASSEMBLY
NTS



NOTES

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3. ID TAG: RAIN BIRD VID SERIES
4. VALVE BOX WITH COVER
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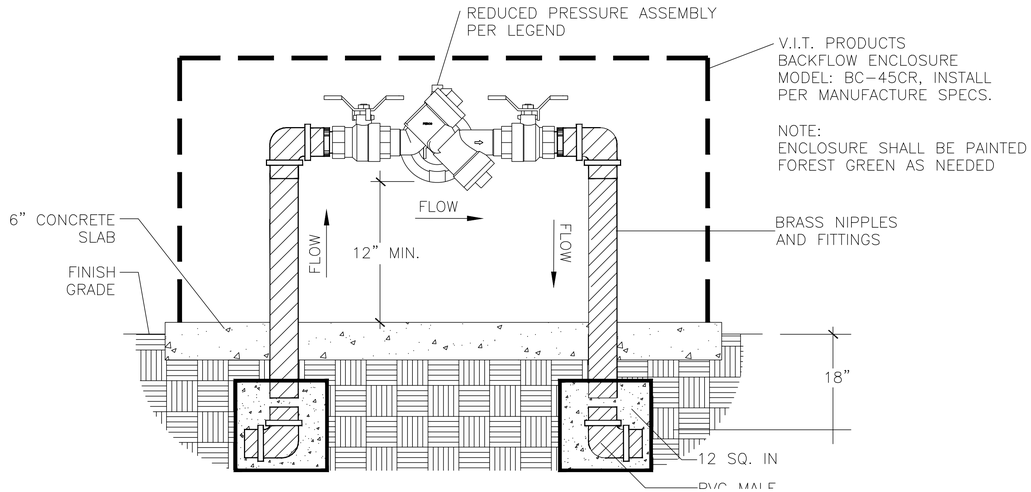
8. PVC SCH 40 ELL
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
10. BRICK (1 OF 4)
11. PVC MAINLINE PIPE
12. SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
13. PVC SCH 40 TEE OR ELL
14. PVC SCH 40 MALE ADAPTER
15. PVC LATERAL PIPE
16. 3.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
17. PRESSURE REGULATING QUICK-CHECK BASKET FILTER

SCALE: NTS

4 BRASS REMOTE CONTROL VALVE
NTS



2 BACKFLOW PREVENTER
NTS

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FARRAGUT CONNECTOR REPLACEMENT PROJECT

IRRIGATION DETAILS I

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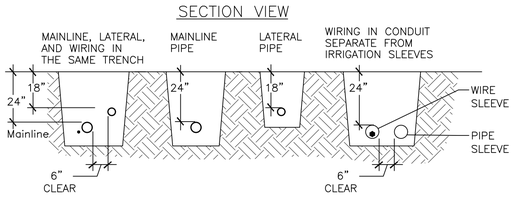
SHEET NO. L-3.1

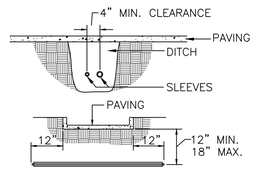


NOTES:

1. PIPE SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCH–40 PVC TWICE THE DIAMETER OF THE PIPE AT A MINIMUM DEPTH OF 24".
2. WIRE SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCH–40 PVC TWICE THE DIAMETER OF THE WIRE BUNDLE WITHIN AT A MINIMUM DEPTH OF 24".

11 PIPE & WIRE TRENCHING

NTS

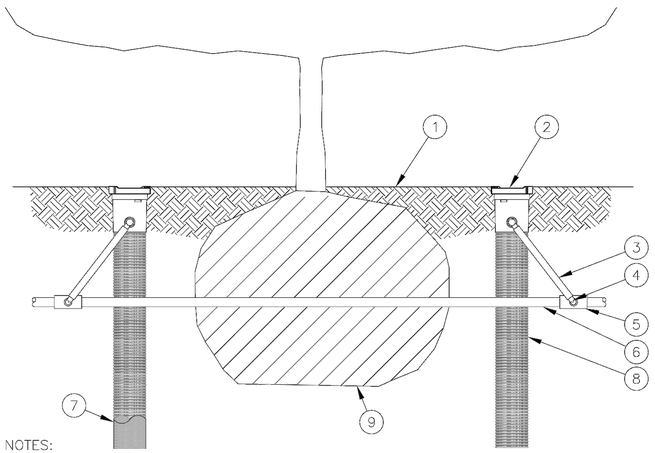


NOTES:

1. ALL IRRIGATION SLEEVES TO BE SCH 40 PVC
2. SLEEVES TO BE AT LEAST 2.5 TIMES THE LINE SIZE
3. MECHANICALLY TAMP TO 90% COMPACTION.

9 PIPE SLEEVING

TYPICAL DETAIL, NTS



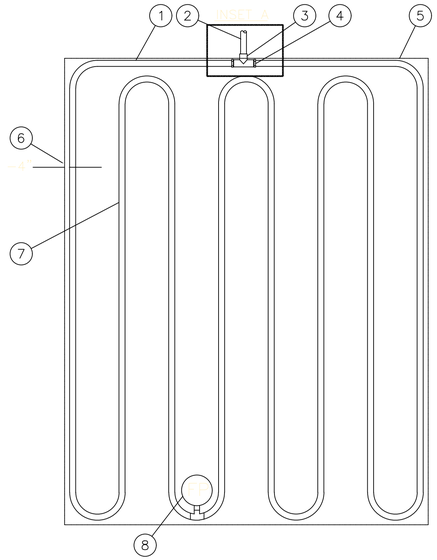
1. FINISH GRADE/TOP OF MULCH
2. ROOT WATERING SYSTEM: RAIN BIRD RWS
3. SWING ASSEMBLY (INCLUDED)
4. 1/2" (1,3 CM) MALE NPT INLET (INCLUDED)
5. PVC SCH 40 TEE OR EL
6. PVC OR POLYETHYLENE LATERAL PIPE
7. OPTIONAL SOCK (RWS–SOCK) FOR SANDY SOILS
8. 4" (10,2 CM) WIDE X 36" (91,4 CM) LONG RIGID BASKET WEAVE CANISTER (INCLUDED)
9. PLANT ROOT BALL

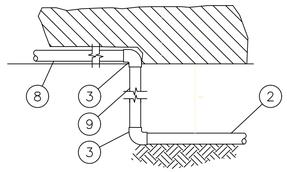
NOTES:

1. POSITION 2–3 UNITS (OR MORE) EVENLY SPACED AROUND PLANT. FOR NEW TREES PLACE NEAR ROOT BALL. FOR EXISTING TREES PLACE HALF THE DISTANCE BETWEEN CANOPY EDGE AND TREE TRUNK.
2. INSTALL PRODUCT WITH TOP EVEN WITH GROUND SURFACE.
3. RWS SERIES AVAILABLE IN THE FOLLOWING MODELS:
   RWS–B–C–1401: 0.25 GPM (0,95 L/M), CHECK VALVE
   RWS–B–1401: 0.25 GPM (0,95 L/M)
   RWS–B–X–1401: 0.25 GPM (0,95 L/M), 18" (45,7 CM) SWING ASSEMBLY
   RWS–B–C–1402: 0.5 GPM (1,9 L/M), CHECK VALVE
   RWS–B–1402: 0.5 GPM (1,9 L/M)
   RWS–B–C–1404: 1.0 GPM (3,8 L/M), CHECK VALVE
4. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" (1,9 CM) GRAVEL UNDER AND AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION.
5. ONCE RWS HAS BEEN INSTALLED FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID.
6. OPTIONAL RWS–SOCK FOR USE IN SANDY SOILS.

12 ROOT WATERING SYSTEM

NTS





1. PVC EXHAUST HEADER
2. PVC DRIP MANIFOLD FROM RAIN BIRD CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
3. PVC SCH 40 TEE OR EL (TYPICAL)
4. BARB X MALE FITTING: RAIN BIRD XFF–MA FITTING (TYPICAL)
5. PERIMETER OF AREA
6. PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"–4" FROM PERIMETER OF AREA
7. ON–SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE (TYPICAL) POTABLE: XFD DRIPLINE NON–POTABLE: XFDP DRIPLINE
8. FLUSH POINT (TYPICAL) SEE RAIN BIRD DETAIL "XFD FLUSH POINT"
9. PVC SCH 40 RISER PIPE

NOTES:

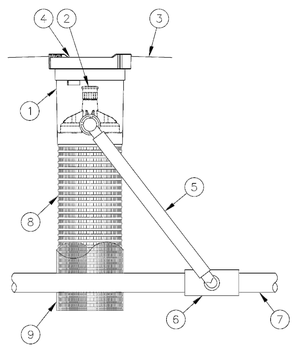
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
3. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

XFD Dripline Maximum Lateral Lengths (Feet)

Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (gph)		Nominal Flow (gph)		Nominal Flow (gph)	
	0.6	**0.9**	**0.6**	**0.9**	**0.6**	**0.9**
15	273	155	314	250	424	322
20	318	169	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	474
50	417	285	528	420	720	488
60	460	290	596	455	780	514

7 XFD DRIP TUBING

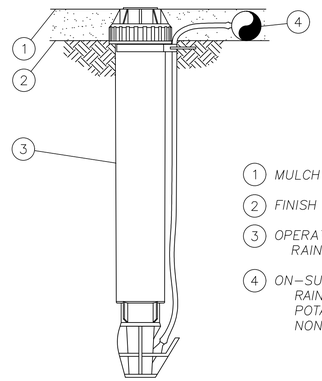
NTS



1. RAIN BIRD RWS–M–B–1402 (INCLUDES RETAINER, 18" (45,7 CM) TUBE, 0.5 GPM (1,9 L/M) BUBBLER, 4" (10,2 CM) GRATE, 1/2" (1,3 CM) M NPT INLET SPIRAL BARB ELBOW)
2. BUBBLER: RAIN BIRD 1402 0.5 GPM (1,9 L/M) (INCLUDED)
3. FINISH GRADE/TOP OF MULCH
4. 4" (10,2 CM) LOCKING GRATE (INCLUDED)
5. 1/2" (1,3 CM) SWING ASSEMBLY: RAIN BIRD SA–125050 OR 1/2" (1,3 CM) SWING PIPE: RAIN BIRD SP SERIES WITH 1/2" (1,3 CM) MALE NPT x 0.490" BARB ELBOW: RAIN BIRD SBE–050
6. PVC SCH 40 TEE OR EL
7. PVC OR POLYETHYLENE LATERAL PIPE
8. 4" (10,2 CM) WIDE X 18" (45,7 CM) LONG RIGID BASKET WEAVE CANISTER (INCLUDED)
9. OPTIONAL SOCK (RWS–SOCK) FOR SANDY SOILS

NOTES:

1. 4" (10,2 CM) GRATE IS ALSO AVAILABLE IN PURPLE (RWS–GRATE–P).
2. INSTALL PRODUCT SO THAT THE GRATE IS EVEN WITH FINISH GRADE OR TOP OF MULCH.
3. OPTIONAL SAND SOCK (RWS–SOCK) IS 34" (86,4 CM) IN LENGTH. CUT TO LENGTH NEEDED TO COVER MESH BASKET AREA.
4. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" (1,9 CM) GRAVEL UNDER AND AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION.
5. ONCE RWS–M HAS BEEN INSTALLED FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID.



1. *MULCH*
2. *FINISH GRADE*
3. *OPERATION INDICATOR RAIN BIRD MODEL: OPERIND*
4. *ON–SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFD SERIES NON–POTABLE: XFDP SERIES*

NOTE:

1. INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.
2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO ¼ PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

8 OPERATION INDICATOR

NTS

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UNDERGROUND SERVICE ALERT (USA)

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Linda Endler, P.L.A., *License #6390*
lindaendlerdesign@gmail.com
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FARRAGUT CONNECTOR REPLACEMENT PROJECT

IRRIGATION DETAILS 2

REVIEWED BY

SENIOR ENGINEER DATE

SHEET NO. L-3.2

IRRIGATION NOTES:

1. For the purpose of legibility, some irrigation valves and lines are shown outside planted areas. All Valves are to be located within planters and wherever possible, lines are to be routed inside the planters.

2. This irrigation design plan is diagrammatic, and the layout may not be precise. The contractor is responsible for minor changes in line layout. Make field adjustments as necessary.

3. Drip Line Installation Procedure: Following installation and compaction of soil in planters, install all plant material of 1 Gal. size and larger per the planting plan. Lay dripper lines 4" below soil surface starting with lines 2" from planter edges, and in parallel rows, on-center row spacing per the plan and the irrigation legend. Secure the lines with 6" stainless steel soil staples at 3ft. o.c. max, and at each side of fittings. Use blank tubing around obstacles in planters. Supply and exhaust headers to be 1" schedule 40 PVC. Lateral lines connecting systems are to be 18" min. deep in planters. Spread planter mulch top dressing throughout per the planting notes. Ground covers to be installed following mulch placement. Plant material will require hand watering, at minimum, until completion of the above operations and testing and approval of the drip line system.

4. Trenching within the dripline of large trees shall be performed by hand, and with extreme care not to sever roots 1 - $\frac{1}{2}$" in diameter and larger. Where roots 1- $\frac{1}{2}$" in diameter and larger are encountered, the Contractor shall tunnel under said roots. Exposed roots that have been tunneled under shall be wrapped in wet burlap and kept moist while the trench is open.

5. All main line piping, lateral line piping, and control wires under all paving shall be installed in Schedule 40 PVC sleeves at a minimum depth of 18". Sleeves shall be installed before paving is in place. All sleeve sized shall be a minimum of twice the diameter of the pipe to be sleeved. Control wire sleeves shall be of sufficient size for the required number of wires under paving.

6. All irrigation equipment shall be installed in accordance with the irrigation details and specifications.

7. All remote control valves, gate valves, flush valves, and pressure relief valves shall be installed in suitable valve boxes as shown in details, complete with locing covers. All shall be Carson, Amtec, or approved equal, and shall be marked "G.V." for gate valves, "R.C.V" for remote control valves, etc. Provide expansion coils at each wire connection in valve box as per details.

8. Install all backflow prevention devices and all piping between the point of connection and the backflow preventer as per local codes. Final location of the backflow preventer and automatic controller shall be approved by the Landscape Architect and/or the Parks Supervisor.

9. Automatic weather-based or soil-moisture based irrigation controllers shall be installed on the irrigation system. The irrigation controller shall be of a type which does not lose programming data in the event the primary source is interrupted.

10. The contractor is to confirm measured static water pressure information from field testing to the Landscape Architect or Parks Supervisor for verification and possible modification of the designed system. Per Los Angeles Department of Water & Power, the static water pressure to the site is 83 high/ 68 low. Irrigation system is designed to operate at 40 psi. A pressure regulator is included in each valve to maintain correct pressure.

11. Pressure test Mainline at 150 PSI per three (3) hours constant.

12. As-built drawings shall be maintained on site at all times. As-built drawings shall be updated on a daily basis during system installation. No site reviews are to be conducted without these drawings.

13. A laminated diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.

14. All landscape and irrigation systems must comply with all local, state and federal laws and regulations.

REQUIRED NOTES, STATEMENTS & CERTIFICATION PER TITLE 23. CHAPTER 2,7, APPENDIX D

NOTE 1:
A MINIMUM 3-INCH LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT TURF AREAS, CREEPING OR ROOTING GROUND COVERS, OR DIRECT SEEDING APPLICATIONS WHERE MULCH IS CONTRAINDICATED.

NOTE 2:
PRESSURE REGULATOR DEVICES SHALL BE INSTALLED ON THE IRRIGATION SYSTEM TO ENSURE DYNAMIC PRESSURE OF THE SYSTEM IS WITHIN THE MANUFACTURER'S RECOMMENDED PRESSURE RANGE.

NOTE 3:
CHECK VALVES OR ANTI-DRAIN VALVES ARE REQUIRED ON ALL SPRINKLER HEADS WHERE LOW POINT DRAINAGE COULD OCCUR.

NOTE 4:
MANUAL SHUT-OFF VALVES SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF CONNECTION OF THE WATER SUPPLY.

NOTE 5:
A LAMINATED DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.

NOTE 6:
UNLESS CONTRADICTED BY A SOILS TEST, COMPOST AT A RATE OF A MINIMUM OF FOUR CUBIC YARDS PER 1,000 SQUARE FEET OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF SIX INCHES INTO THE SOIL.

NOTE 7:
AT THE TIME OF FINAL INSPECTION, THE PERMIT APPLICANT MUST PROVIDE THE OWNER OF THE PROPERTY WITH A CERTIFICATE OF COMPLETION, CERTIFICATE OF INSTALLATION, IRRIGATION SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE.

NOTE 8:
THE FINAL SET OF LANDSCAPE PLANS SHALL HAVE THE STATEMENT, "I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE PRESCRIPTIVE COMPLIANCE OPTION OF THE MWELO."

NOTE 9:
AN IRRIGATION AUDIT SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION.

LINDA ENDLER DESIGN & ASSOCIATES
Linda Endler, P.L.A., *License #6390*
lindaendlerdesign@gmail.com
310-614-6323

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CITY OF CULVER CITY
PUBLIC WORKS DEPARTMENT
CULVER CITY, CALIFORNIA

FARRAGUT CONNECTOR REPLACEMENT PROJECT
IRRIGATION NOTES
& MWELO REQUIREMENTS

REVIEWED BY
SENIOR ENGINEER DATE

SHEET NO. L-3.3
Sheet 17 of 18 Sheets

Maximum Applied Water Allowance (MAWA)

MAWA = (ETo) (0.62) x [(.55 x LA)] + (.55 x SLA)] = Gallons per year

where:
MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration for Culver City = 50.1 inches/year
0.55 = Evapotranspiration Adjustment Factor (ETAF) residential
0.45 = Evapotranspiration Adjustment Factor (ETAF) non-residential
LA = Landscaped Area (square feet) = 1150 square ft.
SLA = Special Landscaped Area (square feet) = 0
0.62 = Conversion factor (to gallons per square foot)

MAWA Calculation:

	ETo		Conversion		LA (ft2)		ETAF		MAWA (Gallons Per Year)
MAWA for LA=	50.1	x	0.62	x	1150	x	0.55	=	19,647
Total MAWA =								=	**19,647**

Estimated Total Water Use (ETWU)

ETWU= (ETo x 0.62) x (PF x LA/IE) = Gallons per year

where:
ETWU = Estimated Total Water Use
ETo = Reference Evapotranspiration for Culver City = 50.1 inches/year
PF = Plant Water Use Factor - WUCOLS
LA = Landscaped Area (square feet)
0.62 = Conversion factor (to gallons per square foot)
IE = Irrigation Efficiency

ETWU Calculation

		ETo		Conversion		LA		PF	IE		ETWU (Gallons per year)
(Drip)	Hydrozone #1 Med. Low Shrubs	50.1	x	0.62	x	1000	x	.35	0.81	=	13,422
(Bubbler)	Hydrozone #2 Trees Medium	50.1	x	0.62	x	150	x	0.4	0.81	=	2,301
	Total ETWU =									=	**15,723**

ETWU IS LESS THAN MAWA, THEREFORE THE WATER BUDGET IS IN COMPLIANCE

"I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN"

LINDA T. ENDLER, LANDSCAPE ARCHITECT

Season	Description	Days/Week	Cycle/Day	Min./Cycle	GPM	Gallons
Winter (Jan. Feb. Mar.)						
Hydrozone #						
1	Med. Low Water - Dripline	1	1	10	15	150
2	Med. Water - Bubblers	1	1	10	9.5	95
Weekly Gallons Req'd						245
Seasonal gallons req'd for Winter						**3185**
Spring (April, May, June)						
Hydrozone #						
1	Med. Low Water - Dripline	2	1	8	15	240
2	Med. Water - Bubblers	2	1	8	9.5	152
Weekly Gallons Req'd						392
Seasonal gallons req'd for Winter						**5096**

Season	Description	Days/Week	Cycle/Day	Min./Cycle	GPM	Gallons
Summer (Jun (July, August, Sept.)						
Hydrozone #						
1	Med. Low Water - Dripline	2	1	12	15	360
2	Med. Water - Bubblers	2	1	10	9.5	190
Weekly Gallons Req'd						550
Seasonal gallons req'd for Winter						**7150**
Fall (October, November, December)						
Hydrozone #						
1	Med. Low Water - Dripline	1	1	10	15	150
2	Med. Water - Bubblers	1	1	10	9.5	95
Weekly Gallons Req'd						245
Seasonal gallons req'd for Winter						**3185**
TOTAL ANNUAL WATER USAGE						**18616**

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FARRAGUT CONNECTOR REPLACEMENT PROJECT

MAWA CALCULATIONS

REVIEWED BY

SENIOR ENGINEER DATE

SHEET NO. L-3.4

FARRAGUT CONNECTOR REPLACEMENT PROJECT, CIP NO. PS014
BID # 2531

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3010 LBJ Freeway
Dallas, Texas 75234

TEL: 972.714.7300
FAX: 800.542.8488

MasterHalco.com

Section 32 31 29

PostMaster + ®
STEEL POST FOR WOOD FENCE

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Steel Post for Wood Fence Systems.

B. Division 01 – General Requirements: Drawings, quality, product and performance requirements, general and supplemental conditions apply as applicable to the project and project documents.

1.02 RELATED SECTIONS

01 33 23 Shop drawings, product data
01 43 13 Manufacturers qualifications
01 43 13 Installer qualifications
01 45 00 Quality control
01 65 00 Product delivery requirements

1.03

ASTM A90/A90M	Standard Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings
ASTMA653/A653M-17	Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron AlloyCoated (Galvannealed) by the Hot-Dip Process.
ASTM F537-01	Standard Specification for Design, Fabrication, and Installation of Fence Constructed of Wood and Related Materials.
ASTM F1043	Specification for Strength and Protective Coatings on Steel Industrial Framework
ASTM F1667	Specification for Driven Fasteners: Nails, Spikes, and staples

1.04 SUBMITTALS

A. Changes in specifications may not be made after the bid date.

B. Shop Drawings: Layout of fence and gates with dimensions, details and finishes of component accessories and post foundations.

C. Product Data: Manufactures catalog cuts indicating material compliance and specified options.

D. Samples: Steel Posts, including Line Posts, Corner Posts, and Gate Posts samples supplied upon request.

PART 2 - PRODUCTS

2.01 MANUFACTURE

A. Master Halco, Inc. 3010 Lyndon B Johnson Freeway Suite 800, Dallas, Texas 75234. Products from other qualified manufacturers having a minimum of 5 years experience manufacturing steel posts will be acceptable by the architect as equal, if approved in writing, ten days prior to bidding, and if they meet the following specifications for design, size, gauge of metal parts, fabrication and warranty.

B. Steel Post for Wood Fencing
Height: (mm).
Weight: 2.64 lb./ft (3.93 kg/m)

C. Approved Manufacturer:
Master Halco, Inc.
3010 Lyndon B Johnson Freeway, Suite 800
Dallas, Texas 75234
Phone 1-800-883-8384
Website: www.postmasterfence.com

2.02 STEEL POST

A. Line Posts: 4-1/2" (114.3mm) x 1-1/2" (38.1mm). [.100" (2.54mm)] thick galvanized steel, roll formed steel shapes complying with ASTM A-653 having a 50,000 psi (344 MPa) yield strength and G90 zinc coating, 0.90 oz/ft2 (0.27 kg/M2). Alternating hole pattern [0.50" (12.7mm)] Punch thru holes: 0.20 +/- .010 thru hole typ. ¼" lag screws or #8/#9 Deck Countersunk Deck Screw(s). Concrete Lock [1" (25.4mm) x 3" (76.2mm)].

B. Corner Posts: 3" (76.2mm) x 3" (76.2mm). [.12" (3.048mm)] thick galvanized steel, roll formed steel shapes complying with ASTM A-653 having a 50,000 psi (344 MPa) yield strength and G90 zinc coating, 0.90 oz/ft2 (0.27 kg/M2). Alternating hole pattern [0.50" (12.7mm)] spacing. Punch thru holes: 0.20 +/- .010 thru hole typ & 0.3125" hole typ. ¼" lag screws or #8/#9 Deck Countersunk Deck Screw(s). Concrete Lock [1" (25.4mm) x 3" (76.2mm)].

C. Gate Posts: 4.25" (107.95mm) x 3" (76.2mm) x 1.25" (31.75mm). [.100" (2.54mm)] thick galvanized steel, roll formed steel shapes complying with ASTM A-653 having a 50,000 psi (344 MPa) yield strength and G90 zinc coating, 0.90 oz/ft2 (0.27 kg/M2). Alternating hole pattern [0.50" (12.7mm)] Punch thru holes: 0.20 +/- .010 thru hole typ. ¼" lag screws or #8/#9 Deck Countersunk Deck Screw(s). Concrete Lock [1" (25.4mm) x 3" (76.2mm)].

D. Finish: Galvanized coating [Line and Corner Posts], Powder Coating [Gate Posts].

E. Residential Applications:
Provide manufacturer's standard lifetime limited warranty that, in a residential application, its Steel Post product is free from defects in material or workmanship including structural failure. Lifetime is defined for as long as the original purchaser owns the home. "Structural failure" is defined as a permanent bend of more than 5%.

F. Commercial Applications:
Provide manufacturer's standard limited warranty that, in a commercial application, its Steel Post product is free from defects in material and workmanship, including structural failure for a period of 20 years from the date of original purchase for corporation, partnership, unincorporated association, or a government or public entity, including, but without limitation to, a church or school installation applications. "Structural failure" is defined as a permanent bend of more than 5%.

2.03 SETTING MATERIAL

A. Concrete: Minimum 28 day compressive strength of 3,000 psi (20 MPa).
B. Flanged Posts: Provide flange type base plates with 4 holes for surface mounting of posts where indicated.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify areas to receive fencing are completed to final grades and elevations.
B. Ensure property lines and legal boundaries of work are clearly established.

3.02 INSTALLATION

A. Install fence in accordance with manufacturer's instructions.
B. Locate property boundary lines, staking locations of each Corner and Gate Posts.
C. Line Posts spaced length of rail +2" (50.8mm) on center. Exact spacing may be modified depending on fencing rails used, fence heights and ground slope.

D. Concrete Set Posts: Dig the Corner Post, Gate Post, and Line Post holes 6" (152.4mm) – 10" (254mm) diameter and 30" (762mm) deep. Exact diameter and depth will be determined by local conditions. Set post bottom 30" (762 mm) below surface when in firm, undisturbed soil. Center posts in holes; making sure posts are plumb, square to fence line and set to correct height. Block and support the post to preserve post position. Place concrete around post in a continuous pour, mounding the top to direct water away from posts. When concrete has hardened in Corner Post and Gate Post, stretch string between them to help set Line Post at the correct height.
E. Surface Mount (wall mount) posts with mounting plates where indicated. Fasten with lag bolts and shields.
F. Check each posts for vertical and horizontal alignment, and maintain in position during placement and finishing operation.

3.03 Gate Installation

A. Install gates plumb, level and secure for full opening without interference.
B. Attach hardware by means which will prevent unauthorized removal and entry.
C. Adjust hardware for smooth operation

3.04 Cleaning

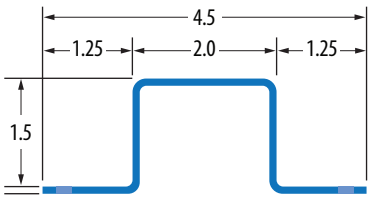
A. Clean up debris and unused materials and remove from site

POSTMASTER® FENCE SYSTEM

PostMaster® Plus is the Wood Fence Total Solution!

The system consists of 3 post types: Line, Corner & Gate Posts.

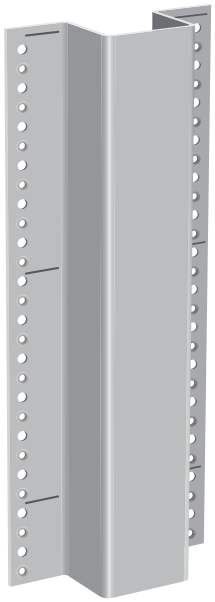
Line Post



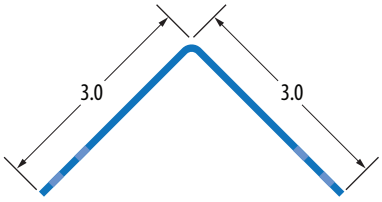
Alternating hole pattern for # 8 / #9 countersunk deck screws or 1/4 in. lag screws.

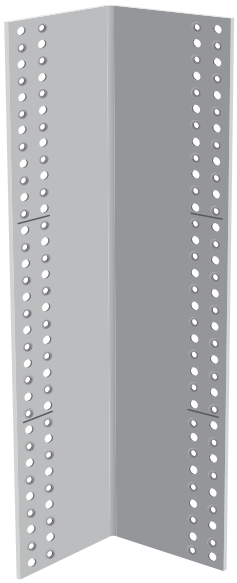
#8/9 countersunk deck screws are recommended for flush installation to the post.

All posts available in: 7'6", 8', 9', 10', & 12' lengths.

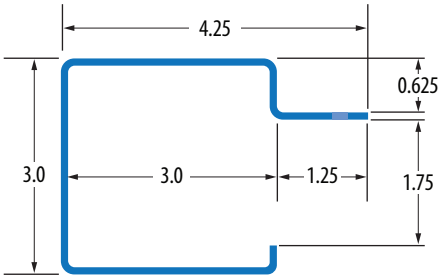


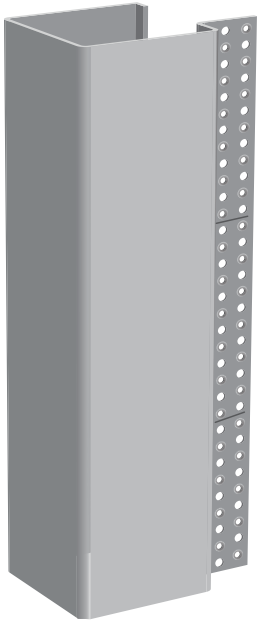
Corner Post





Gate Post





BEFORE YOU BEGIN

Ensure that fence footings **do not exceed legally established property lines and set-backs**. If uncertain, refer to your real estate line plot or consult a professional surveyor.

Check local codes for specifications regarding frontage locations, allowable fence heights, etc. A permit may be required.

Consult with local utility companies for locations of underground cables or pipelines.

811 Know what's **below** **Call** before you dig.

NOTE: The information contained in these guidelines is intended to provide general guidance with basic PostMaster® fence installation. The installer must take proper safety precautions including gloves and eye protection. If you have any questions or doubts in regards to your fence installation, please consult with a licensed professional.

MASTER HALCO®

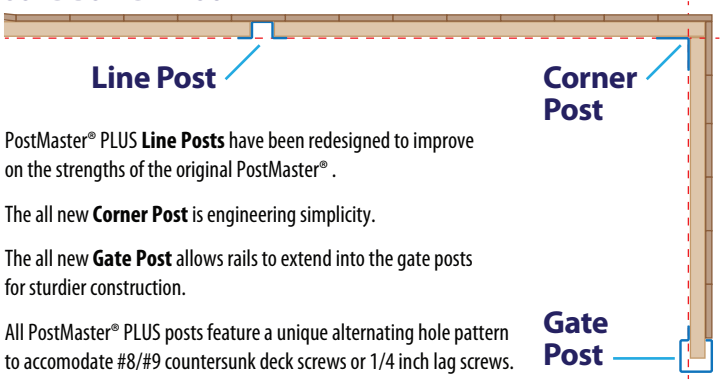
Quality Products, Exceptional Service, Outstanding People

THREE POSTS ARE BETTER THAN ONE!

PostMaster® PLUS steel fence posts are built with purpose.

Like the original PostMaster®, this system is designed to be used with standard 2x4 or 2x6 rails. The PostMaster® PLUS fastening flanges of all three post types line up precisely.

SOLID BOARD LAYOUT EXAMPLE



PostMaster® PLUS **Line Posts** have been redesigned to improve on the strengths of the original PostMaster® .

The all new **Corner Post** is engineering simplicity.

The all new **Gate Post** allows rails to extend into the gate posts for sturdier construction.

All PostMaster® PLUS posts feature a unique alternating hole pattern to accomodate #8/#9 countersunk deck screws or 1/4 inch lag screws.

POSTMASTER® FENCE SYSTEM

Traditional Solid Board Fence Installation Guidelines

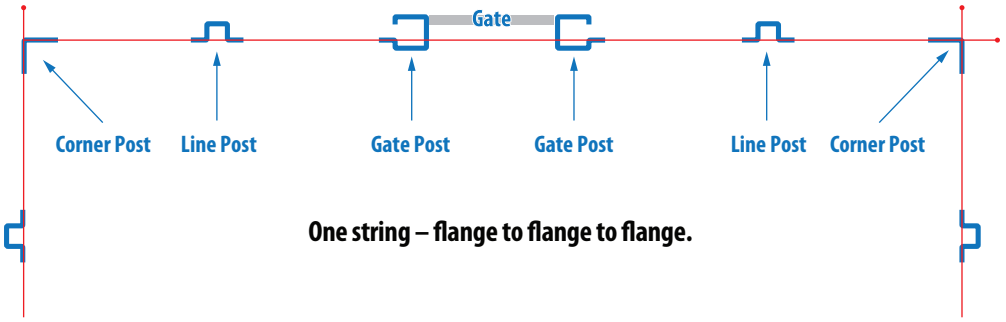
1 Plan, Layout & Mark

Locate your property's boundary lines. Precisely marking the fence layout is the critical first step in a quality installation.

Stake the locations of each **Corner Post** and **Gate Post**.

Line Posts should be spaced the length of your rail + 2", on center. The exact spacing may be modified depending on rails used, fence height and ground slope.

Place shorter sections at the corners or near gates or buildings to make the fence fit the length of the layout.



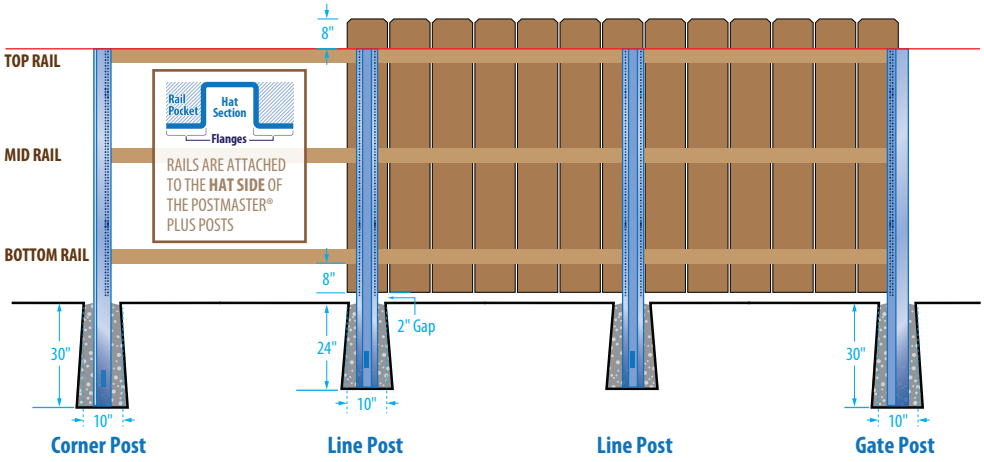
2 Locate & Set Posts

Dig the post holes 6 - 10 in. diameter. **Corner** and **Gate Posts** should be 30 in. deep, while **Line Posts** can be 24 in. deep. The exact diameter and depth will be determined by local conditions.

The height of fence pickets should be 8 in. above the top of the top rail and 8 in. below the bottom of the bottom rail. Leave a 2 inch gap at the bottom between the pickets and the ground.

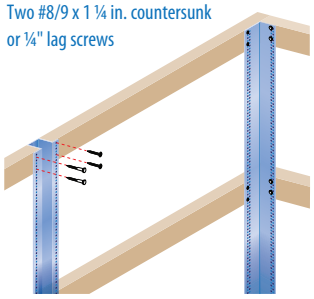
Center the terminal posts in the holes. Make sure the posts are plumb, square to the fence line and set to the correct height. Block and support the post to preserve post position as installation continues.

Fill the hole with concrete in a continuous pour, mounding the top to direct water away from the post. When the concrete has hardened in the **corner** and **gate** posts, stretch a string between them to help set the line posts at the correct height.



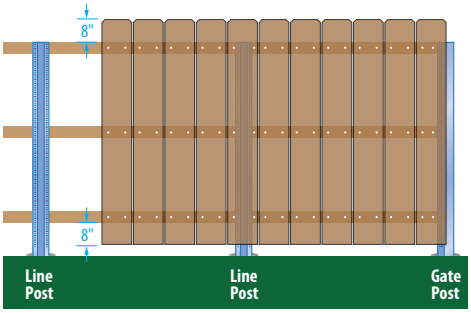
3 Install Rails

Top rails are installed at the top of the post; bottom rails are attached 8" above the board bottom and middle rails are centered between the top and bottom rails.



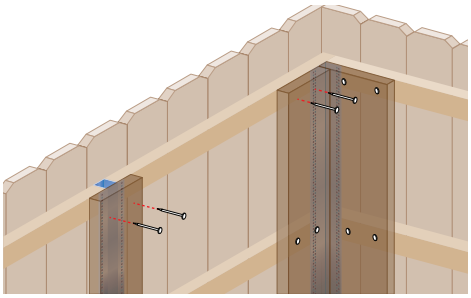
NOTE: *If the ground slopes, be sure to cut both rail-ends diagonally to allow a flush fit against the post.*

4 Install Pickets



Typically pickets are positioned 2" above ground level and extend 8" above the top of the top rail.

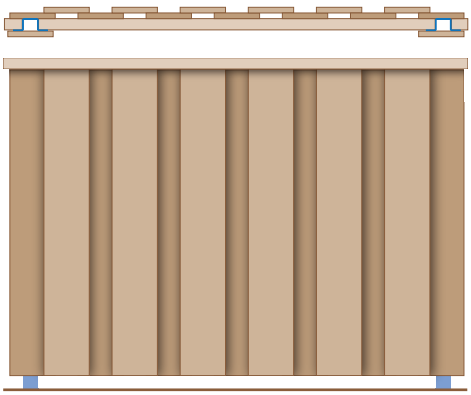
5 Install Cover Boards



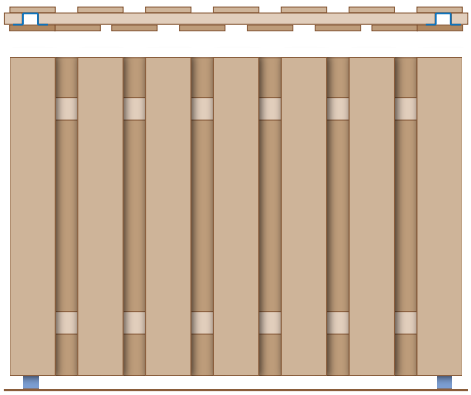
Finish the installation by adding 1x6 cover boards over the PostMaster PLUS posts.

Traditional Fence Styles

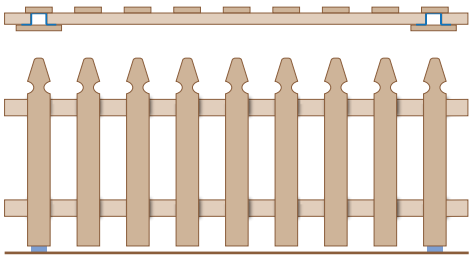
Board on Board



Shadow Box



Spaced Picket



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MH #N01018

Angelus Permeable Interlocking Concrete Pavers (PICP) Fact Sheet

Angelus
SOUTHERN CALIFORNIA
OUTDOOR LIVING
PAVERS & WALLS

PICP Stormwater Benefits

- *Infiltrates, filters and decreases stormwater runoff rate and reduces Total Maximum Daily Loads (TMDLs)*
- *LEED® points eligible for Sustainable Sites, Rainwater Management and / or Innovative Design; Contributors to Green Globe points*
- *Meets U.S. Environmental Protection Agency (EPA) storm performance criteria as a structural best management practice (BMP) while providing parking, road and pedestrian surfaces*
- *Helps meet local, state and provincial stormwater drainage design criteria and provides compliance with the U.S. National Pollutant Discharge Elimination System (NPDES) regulations*
- *Provides 100% pervious surface by runoff passing through small, aggregate-filled openings between solid high-strength durable concrete pavers*
- *Reduces or eliminates storm water detention and retention ponds, storm sewers, drainage appurtenances and related costs*
- *May be used on sloped sites with proper design*
- *The modular concrete units allow for project phasing; open-graded base and subbase materials are typically available locally*
- *Reduces contained sewer overflows (CSO) and supports green infrastructure programs*
- *May be designed with underground stormwater storage systems, over many slower-draining clay soils and in cold climates*
- *Processes and reduces pollutants from vehicular oil drippings*

ATTRACTIVE ■ DURABLE ■ ENVIRONMENTALLY COMPLIANT

APPLICATION OPPORTUNITIES

URBAN: Office plazas, sidewalk replacement, street tree planting areas, on-street parking, parking lots, parks and outdoor seating areas

SUBURBAN: Parking lots, parks, driveways, parking bays on roadways, subdivision roads and sidewalks

REDEVELOPMENT SITES: Parking areas, plazas and public spaces, sidewalks and brownfields

POLLUTANT REMOVAL EFFICIENCIES

(Compared to impervious runoff)

Zinc: 62-88%

Copper: 50-89%

Total Suspended Solids: 60-90%

Total Phosphorous: 65%

Angelus products available with recycled content

Permeable Interlocking Concrete Pavement
A Low Impact Development Tool

PICP supports LID Principles

1. *Conserve vital ecological and natural resources: trees, streams, wetlands and drainage courses*
2. *Minimize hydrologic impacts by reducing imperviousness, conserving natural drainage courses, reducing clearing, grading and pipes*
3. *Maintain pre-development time of concentration for runoff by routing flows to maintain travel times and discharge control*
4. *Provide runoff storage and infiltration uniformly throughout the landscape with small, on-site decentralized infiltration, detention and retention practices such as permeable pavement, bioretention, rain gardens open swales and roof gardens*
5. *Educate the public and property owners on runoff and pollution prevention measures and benefits*

Machine Installed

Hand Installed

Permeable Interlocking Concrete Pavement Meets Low Impact Development Goals

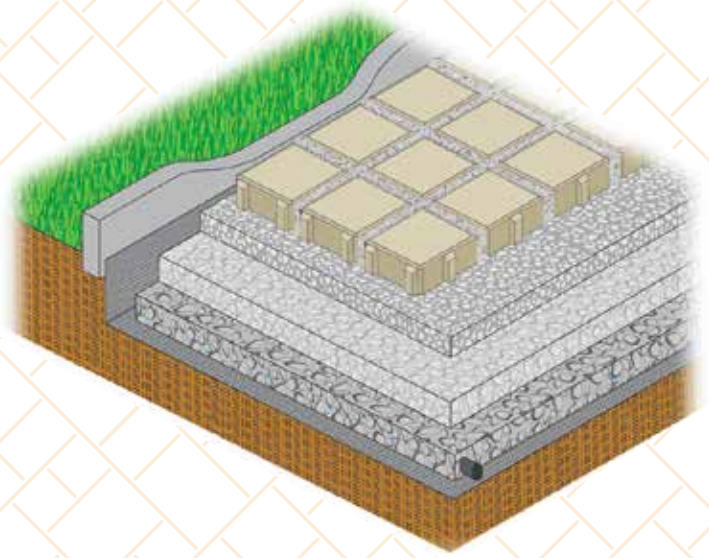
- *Conserves on-site space: roads, parking, stormwater infiltration and retention all combined into the same space creating more green space or building opportunities*
- *Preserves wooded area that would otherwise be cleared for stormwater detention or retention ponds*
- *Increases site infiltration that helps maintain pre-development runoff volumes, peak flows and time of concentration*
- *Promotes tree survival and growth*
- *Contributes to urban heat island reduction through evaporation and reflective, light colored pavers*
- *Highly visible, cost effective exemplary demonstration of cornerstone LID technique for public and private development*

Design Software Available

Software from ICPI for permeable pavement called Permeable Design Pro incorporates research from a range of university research studies.

Contact Angelus for more information

Typical PICP System



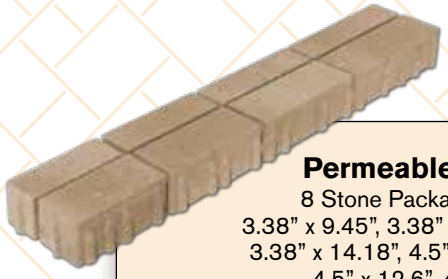
- *Pavers conform to ASTM C936. Installation by hand or machine*
- *Open-graded crushed stone recommended for all aggregates*
- *Edge restraint–concrete curbs*
- *Joint filling stone gradation: ASTM No. 8, 89, or 9*
- *100% permeable surface*
- *Bedding gradation: ASTM No. 8*
- *Base gradation: ASTM No. 57*
- *Subbase gradation: ASTM No. 2, 3 or 4*
- *Optional geotextile: consult manufacturers for selection*
- *Under Drain as required*
- *Soil subgrade: classified per ASTM D2487; tested for permeability per ASTM D3385*

Permeable Holland
3.93" x 7.87" x 80mm

SF Rima™
8.20" x 8.20" x 80mm

Permeable Courtyard
4 Stone Package– 80mm
5.90"x 5.90", 5.90" x 8.90",
8.90"x 8.90", 8.90" x 11.90"

Permeable Slate Stone
4 Stone Package– 80mm
5.90"x 5.90", 5.90" x 8.90",
8.90"x 8.90", 8.90" x 11.90"



Permeable Aqualina
8 Stone Package – 100 mm
3.38" x 9.45", 3.38" x 11", 3.38" x 12.6"
3.38" x 14.18", 4.5" x 9.45", 4.5" x 11"
4.5" x 12.6", 4.5" x 14.18"

Curve Number & Rational Method Runoff Coefficients

NRCS Curve Numbers (CN) and Rational Method runoff coefficients ('C' value) used depend on the soil infiltration rate, base storage and design storm. In every case, PICP yields significantly lower CN and C values than impervious pavement per the table below:

Land Cover	Infiltration Rates in./hr (mm/hr)	Curve Number CN	Runoff Co-efficient C
Permeable Interlocking Concrete Pavement	Up to 50 in./hr (1270 mm/hr) with maintenance 3-4 in./hr (75-100 mm/hr) with no maintenance	45–80	0.00–0.30
Impervious Asphalt or Concrete Pavement	0 in./hr (0 mm/hr)	95–98	0.90–0.95

Rainwater Quantity and Quality Benefits

Volume Reduction

Research has demonstrated that the PICP can reduce runoff as much as 100% from a 3 in. (75 mm) rain event with sandy soil and a minimum of 12 in. (300 mm) thick open-graded aggregate base.

Given regional variations in annual rainstorms and PICP base storage capacities, PICP can reduce annual outflows between 30% and 80%. Well-maintained PICP can reduce flow rates by 70% to 90% from intense rain events and up to 100% for many storms. This yields corresponding reduction in runoff pollution.

Peak Flow Reduction and Delay

PICP can reduce peak flow by as much as 89%, producing a hydrograph nearer to pre-development conditions. Peak flow is generally proportional to rainfall intensity. Permeable pavers delay the timing of peak flow runoff from several hours to several days.

Water Quality Improvement

PICP treats storm water by slowing runoff velocities to allow for sedimentation and filtering by aggregates in the surface openings and base. Oils adhere to small soil particles and aggregates and then are digested by bacteria.

Additional Benefits

- *ADA Compliant*
- *Concrete pavers available in various shapes and colors; colored pavers mark lanes and parking spaces*
- *Simplifies surface and subsurface repairs by reinstating the same paving units; no unsightly patches or weakened pavement cuts*

FAQs

Can PICP be used on clay soil? Yes. Even in clay soils, PICP reduces runoff and helps to capture "first flush" runoff and reduce pollution.

Can PICP be used to replace conventional stormwater management tools such as detention basins? Yes. In both colder and warmer climates, PICP has been used to reduce or eliminate the need for conventional stormwater pipe infrastructure, detention basins and drop inlets.

Is maintaining PICP difficult? No. PICP can be maintained through street sweeping and vacuuming based on periodic inspection.

Can PICP be used in cold climates? Yes. PICP has been very successful in many Canadian and northern United States applications. It remains stable through freezing and thawing cycles.

References

Ferguson, B. K. Porous Pavements. Boca Raton, FL: CRC Press 2005

Smith, David R. Permeable Interlocking Concrete Pavements: Selection • Design • Construction • Maintenance, Herndon, VA: ICPI 4th ed., 2011. www.icpi.org

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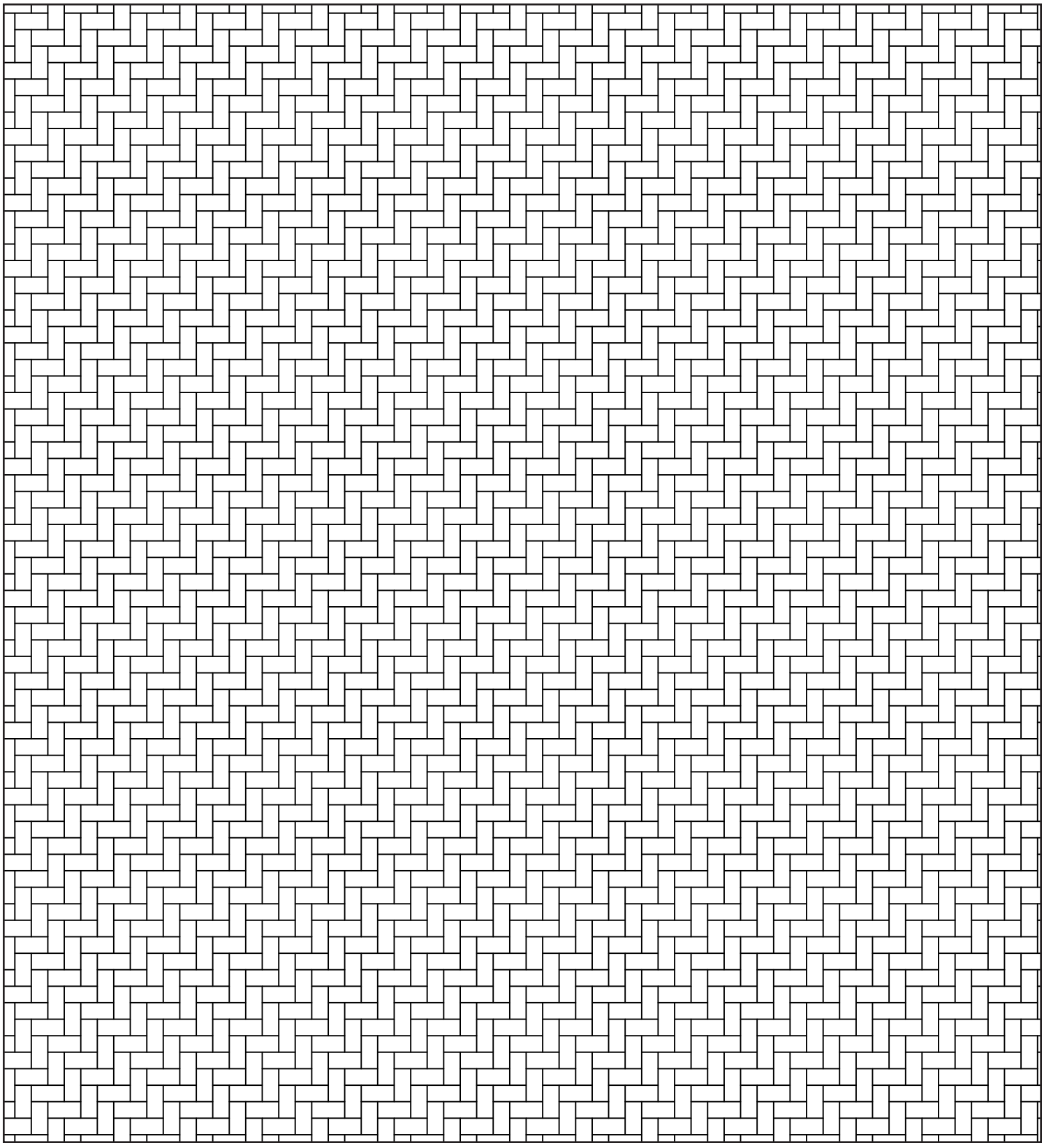
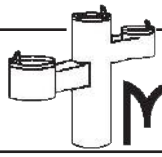
Example Layout

6x12 Herringbone

100% 6x12



Approximate scale: 1/4 in. = 1 ft. Layout shown derived from available cad hatch file (.pat). Please contact your representative for more information.



MDF PEDESTAL BOTTLE FILLER SPECIFICATIONS

WATER QUALITY (LEAD FREE)	Section 9, California Proposition 6 and the Federal Safe Drinking Water Act.
☐ STANDARD PEDESTAL	One piece weld construction with MDF standard 3/16" wall thickness.
OR	
☐ STAINLESS STEEL PEDESTAL	One piece weld construction with MDF standard 304 schedule 10 stainless steel.
RECEPTOR BOWL	18 gauge electro-polished stainless steel bowl. Bowl overlaps pedestal, preventing buildup of residue in visual drinking area. Optional stainless steel Bowl Strainer recommended for areas with sand. Not applicable on Model 10125 SMSS.
BOTTLE FILLER SPOUT	Sanitary recessed nozzle.
BUBBLER HEAD	Stainless steel anti-squirt head (weighing a pound and a half) mounted with a lock nut and washer to prevent tampering. Lock nut pin holds bubbler in locked position to prevent twisting or turning. The MDF bubbler head has a unique design that features a steady stream trajectory and a built in natural shield from contamination.
PUSH BAR	304 stainless steel with circumference exceeding 8.6". Mushroom style push bar overlaps and prevents sand and other objects from sticking push bar in the ON position. Stainless steel bubbler housing standard.
CONTROL VALVE	Requires less than 5 lbs to operate. Non-cartridge O-ring valve delivers steady stream of water through an adjustable valve. This valve design is to operate and function at 30 to 80 PSI. Ideal operating pressure is 60 PSI.
WATER SUPPLY (LEAD FREE)	Maintenance free reinforced nylobraid tubing - **this tubing is not plastic**. It is supplied with a 1/2" MIP threaded inlet with stainless steel strainer. Union fittings at every connection. Supply line stops above grade. Water Filter is standard on this model.
DRAIN	1 1/2" schedule 40 PVC pipe. Drain line stops above grade.
FINISH	Oven baked powder coat. Choice of colors are: ☐ green, ☐ blue, ☐ black, ☐ red, ☐ yellow, ☐ orange, ☐ brown and ☐ white. Textured color choices: ☐ emerald, ☐ sapphire, ☐ pyrite, ☐ text-black, ☐ burgundy, ☐ gold vein, ☐ copper and ☐ sandstone. Stainless steel models are powder coated for added protection. The color ☐ chrome is an available option for stainless steel models only.
INSTALLATION	**Surface Mount** installation, is designed to be anchored on top of a new or existing surface (concrete,etc.) For a new surface, a surface mount carrier is recommended. For an existing surface, anchor bolts are to be used through the attached mounting plate. Surface Mount Fountains come standard with an access door with vandal resistant stainless steel screws.
WINTERIZATION	Shut off water and drain down. Remove water filter.
WARRANTY	One year warranty, labor not included.

SHIPPING WEIGHT

Model 10125 SM.....110 lbs	Model 10125 SMSS..... 100 lbs	Model 10890 SM..... 150 lbs
Model 10135 SM.....150 lbs	Model 10135 SMSS..... 150 lbs	Model 10890 SMSS... 140 lbs
Model 10140 SM.... 245 lbs	Model 10140 SMSS..... 245 lbs	
Model 10145 SM.... 245 lbs	Model 10145 SMSS..... 235 lbs	Model 10895 SM..... 200 lbs
Model 10150 SM.... 245 lbs	Model 10150 SMSS..... 235 lbs	Model 10895 SMSS... 190 lbs
Model 10155 SM.... 195 lbs	Model 10155 SMSS..... 185 lbs	

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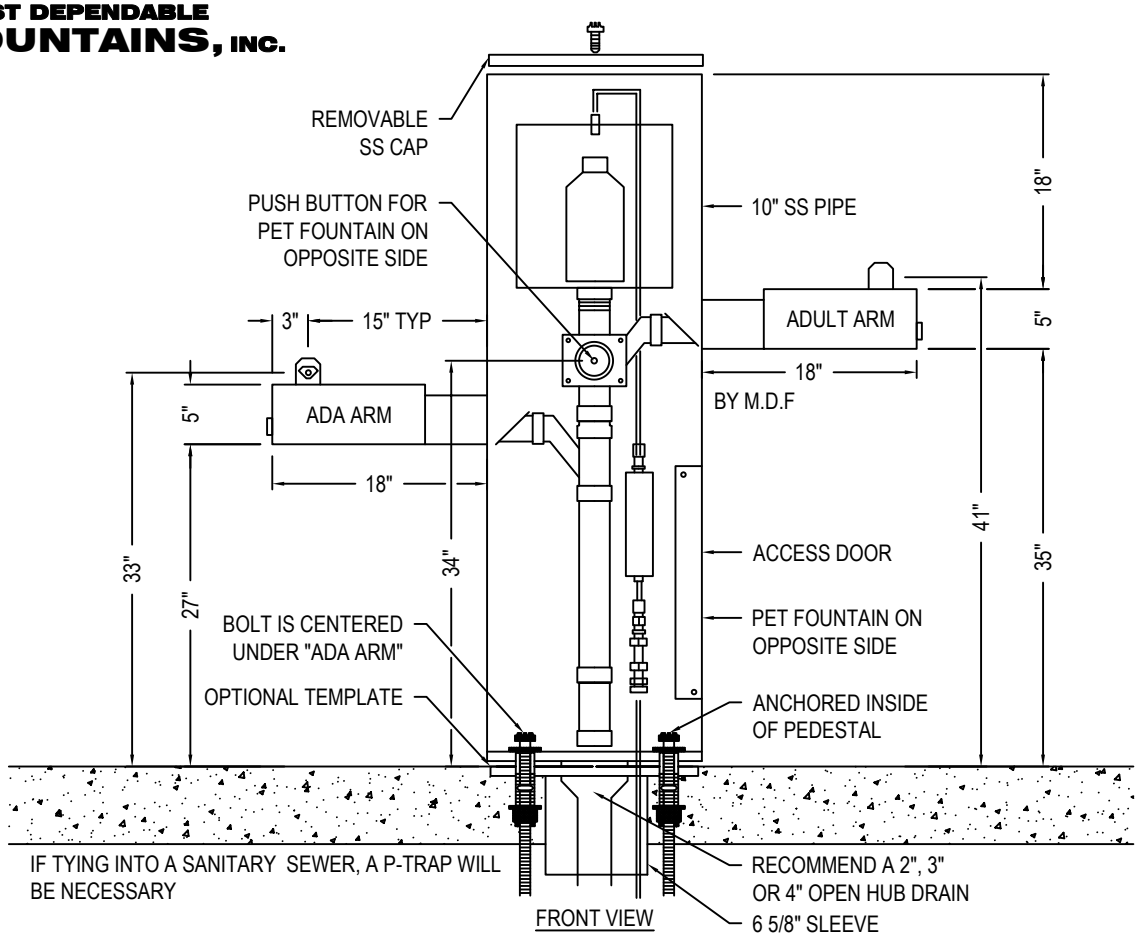
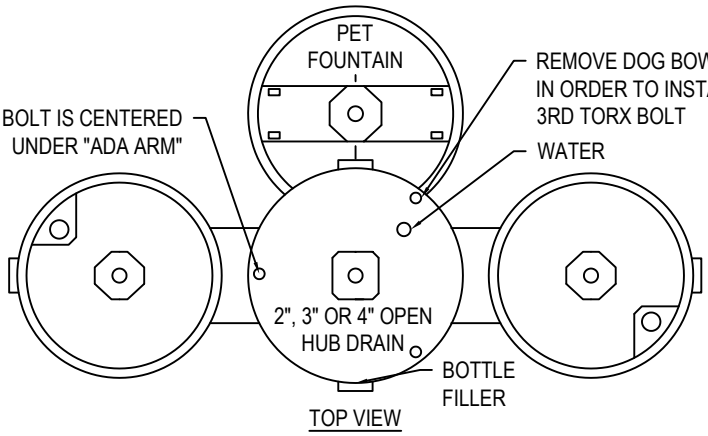




NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. NOTE TO ARCHITECT, SCALE DRAWING IN AUTOCAD MODEL SPACE.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 3354-17.52

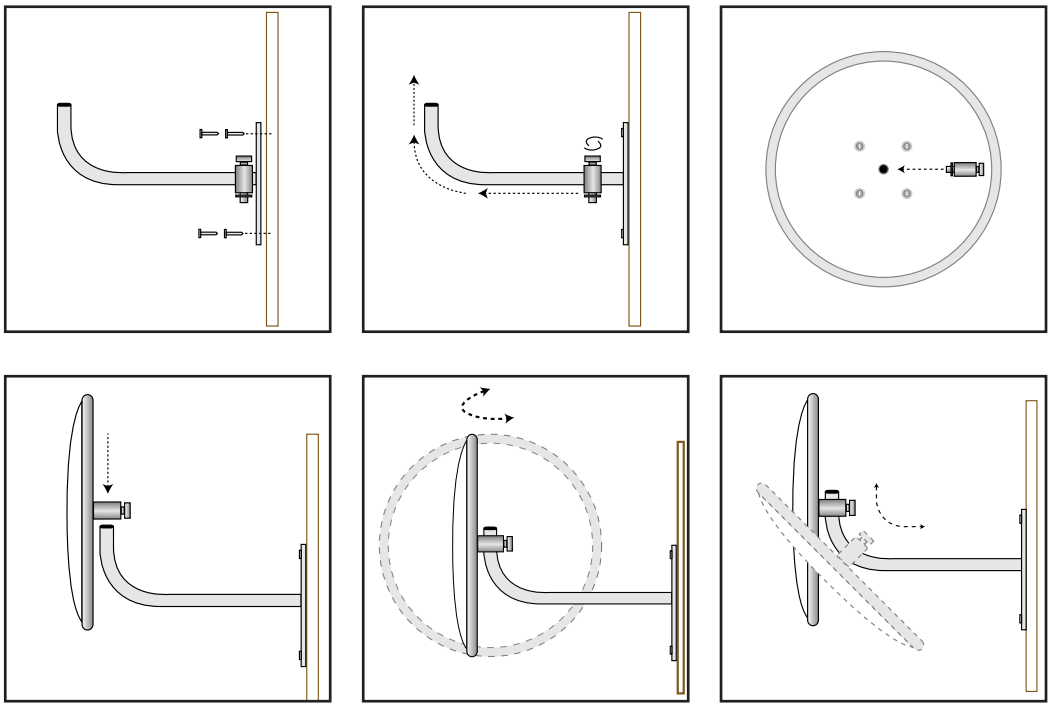
MODEL 10145 SM

SHOWN W/ OPTIONAL PET FOUNTAIN

HEAVY DUTY MIRROR INSTALLATION GUIDE

Mounting Bracket To A Flat Surface:

1. Decide the appropriate place to site the mirror to give maximum vision.
2. Fix J-Bracket to wall or ceiling using suitable fixing hardware (ie: screws, bolts). Allowing enough room to get the mirror on to the J-Bracket.
3. Thread adaptor into the back of the mirror
4. Slide the adaptor and mirror over the J-Bracket and adjust mirror to the desired position.
5. Tighten the locking bolt on the adaptor securely.
6. (Remove protective film on acrylic model).



The Convex Mirror Shop
3 Bert Dr, Unit 10
West Bridgewater
MA 02379
United States

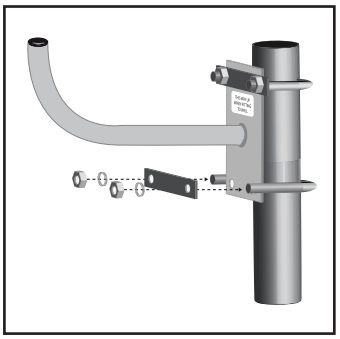
Call: 781-344-8459
www.convexmirrorshop.com

HEAVY DUTY MIRROR INSTALLATION GUIDE

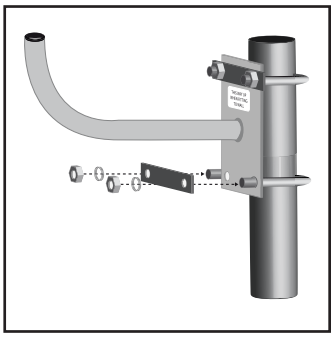
Mounting Bracket To 3" Pole With U-Bolts: (U-Bolt Pack Purchased Separately)

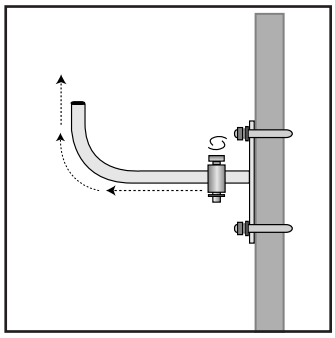
1. Choose a 3" Round pole to attach the U-Bolts to.
2. For **12" - 18" - 24" - 30"** diameter mirrors:
   Thread the U-Bolts around the J-Bracket and through the U-Bolt Flat Plate.
3. For **32" - 36" - 40"** diameter mirrors:
   Thread the U-Bolts through one side of the J-Bracket and then through both sides of the U-Bolt Flat Plate.
4. Thread the Washer and Nut onto the U-Bolts and tighten.
5. Thread adaptor into the back of the mirror.
6. Slide the adaptor and mirror over the J-Bracket and adjust mirror to the desired position.
7. Tighten locking bolt on adaptor securely. (remove protective film on acrylic model).

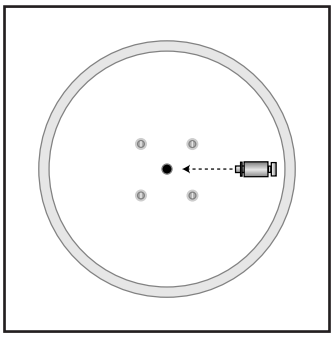
12" 18" 24" 30" mirrors

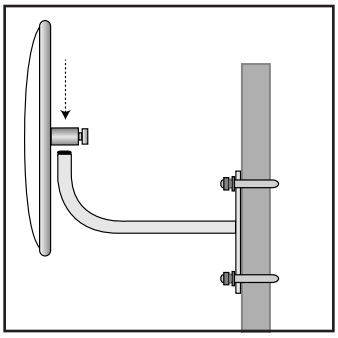


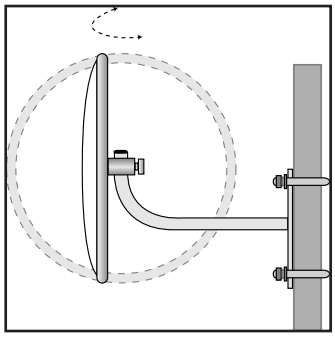
32" 36" 40" mirrors

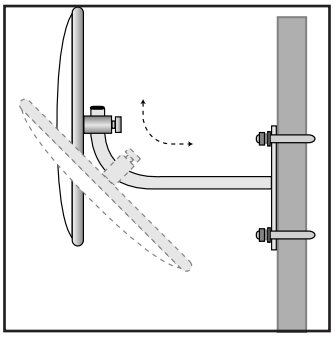












The Convex Mirror Shop
3 Bert Dr, Unit 10
West Bridgewater
MA 02379
United States

Call: 781-344-8459
www.convexmirrorshop.com

NOTES: UNLESS OTHERWISE SPECIFIED

1. 4" PIPE, ASTM 312 OR EQUAL. PIPE SCH PER BUILD.CUSTOMER SELECTION.
2. PER CUSTOMER SELECTION OR BUILD SPECIFICATIONS.
3. ABOVE GRADE HEIGHT MUST BE SPECIFIED. STANDARD HEIGHT IS 36.0" UNSPECIFIED.
4. PAD LOCK OR SIMILAR LOCKING MECHANISM SHALL BE PROVIDED BY OTHERS.
5. EMBEDMENT SLEEVE SHOWN FOR REFERENCE ONLY. EMBEDMENT SLEEVE WILL BE ENTERED AS A SEPARATE LINE ITEM. EMBEDMENT SLEEVE MATERIAL SHALL BE T304 STAINLESS STEEL.
6. PURCHASER/CONTRACTOR/INSTALLER IS RESPONSIBLE FOR FOLLOWING ALL LOCAL BUILDING, ELECTRICAL AND CONSTRUCTION CODES AND MUST VERIFY SOIL/SITE CONDITIONS ARE APPROPRIATE FOR INSTALLATION. CRASH RATED PRODUCTS MUST BE INSTALLED PER MANUFACTURER'S REQUIREMENTS. FAILURE TO COMPLY WITH INSTALLATION REQUIREMENTS WILL VOID WARRANTY AND OR CRASH RATING.
7. IF SONOTUBES ARE USED, REMOVE BEFORE FINAL CONCRETE POUR. DO NOT LEAVE SONOTUBE IN PLACE. CEMENT CORE MUST BE IN DIRECT CONTACT WITH FINISH GRADE AND SUBSTRATES.

REVISIONS					
ZONE	REV.	ECO	DESCRIPTION	DATE	APPROVED
	A	--	ORIGINAL RELEASE.	04/13/2022	C. VIDAMO

BUILD SPECIFICATIONS

1 PIPE SCHEDULE: (SELECT ONE)
☐ **SSR04040 SCH40** ☐ **SSR04080 SCH80**

PIPE MATERIAL: (SELECT ONE)
☐ **T304** (STANDARD) ☐ **T316**

BOLLARD CAP STYLE: (SELECT ONE)
☐ **FLAT** ☐ **DOME** ☐ **KNIGHT** ☐ **VIKING**

2 BOLLARD FINISH: (SELECT ONE)
☐ **#4 BRUSHED** (STANDARD)
☐ **OTHER:** _____

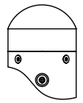
3 DIMENSIONS (SUPPLY "A-DIM")
A-DIMENSION (INCHES): _____

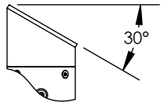
OPTIONS: (SELECT ALL REQUIRED)
☐ **CHAIN EYE** QTY:____ HEIGHT:_____
☐ **LIFTING HANDLE** QTY:____ HEIGHT:_____

OTHER: (SPECIFY ANY OTHER CUSTOMIZATION REQUEST)
_____

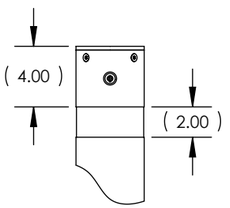
CAP STYLES:


FLAT


DOME



KNIGHT



VIKING

CUSTOMER INORMATION

COMPANY: _____

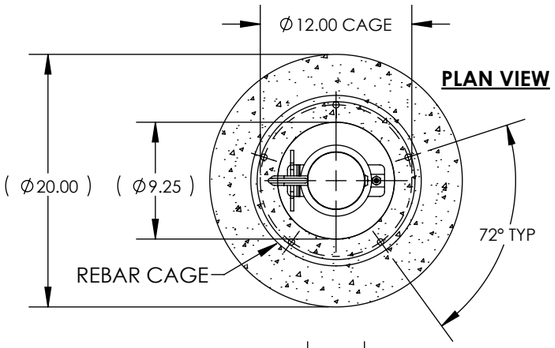
PROJECT NAME: _____

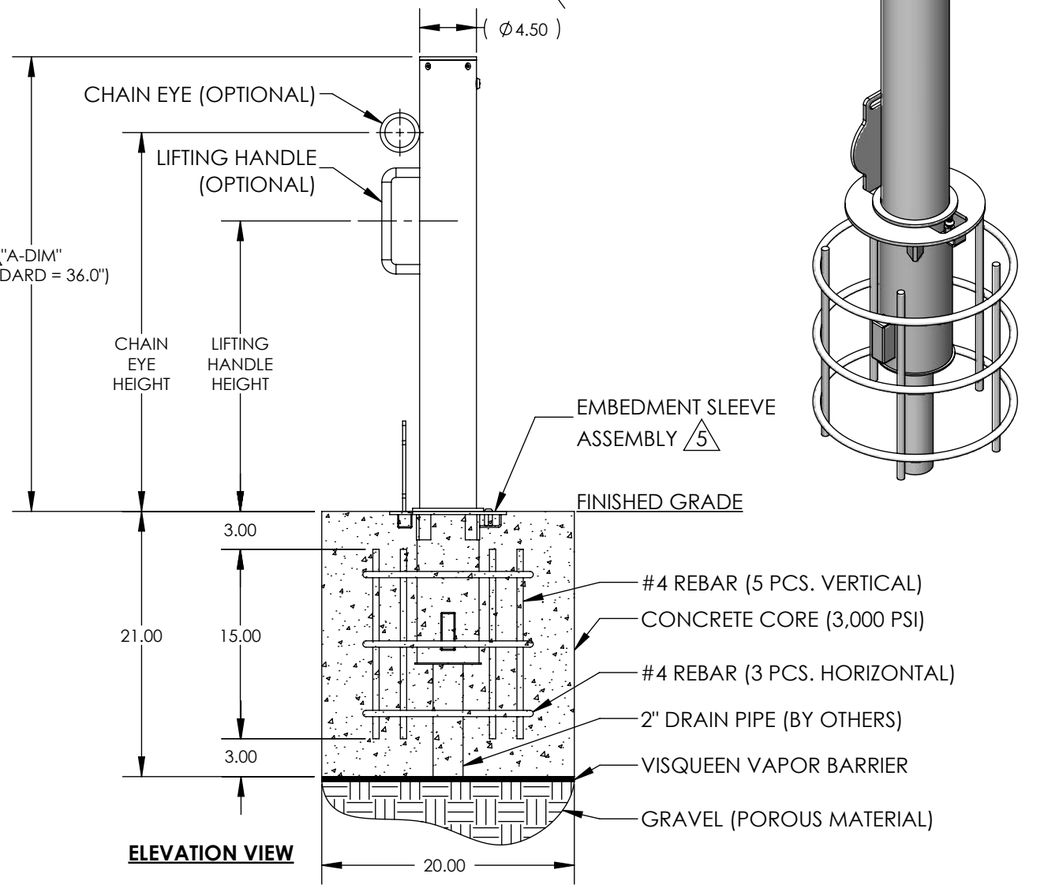
SIGNEE'S NAME WRITTEN CLEARLY: _____

AUTHORIZED SIGNATURE: _____

DATE: _____

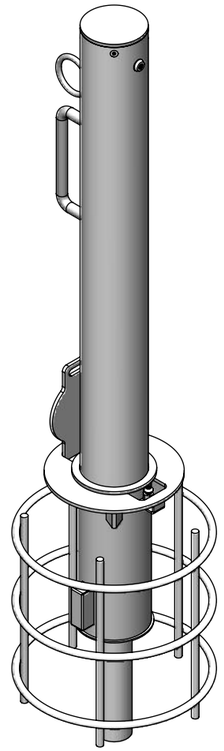
OTHER/NOTES: _____





ELEVATION VIEW

FLAT CAP SHOWN



Calpipe Security

THIRD ANGLE PROJECTION

MATERIAL 1 | FINISH 2

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONAL ±1/16 DECIMAL .X ±.03 .XX ±.01 .XXX ±.005 ANGULAR ±1°

WEIGHT (LBS.): 50-65

DO NOT SCALE DRAWING

PROJECT NAME: SSR

DRAWN: C. VIDAMO DATE: 04/13/22
CHECKED: J. GALLEGOS 04/13/22
MECH. ENGINEER: C. VIDAMO 04/13/22
ELECTRICAL ENGINEER:
OPERATIONS MANAGER:
PROGRAM MANAGER:

ATKORE CALPIPE SECURITY
12160 WOODRUFF AVE
DOWNEY, CA 90241

TITLE: CUT SHEET, 4IN INTERNAL LOCKING REMOVABLE BOLLARD, ROUND REBAR, SSR

SIZE: B | DWG. NO: SSR040XXR_CS | REV: A

SCALE: 1:10 | DATE: 04/13/22 | SHEET 1 OF 1

DAVIS COLORS

CONCRETE
COLOR SELECTOR





VENATOR

COLOR GROUP: SUBTLE

COLOR GROUP: STANDARD

COLORS FOR CONCRETE

Davis Colors™ mix into any concrete, transforming it into a new design feature for building and paving projects or to enhance appearance around the home. Davis Colors™ are strong, durable and last as long as the concrete. Installation is cleaner and easier than toppings, stains or coatings and requires less labor. There are bold and intense premium colors, standard colors that make an attractive upgrade for any project,

SANDSTONE
0.75 LB 5237

CANYON
0.5 LB 160

SANTA FE
0.75 LB 1117

MOCHA
1 LB 6058

RUSTIC BROWN
2 LBS 6058

PEBBLE
0.5 LB 641

DUNE
0.5 LB 6058

OUTBACK
0.5 LB 677

SEQUOIA SAND
1 LB 641

YOSEMITE BROWN
2 LBS 641

Color name, number and dose-rate to mix with each 94 lb. sack of cement.

(Dry dose rates shown, liquid dose rates higher)

SILVERSMOKE
0.25 LB 8084 * or 1.25 LBS 860

LIGHT GRAY
0.5 LB 8084 * or 2.5 LBS 860

OMAHA TAN
1 LB 5084

HARVEST GOLD
2 LBS 5084

Concrete Base Color

The natural base color of concrete, finishing and curing method determines final color. This card simulates lab samples made with a light broom finish from Type II gray cement, sand and water at 0.56 water/cement ratio for a 4" slump (see uncolored reference at left). Different cements, sand, rock, mixing and job-site conditions and contractor technique can alter color from this card. Concrete is produced from natural materials. Surface variation common to uncolored concrete can impact colored concrete.

DARK GRAY
1 LB 8084 * or 5 LBS 860

BAYOU
1 LB 6130

COCOA
2 LBS 6130

***Caution:** 8084 is not compatible with air-entraining admixtures. See back page for more information.*

and low-cost subtle shades that add a hint of color to gray concrete. As the leading producer of colors for concrete since 1952, we offer the widest spectrum available.

SANGRIA
1.5 LBS 1117

TILE RED
3 LBS 1117

BRICK RED
4 LBS 160

SAN DIEGO BUFF
1.5 LBS 5237

SUNSET ROSE
1 LB 160

BAJA RED
2 LBS 160

TERRA COTTA
4 LBS 10134

SPANISH GOLD
3 LBS 5084

SOUTHERN BLUSH
1 LB 10134

SALMON
2 LBS 10134

MESA BUFF
2 LBS 5447

PALOMINO
3 LBS 5447

FLAGSTONE BROWN
3 LBS 641

MESQUITE
1 LB 677

TAUPE
2 LBS 677

SIERRA
2 LBS 61078

ADOBE
4 LBS 61078

KAILUA
4 LBS 677

PEWTER
1 LB 860

COBBLESTONE
2 LBS 860

GRAPHITE
2 LBS 8084 *

WILLOW GREEN
3 LBS 5376

GREEN SLATE
3 LBS 3685

MIX-IN COLORS FOR CONCRETE

Uses: Davis Colors are used in cast-in-place, slab-on-grade, precast, tilt-up and decorative concrete; shotcrete, mortar, concrete masonry units, pavers, retaining wall units and rooftile. They can also be used to color cast stone, plaster, stucco and other cement-based construction materials. Designed for mix-in use only, they should not be sprinkled or dusted onto the concrete surface.

Ingredients: Pure, concentrated pigments made of high-quality metal oxides recycled from iron or refined from the earth and specially processed for mixing into concrete. Davis Colors comply with ASTM *C979 Pigments for Integrally Colored Concrete*. They are lightfast, alkali-resistant, weather-resistant, durable and long-lasting like concrete. Davis Colors are available in a wide spectrum of standard colors and can be custom formulated to match design requirements. *Unlike other Davis Colors, Supra-Instant® black #8084 is a specially treated carbon black. Carbon black is the highest in tint strength and the most economical, but can fade if concrete is not sealed against water penetration. Sealing and periodic re-sealing can minimize this effect.

Packaging: Concrete suppliers use our Mix-Ready® disintegrating bags or Chameleon® bulk handling system. The Chameleon® is a computer-controlled automatic color dosing system used by concrete producers. Mix-Ready® bags are tossed into the mix without opening or pouring. They disintegrate under mixing action, releasing pigments to disperse uniformly leaving no bags to litter the environment.

Installation: Integrally colored concrete is installed the same way as high quality uncolored concrete. Choose a color on the inside of this color card and specify it by name and color number. Create a custom color by varying the amount of color added to the mix. Confirm desired color with a fully-cured job-site test panel. Dry color dose rates range from 1/2 to 7 lbs. per 94 lbs. of cement content and should never exceed 10% of cement content. (Liquid dose rates are higher). Cement content includes portland cement, fly ash, silica fume, lime and other cementitious materials but does not include aggregate or sand. Davis Colors have been used successfully in a wide variety of mix designs and are compatible with commercially available admixtures. The only known incompatibility is with calcium chloride set accelerator which causes blotching and discoloration. *Supra-Instant® black #8084 reduces or negates the effect of air-entraining admixtures.

Finishes: Paving and floors can be finished with pattern-stamped, broomed, troweled, exposed aggregate, salt-finished, sand-blasted, diamond-polishing or many other visually appealing textures. Cast-in-place, precast and tilt-up structures can be textured with sand-blasting, bushhammering, grinding, polishing, special forms or form liners. The combinations and possibilities are endless. Here are just a few:


Exposed Aggregate


Light Broom (wavy)


Stamped/ Patterned


Salt Finish


Sand Blasted


Form Liner

Curing & Sealing: W-1000 Clear™ is a non-clouding, spray-on cure and sealer that meets or exceeds ASTM C309 standards and is specially formulated for colored concrete and exposed aggregate finishes. Other curing methods, such as water curing or plastic sheets cause discoloration. Color Seal™ is an optional, thin-film sealer that's tinted to match the shades on this Color Selector. When applied over colored concrete or the W-1000 Clear™, it provides a more uniform appearance.

Quality Tips: For best results; materials, curing, weather conditions and workmanship should be uniform throughout a project. Quality starts with the concrete mix; use a low water-content, high-performance mix design. When planning a project, budget for craftsmanship.

Consumer Advice: Contractors are independently owned and operated without affiliation to Davis Colors. Choose a licensed and qualified contractor who provides written information and example projects you can see before you buy. Check the yellow pages, ask your local ready mix or building material dealer or visit www.concreteconnection.com to find contractors who specialize in colored concrete.

Specify Davis: Choose a color from this color selector and specify it by name and color number. Add color call-out to plan documents or specifications. For complete architectural and guide spec information, visit our web site, refer to our architectural binder, call, fax or write. Our guide specifications can be found in SweetSource®, Spec-Data®, ARCAT/Spec-Disk® or at www.daviscolors.com/specs.

For samples or additional information contact:

DAVIS COLORS

Tel: 800-356-4848 • Fax: 323-269-1053 • www.daviscolors.com

Printed in U.S.A. 06/2020

Mixing Guide:

Use the same pigment-to-cement ratio, type and brand of cement and aggregates throughout project. Changes in cement and aggregate color affect final color.

Keep slump less than 5" (12.5 cm) and water content consistent. High water content causes concrete to appear pale or "faded". If higher slump is required, use a water reducing admixture instead of added water.

Calcium Chloride set-accelerator causes discoloration; Do not use with color.

Specify air content of 5% to 7% for improved workability and long term durability in freeze/thaw climates.

Schedule loads for consistent mix times. Deliver and discharge in less than 1-1/2 hours. Clean mixer thoroughly between color change-overs.

Confirm color number and weight in Mix-Ready® bag (or combination of bags) is the same required by mix design.

Wet mixer with 1/2 to 2/3 total batch water. Toss in Mix-Ready® bags and mix at charging speed for at least one minute. Add cement, aggregate and remaining batch water. Continue mixing at charging speed for at least 5 minutes (7 minutes for pea-gravel mixes).

Notice: In mixes with small aggregate or batches with short mixing duration, Mix-Ready® bags may not completely disintegrate. In sand-blasted or exposed aggregate finishes, use small bag-sizes (15 lbs. maximum) or open bag and pour color normally.

The Chameleon® is a computer-controlled color dosing system for Ready Mix operators exclusively from Davis. It improves color accuracy and availability. Chameleon® dose rates differ from the rates on front of this card. For more information, go to www.daviscolors.com/chameleon.

Contractor's Guide:

Prepare a well-drained subgrade. Add a 2 to 3 inch (50 to 75 mm) layer of sand, gravel or crushed stone. Uniformly compact the subgrade and moisten evenly, leaving no puddles, standing water, ice, frost, or muddy areas.

If vapor barrier is used, overlap sheets and tape over holes in barrier. Place a 3" (75mm) layer of granular self-draining compactible fill over the barrier to minimize shrinkage cracking.

Position forms for uniform slab thickness. Follow American Concrete Institute standards for reinforcement and joint placement to control cracking.

Allow ample time and manpower for placement and finish work. Finish evenly and with care.

Begin troweling after bleed water evaporates. Late or hard troweling and edging causes "burns" or dark spots.

Water added at job-site to mixer or pumps will cause color to pale. Keep additions to a minimum and consistent among loads. Don't wet finishing tools or brooms or sprinkle water on the surface.

Do not sprinkle pigment or cement onto the surface. Rotary, dry-broom, pattern stamped or rough finishes usually cure more even-colored than smooth-troweled finishes.

Uneven curing=uneven drying=uneven color. Cure colored concrete with Davis W-1000 Clear™ cure and seal. (info at: www.daviscolors.com/literature)

Do not use plastic sheets, water curing or curing products which discolor. Wood and other objects left on curing concrete cause discoloration.

Efflorescence is a white powdery substance that appears on concrete surfaces. A result of water evaporation, it is more noticeable on colored surfaces making them look faded or lighter in color when not cleaned off. Proper curing and protection against water penetration reduces tendency for efflorescence to occur. Remove with detergent or mild-acid cleaners formulated to remove efflorescence. Follow cleaner instructions and test in a small area to make sure cleaner will not etch or discolor the surface. Wear rubber gloves and eye protection.

VENATOR

DC501 reprint 08/2020

SECTION 03 35 19

INTEGRALLY COLORED CONCRETE FINISHING

Davis Colors enhance the beauty of concrete. Integral colors are economical to use because they are mixed right into concrete and require little additional labor to install. They also contribute to sustainable construction because, unlike most surface-applied finishes, integral colors have no volatile organic compounds (VOCs), are permanent, and do not require periodic re-application. Davis Colors are made with pure, concentrated pigments specially processed for mixing into concrete. They are light fast, alkali resistant, weather resistant, and formulated to give long-lasting appeal to decorative concrete.

In general, integrally colored concrete is produced the same way as high-quality uncolored concrete. Comply with American Concrete Institute (ACI) recommendations and applicable industry guidelines.

Specification Coordination: Use this document when specifying integral colors for site-cast concrete. **Specify basic concrete requirements in Related Sections**, then use this document to specify integrally colored finishes. Alternatively, insert clauses from this document into your master specification for concrete work. Coordinate this document and Related Sections carefully. Text shown in green applies primarily to **flatwork**; text shown in orange applies primarily to **formed** concrete.

This document is available in word processing format at www.daviscolors.com/Literature. Turn on HIDDEN TEXT to view or print specifier notes.

Drawing Coordination: Show locations of integrally colored concrete on Drawings or in Schedules.

Samples and Technical Assistance: Davis Colors
Phone: 800-356-4848 (toll free) or 323-269-7311.
E-mail: info@daviscolors.com. Internet: www.daviscolors.com.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Integrally colored finishes for site-cast concrete.
2. If this Section conflicts with Related Sections:
   a. This Section takes precedence for matters that affect concrete appearance.
   b. Related Sections take precedence for matters that do not affect concrete appearance.
   c. In case of conflicts, notify [Architect]<Other party> for clarification.

B. Related Sections
1. Related Site Cast Concrete Sections:
   a. Division 03 Section ["Cast-in-Place Concrete"]<Other title>: Basic requirements for concrete and coordination of sample submittal.

b. Division 03 Section ["Tilt-Up Concrete"]<Other title>: Basic requirements for concrete and coordination of sample submittal.
c. Division 32 Section ["Concrete Paving"]["Decorative Concrete Paving"]<Other title>: Basic requirements for concrete and coordination of sample submittal.
d. <Other Related Sections>

2. Other Related Sections:
a. Division 03 Section ["Precast Concrete"]<Other title>: Colored precast concrete.
b. Division 04 Section ["Concrete Unit Masonry"]<Other title>: Colored concrete masonry.
c. Division 07 Section ["Joint Sealants"]<Other title>: Colored sealants for joints.
d. Division 32 Section ["Precast Concrete Unit Paving"]<Other title>: Colored concrete units.
e. <Other Related Sections>

1.2 REFERENCE STANDARDS

A. [ACI 117 – Tolerances for Concrete Construction and Materials]

B. ACI 301 – Structural Concrete.

C. ACI 303.1 – Cast-in-Place Architectural Concrete.

D. ACI 305.1 – Hot Weather Concreting.

E. ACI 306.1 – Cold Weather Concreting.

F. ACI 308R – Curing Concrete.

G. ACI 318 – Building Code Requirements for Structural Concrete.

H. [ACI 347 – Formwork for Concrete]

I. ASTM C309 – Liquid Membrane-Forming Compounds for Curing Concrete.

J. ASTM C979 – Pigments for Integrally Colored Concrete.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference:
1. Conduct conference at [Project site]<Other location>.
2. Comply with Division 01 Section ["Project Management and Coordination"]<Other section title>.
3. Review procedures required to produce specified results.

1.4 SUBMITTALS

A. Product Data:
1. Color additives.
2. Curing products.
3. [Form facing materials.]
4. [Form release agents.]
5. [Proprietary cleaning agents.]
6. [Surface retarders.]

7. <Other product type>

B. LEED Submittals: Submit data for:
   1. [Heat Island Effect – Non-Roof: LEED Credit SS 7.1 <Other Credit>.]
   2. Recycled Content: LEED Credit MR 4.1 [and MR 4.2] <Other credit>.
   3. Regional Materials: LEED Credit MR 5.1 [and MR 5.2] <Other credit>.

C. Shop Drawings: Indicate extent of each color of integrally colored concrete.

D. Samples for Initial Selection: Submit color additive manufacturer's [color chart][sample chip set].

E. Samples for Verification: Submit sample chip of specified concrete colors indicating Davis color name.

F. Qualification Data: For Installer.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with: [ACI 301,] [ACI 303.1,] ACI 305.1, ACI 306.1, ACI 318.

B. Obtain each material from same source and maintain high degree of consistency in workmanship throughout Project.

C. Installer Qualifications: Concrete work shall be by firm with [five]<Other number> years experience with work of similar scope and quality.

D. Field Samples: Submit [three]<Other number> samples [24 by 24 inches]<Other size> indicating concrete color range and texture.

E. Integrally Colored Concrete Mock-Up:
   1. Provide full-scale mock-up under Division 01 Section ["Quality Requirements"]<Other section title>. Construct at least one month before start of other concrete work to allow concrete to cure before observation.
   2. At location acceptable to [Architect]<Other party>, demonstrate methods used for construction, including forming and finishing conditions required for Project using materials, workmanship, joint treatments, [form ties,] [patching techniques,] and curing methods to be used throughout Project.
   3. Accepted mock-up provides visual standard for work of Section.
   4. [Mock-up may remain as part of Work.] [Remove mock-up when no longer required for comparison with finished work.]

1.6 DELIVERY, STORAGE, AND HANDLING

A. Color Additive: Deliver, store, and handle in accordance with manufacturer's instructions.

B. Concrete: Schedule delivery to provide consistent mix times from time color additive is placed in mixture until placement of integrally colored concrete.

PART 2 - PRODUCTS

2.1 CONCRETE MATERIALS

A. Cements:
1. Types: [As specified in Related Sections.]<Requirements>.
2. Colors: [Gray.][White.][As required to match Reference Sample.]

B. Supplementary Cementitious Materials:
1. Types: [As specified in Related Sections.]<Requirements>.
2. Colors: [Gray.] [White.] [As required to match Reference Sample.]

C. Fine Aggregate:
1. Types: [As specified in Related Sections.]<Requirements>.
2. Color: [Locally available natural aggregate.] [Match [Architect]<Other party> sample.] [As required to match Reference Sample.]

D. Coarse Aggregate:
1. Types: [As specified in Related Sections.]<Requirements>.
2. Color: [Locally available natural aggregate.] [Match [Architect]<Other party> sample.] [As required to match approved concrete sample.]

E. Special Aggregates: <Requirements>.

F. Water: Clean and potable.

G. Admixtures: Do not use calcium chloride admixtures.

2.2 COLOR ADDITIVES

A. Manufacturer: Davis Colors
1. Contact Information:
a. Phone: 800-356-4848 or 323-269-7311.
b. E-mail: info@daviscolors.com.
c. Web Site: www.daviscolors.com.
2. Substitutions: Comply with Division 01 Section ["Substitution Procedures"]<Other section title>.

B. Type:
1. Concentrated pigments specially processed for mixing into concrete and complying with ASTM C979.
2. Color additives containing carbon black [are] [are not] acceptable.

C. Color Additive Delivery:
1. Automated Dispensing: Meter and dispense colors using computer-controlled automated color weighing and dispensing system. Use Davis Colors Chameleon liquid metering system and Hydrotint liquid color additives.
2. Manual Dispensing: Use Davis Colors Mix-Ready powdered color additives in pre-measured disintegrating bags.

2.3 FORMED CONCRETE

A. [Forms] [and] [Form Facing Materials]:
1. Type: High density and non-vapor transmitting form face, free of rust or other defects deleterious to required finish, and with watertight joints. <Other requirements>
2. Profile: <Describe form liner pattern, if required.>

B. Form Ties: [Fiberglass rods tinted to match concrete.] [Corrosion-resistant ties, removable cones, and plugs.]<Other requirements>.

C. Form Release: Use type that is non-staining and minimizes formation of bug-holes. <Other requirements.>

D. Curing Compound for Formed Surfaces: Complying with ASTM C309 and approved by color additive manufacturer for use on integrally colored concrete. Do not use white-pigmented curing compounds.

2.4 CONCRETE FLATWORK

A. Surface Retarder: <Add requirements.>

B. Curing Compound for Flatwork: Davis Colors [W-1000 Clear Cure & Seal] [Color Seal II, tinted to match integrally colored concrete]; complying with ASTM C309 and designed for use on integrally colored concrete.

C. Moist Curing Blankets: McTech Group (www.mctechgroup.com) [UltraCure NCF][UltraCure SUN] disposable curing blankets designed for use on colored or decorative concrete and to keep surface of concrete moist for seven days.

2.5 ACCESSORIES

A. Reinforcing Bar Supports: Use corrosion-resistant types at locations contacting exposed surfaces. <Other requirements.>

B. Joint Sealants:
   1. Provide [type specified in Division 07 Section "Joint Sealants".]<Other requirements>.
   2. Color: [Color selected by [Architect]<Other party> from manufacturer's full range] to match integrally colored concrete.

C. Cleaning Agents: Use products known to be compatible with integrally colored concrete.

2.6 MIXES

A. Slump: [4 inches]<Other>. If greater slump is required, use water-reducing or super-plasticizing admixture; do not add water.

B. Color Additives: Mix in accordance with manufacturer's instructions. Mix until color additives are uniformly dispersed throughout mixture and disintegrating bags, if used, have disintegrated.

C. Do not retemper mix or add water in field.

2.7 CONCRETE COLORS

A. Concrete Colors:
   1. [Concrete Color-01]<Other designation>:
      a. Name: <Add color number name>.
      b. Number: <Add color number number>.
   2. [Concrete Color-02]<Other designation>:
      a. Name: <Add color number name>.
      b. Number: <Add color number number>.

B. Concrete Colors: Provide color additives that, along with specified concrete materials, result in concrete to match [existing concrete] [Architect]<Other party> sample].

C. Concrete Colors:
   1. Provide colors to be selected by [Architect]<Other party>. [Allow for up to [three]<Other number> colors for Project.]
   2. Provide colors from color additive manufacturer's [subtle] [standard] [premium] [ultra-premium] [and] [elite] color line[s].

2.8 SCHEDULE

Location/Designation	*Color Name*	*Davis Colors Number*	*Finish*
Lobby - South Wall	Davis Colors – Sierra	61078	Exposed Aggregate
Concrete Color-01	---	Concrete Palette 0123456780	Trowel
Concrete Color-02	---	Concrete Palette 0987654321	Broom

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not place integrally colored concrete where standing water is present.

3.2 INSTALLATON

A. Comply with color admixture manufacturer’s recommendations unless otherwise specified in this Section.

3.3 FORMED SURFACES

A. Structural Concrete:
   1. Provide ACI 301 Surface Finish SF-3.0:
      a. Patch voids larger than 3⁄4 inch wide or 1⁄2 inch deep.
      b. Remove projections larger than 1⁄8 inch.
      c. Patch tie holes.
   2. Match sample finish. Contractor must reproduce a mockup of the sample finish on an area at least 100 square feet.
   3. Surface Tolerance: ACI 117:
      a. Class A (+1/8 inch maximum irregularities).
      b. Class B (+1/4 inch maximum irregularities).
      c. Class C (+1/2 inch maximum irregularities).
      d. Class D (+1 inch maximum irregularities).

B. Architectural Concrete
   1. As-Cast Finish: Form or form facing material shall be:
      a. Smooth.
      b. Patterned: <Add requirements.>
   2. Exposed Aggregate Finish: Comply with ACI 303.1.
      a. Type: [Abrasive blast.] [Mechanical Tooling (Bush Hammering).] [Water Blast.]
      b. Reveal: Projection of the aggregate from mortar after completion of exposure operations:
         1) Brush: Sufficient to dull surface sheen but not reveal aggregate.
         2) Light: Maximum 1/16 inch reveal.
         3) Medium: Maximum 1/4 inch reveal.

4) Heavy: Maximum reveal of 1/3 of large aggregate diameter.

3. Surface Tolerance: ACI 347:
   a. Class A (+1/8 inch maximum irregularities).
   b. Class B (+1/4 inch maximum irregularities).

C. Curing and Stripping:
1. Curing: Cure for [duration recommended in ACI 308R][28 days]<Other Duration>. Maintain concrete between [65° and 85°F]<Other Temperature Range> during curing.
2. Leave forms in place for as long as practical, and do not strip until concrete has reached a consistent age.
3. Stripping: If forms are removed before required curing duration, apply curing compound for formed surfaces. To extent practical, integrally colored concrete throughout project should be cured using the same methods and for the same durations.

D. Repair:
1. Fill holes and defects in concrete surface within 48 hours of form removal.
2. [Use patching materials and techniques approved in mock-up.]
3. Make patches with stiff mortar made with materials from same sources as concrete. Adjust mortar mix proportions so dry patch matches dry adjacent concrete. Add white cement to mortar mix if necessary to lighten it. [With exposed aggregate finishes, add aggregate to mortar mix so patches will have same texture and appearance as adjacent concrete.]

3.4 FLATWORK

A. Finishing:
1. Broom Finish: Pull broom across freshly [floated] [troweled] concrete to produce [fine] [medium] [coarse] texture in [straight] [wavy] lines perpendicular to main line of traffic. Do not dampen brooms.
2. Trowel Finish: Provide smooth surface. [Hard trowel to densify surface.] Do not [over-trowel or] start troweling late.
   a. Hand Trowel: Use steel trowel.
   b. Machine Trowel: [Use steel trowel blades.][Use steel-reinforced plastic trowel blades such as Poly-Pro from Wagman Metal Products, Inc. (www.wagmanmetal.com).
3. Polished: <Add requirements.>
4. Stamped: <Add requirements.>
5. Retarded Surface. <Add requirements.>
6. Abraded Surface:
   a. Method: [Abrasive blast] [Mechanical Tooling (Bush Hammering)] [Water Blast.]:
   b. Reveal: Projection of the aggregate from mortar after completion of exposure operations:
      1) Brush: Sufficient to dull surface sheen but not reveal aggregate.
      2) Light: Maximum 1/16 inch reveal.
      3) Medium: Maximum 1/4 inch reveal.
      4) Heavy: Maximum reveal of 1/3 of large aggregate diameter.
7. Select Aggregate: <Add requirements.>

B. Curing
1. Apply [curing compound for flatwork] [moist curing blanket] in accordance with manufacturer's instructions. Apply curing at consistent time for each pour.
2. Maintain concrete between [65° and 85°F]<Other temperature range> during curing.

3.5 APPEARANCE TOLERANCES

A. Appearance: Minor variations in appearance of integrally colored concrete that are similar to natural variations in color and appearance of uncolored concrete are acceptable.

3.6 CLEANING

A. Efflorescence: Remove efflorescence [as soon as practical after it appears] [and] [as part of final cleaning].

B. Use least aggressive cleaning techniques possible

C. If proprietary cleaning agents are used, pre-wet surface, test cleaning agent on small, inconspicuous area, and check effects prior to proceeding. [At walls, begin cleaning at top and work down.] Thoroughly rinse surface afterwards with clean water. Follow cleaner manufacturer's instructions.

D. Do not use muriatic or hydrochloric acid on integrally colored concrete.

END OF SECTION

KIM LIGHTING

VRB1 LED Round Bollard

Single Function, Vandal-Resistant, Aluminum Shaft

revision 8/7/14 • kl_vrb1led_spec.pdf

Type:
Job:
Catalog number:

Approvals:

VRB1 /	/	/
Fixture	Electrical Module	Luminaire Finish (includes top cap and shaft)	Option

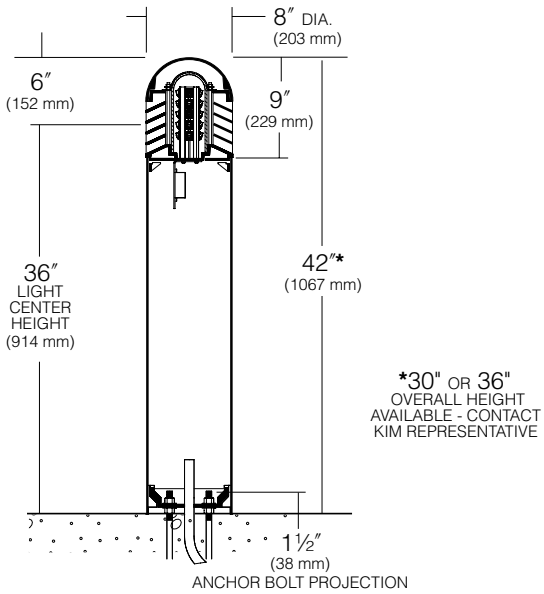
See page 2

Date:

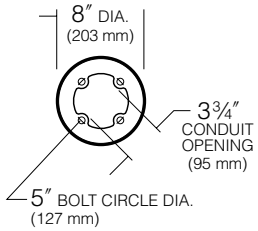
Specifications

VRB-LED Models
10 - 20 Diodes

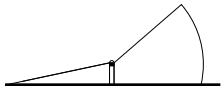
VRB1- Single Function Luminaire (Aluminum Shaft)
Maximum weight: 30 lb



BASE PLAN VRB
ALUMINUM SHAFT




VRB1 and VRB3


VRB2 and VRB4

HUBBELL® Lighting

Domed Top Cap: One-piece die-cast aluminum secured to louvers by concealed allen screws in keyhole slots. For relamping access, allen screws shall not require complete removal.

Louvers: Aluminum die-cast with vertical support ribs at 90° intervals. Horizontal louver blades shall have a 1¾″ depth, a 65° upward pitch and provide light source cutoff above horizontal. Louver assembly shall be secured to shaft by four internal tie rods.

Lamp Enclosure: One-piece tempered molded glass with internal flutes and full gasketing at bottom edge.

Fixture Head: Allows flow-through ventilation around and above the lamp enclosure.

Shaft: One-piece extruded aluminum, .125″ wall thickness with a heavy cast aluminum twist-lock anchor base concealed within the shaft. Concealed set screws shall lock shaft onto the cast anchor base.

Electronic Module: All electrical components are either UL or ETL recognized, mounted on a single plate and factory prewired with quick disconnect plugs. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

Optical Module: Each LED equipped with a directional optic for maximum beam angle projecting through louver stack spacings. LED boards to be mounted to an anodized inter-locking heat sink extrusion. (Type I) two 5-LED boards for a total of 10-LED. (Type III) three 5-LED boards for a total of 15-LED. (Type V) four 5-LED boards for a total of 20-LED. Available in 580nm Amber, 3000K, 4200K and 5100K color temperatures.

Anchor Bolts: Four ⅜″ x 10″ + 2″ zinc plated L-hooks, each with two nuts, washers and a rigid pressed board template.

Finish: Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat finish. Standard colors include (BL) Black, (DB) Dark Bronze, (WH) White, (PS) Platinum Silver, (SG) Stealth Gray, (LG) Light Gray, and (CC) Custom Color (Include RAL#).

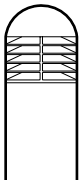
Listed to: UL 1598 Standard for Luminaires - UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products and CSA C22.2#250.0 Luminaires. RoHS compliant. Meets Buy American provisions within ARRA.

Warranty: Kim Lighting warrants Bollard LED products sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of five (5) years for exterior housing paint finish(s), (iii) a period of five (5) years for LED Light Engines and, (iv) a period of five (5) years for LED power components (driver, surge protector and LifeShield® device), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

CAUTION: Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE

 • 16555 EAST GALE AVENUE, CITY OF INDUSTRY, CA 91745-1788 • TEL: 626/968-5666 • FAX: 626/968-5716



Standard and Optional Features

Fixture

Cat. No. **VRB1** Single Function, Aluminum Shaft, Domed Top

Electrical Module
LED = Light Emitting Diode

Cat. Nos. for LED Electrical Modules available:

xL

Source:

- ☐ **10L**= 10 LED (IES Type I)
- ☐ **15L**= 15 LED (IES Type III)
- ☐ **20L**= 20 LED (IES Type V)

xK

Color Temperature:

- ☐ 2K = 580nm - Amber
- ☐ 3K = 3000K
- ☐ 4K = 4200K
- ☐ 5K = 5100K

UV

Voltage:

- ☐ **UV** Universal Voltage shall range from 120V-277V

Finish
TGIC thermoset polyester powder coat paint applied over a titanated zirconium conversion coating on fixture and shaft.

Color:	Black	Dark Bronze	Light Gray	Stealth Gray	Platinum Silver	White	Custom Color[1]
Cat. No.:	☐ **BL**	☐ **DB**	☐ **LG**	☐ **SG**	☐ **PS**	☐ **WH**	☐ **CC**

NOTE: Black and Dark Bronze colors will produce slightly less louver brightness than Light Gray or White.

[1] Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description:_____

Battery Back-up
Cat. No. ☐ **EM**
☐ **No Option**

Internal battery pack provides 90 minutes of supplemental light at 50% of initial lamp lumens.

battery back-up

Optional Duplex Receptacle
Cat. No. ☐ **DR**
☐ **DR-GFI**
☐ **No Option**

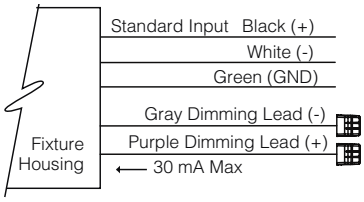
Mounted 18″ from bottom of shaft, in a cast aluminum box that is internally welded and sealed with a gasketed While-In-Use cover with locking tab. Painted to match bollard.

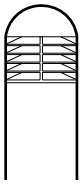
DR weather proof duplex receptacle rated 20A, 125V.

DR-GFI weather proof duplex receptacle with ground fault circuit interrupter rated 20A, 125V.

0-10V Dimming Interface

Driver has a 0-10V dimming interface with a dimming range of 10-100%. Is compatible with most control systems including Hubbell Building Automation wiHUBB™. Approved dimmers include Lutron Diva AVTV, Lutron Nova NFTV and NTFTV. Note: Not compatible with current sourcing dimmers. Controls compatible via Gray and Purple dimming lead.





Lumen Data

Spectroradiometric			
	3000K Average	4200K Average	5100K Average
Correlated Color Temp. CCT (K)	2800K - 3175K	3800K - 4600K	4600K - 5600K
Color Rendering Index (CRI)	≥75	≥70	≥65
Power Factor	>.90	>.90	>.90

Projected Lumen Maintenance		
mA	50,000 hrs	100,000 hrs
350mA	N/A	N/A

Based on 20LED version.

Electrical Drive Current - @350mA						
	Type 1		**Type 3**		**Type 5**	
Volts - AC	Amps - AC	System Watts	Amps - AC	System Watts	Amps - AC	System Watts
120	0.11	13	0.16	19	0.21	25
208	0.06	13	0.09	19	0.12	25
240	0.05	13	0.08	19	0.10	25
277	0.05	13	0.07	19	0.09	25

B.U.G. Rating (TM15) in Lumens where B = Backlight, U = Uplight, G = Glare			
Temperature	TYPE 1	TYPE 3	TYPE 5
3000K	B1 U2 G1	B1 U2 G1	B1 U2 G1
4200K	B1 U2 G1	B1 U2 G1	B1 U2 G1
5100K	B1 U2 G1	B1 U2 G1	B1 U2 G1

Absolute Lumens			
Temperature	TYPE 1	TYPE 3	TYPE 5
3000K	396	567	811
4200K	491	703	1005
5100K	515	739	1057

LED performance and lumen output continues to improve at a rapid pace. Log onto www.kimlighting.com to download the most current photometric files from Kim Lighting's IES File Library.
For custom optics and color temperature configurations, contact factory.

THE LED COMPANY

CL1000-AGN
MIDGRADE LANDSCAPE

The CL1000-AGN
MIDGRADE LANDSCAPE

APPLICATIONS:

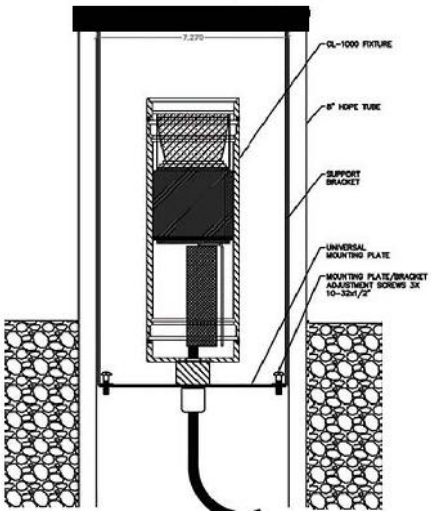
Landscape
Tree/Foliage
Wall Wash
Flag Lighting

Extremely Durable

High brightness COB
Multiple Power Options
MultipleBeam
Spread Options
120/277VAC Dimmable

ETL Listed Wet Location

61 Month Warranty



UL1598/8750/1598
CSA C22.2#250.0

THE LED COMPANY

17795 SKY PARK CIRCLE
SUITE A, IRVINE, CA 92614

SALES@LEDCOHOME.COM
PH 949 645-2242

CL1000-AGN
MIDGRADE LANDSCAPE

THE LED COMPANY

Specifications

Light Source	High-brightness LED (2000 Lumens @ 3500k, 21 Watts)
LED Life (L70)	50,000 hours average*
Input Voltage	120-277VAC
Power Consumption	15, 21, 25
Color Temperature	2700k, 3000k 3500k or 4000k
CRI	90 Typical
Optic	Interchangable Reflective Lens
Material	6061-T6 Aluminum
Fasteners	Stainless steel hardware
Standard Mounting	PVC Post and ABS Cap
Operating Temperature	-31F to 122F (-35C to 50C)
Listings	ETL listed to UL Standards 1838 and 8750 CSA C22.2 No. 250.7-07

*LED life is defined as the time to 70% lumen maintenance (L70)

Ordering Guide

	COLOR TEMP	OPTIC	FINISH	DIMMING	WATTAGE	OPTICS FILTER
CL1000-AGN						
	2700K 3000K 3500K 4000K	NARROW MEDIUM WIDE	BRONZE BLACK WHITE OTHER (RAL) NATURAL	NON DIM 0-10V DIM OTHER DIM	15 W 21W 25W	CLEAR SOFT FOCUS HEX

*For LED array replacement please order by kelvin temperature. Example: CL1000 array-3000k

THE LED COMPANY

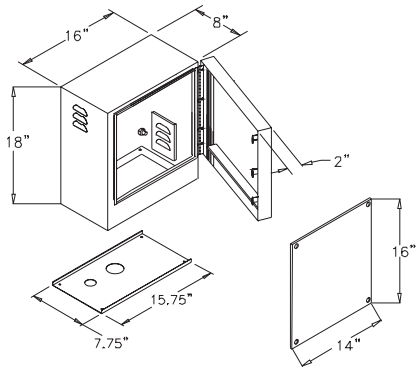
17795 SKY PARK CIRCLE
SUITE A, IRVINE, CA 92614

SALES@LEDCOHOME.COM
PH 949 645-2242

SB-16SSW
16" Wide Enclosure

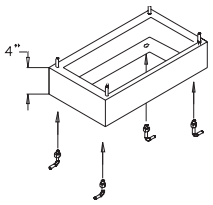
- 16" Wide, 18" High, 10" Deep
- Two point locking door
- Padlock security provisions
- Wall mount brackets and bottom plate included
- Removable backboard included
- NEMA TYPE 3R Weatherproof

SPECIFICATION ON PAGE 15



PED-16SSW
4" Riser Pedestal

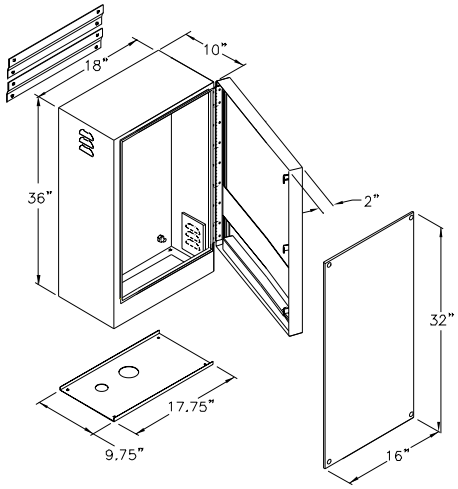
- 16" Wide, 4" High, 8" Deep
- Stainless Steel
- For optional floor mounting



SB-18SSW
18" Wide Enclosure

- 18" Wide, 36" High, 12" Deep
- Three point locking door
- Padlock security provisions
- Wall mount brackets and bottom plate included
- Removable backboard included
- NEMA TYPE 3R Weatherproof

SPECIFICATION ON PAGE 15



WALLACE LABORATORIES, LLC
365 Coral Circle
El Segundo, CA 90245
phone (310) 615-0116 fax (310) 640-6863

July 21, 2023

Linda Endler, LindaEndlerDesign@gmail.com
Linda Endler Design
11517 Kingsland Street
Los Angeles, CA 90066-1333

RE: Jackson - Farragut Connector, 4201 Jackson Avenue, Culver City, 90232
Sample received July 19, 2023
Our ID No. 23-201-27

Dear Linda,

The pH is moderately alkaline at 7.70. Salinity is moderate at 1.31 millimho/cm.

Nitrogen is low. Boron is moderate. Phosphorus, potassium, iron, manganese, zinc, copper, sulfur and magnesium are high. Zinc is high at 27 parts per million. Plant available lead is high at 24 parts per million. Sodium is low. SAR (sodium adsorption ratio) is 0.3. Gypsum is present.

The optimal level for zinc is several parts per million. Sensitive plants such as woody plants commonly need plant available zinc below about 30 parts per million. Herbaceous plants generally need zinc below about 50 parts per million. Excessive zinc causes stunting, dieback and discoloration. Zinc interferes with root functions. High zinc restricts the uptake of potassium and other micronutrients.

Normally, plant-available lead should be less than about 30 parts per million for good plant vigor.

Since heavy metals do not normally migrate through the soil profile, deeper soil is expected to be more suitable.

The effects of heavy metals are cumulative and the concurrent presence of them increases their toxicity. The threshold concentrations may need to be reduced.

Recommendations

Avoid areas which may contain higher concentrations of zinc and lead.

For soil preparation on a square foot basis, uniformly broadcast the following at the indicated rates. Rates are per 1,000 square feet for a 6-inch lift. Incorporate them 6 inches deep:

Ammonium sulfate (21-0-0) – 5 pounds
Good quality soil amendment - about 4 cubic yards, sufficient for 3% to 5% soil organic matter on a dry weight basis

For the preparation on a volume basis, homogeneously blend the following materials into the soil. Rates are expressed per cubic yard:

Ammonium sulfate (21-0-0) – 1/4 pound
Good quality soil amendment - about 20% by volume, sufficient for 3% to 5% soil organic matter on a dry weight basis

For maintenance fertilization, apply ammonium sulfate (21-0-0) at 5 pounds per 1,000 square feet about once per quarter. Ammonium sulfate (21-0-0) helps to reduce alkalinity.

Monitor the site with periodic soil and leaf tissue testing. Adjust the maintenance program as needed.

Sincerely,

Garn A. Wallace, Ph. D.
GAW:n