BACKGROUND REPORT

California's Density Bonus Law is a mechanism which allows developers to obtain more favorable local development requirements in exchange for offering to build or donate land for affordable or senior units. The Density Bonus Law (found in California Government Code Sections 65915 – 65918) provides developers with powerful tools to encourage the development of affordable and senior housing, including up to a 50% increase in project densities, depending on the amount of affordable housing provided. The Density Bonus Law is about more than the density bonus itself, however. It is actually a larger package of incentives intended to help make the development of affordable and senior housing economically feasible. Other tools include reduced parking requirements, and incentives and concessions such as reduced setback and minimum square footage requirements. Often these other tools are even more helpful to project economics than the density bonus itself, particularly the special parking benefits. Sometimes these incentives are sufficient to make the project pencil out, but for other projects financial assistance is necessary to make the project feasible.

In determining whether a development project would benefit from becoming a density bonus project, developers also need to be aware that:

- The Density Bonus is a state mandate. A developer who meets the requirements of the state law is entitled to receive the density bonus and other benefits as a matter of right. As with any state mandate, some local governments will resist complying with the state requirement. But many local governments favor the density bonus as a helpful tool to cut through their own land use requirements and local political issues.
- Use of a density bonus may be particularly helpful in those jurisdictions that impose inclusionary housing requirements for new developments.
- Special development bonuses are available for developers of commercial projects who partner with affordable housing developers to provide onsite or offsite affordable housing. Special bonuses are also available for condominium conversion projects and projects that include child care facilities.
- The Legislature has recently added density bonuses for housing developments for foster youth, disabled veterans, homeless persons and college students.

Cities and counties are required to grant a density bonus and other incentives or concessions to housing projects which contain one of the following:

- At least 5% of the housing units are restricted to very low income residents.
- At least 10% of the housing units are restricted to lower income residents.
- At least 10% of the housing units in a for-sale common interest development are restricted to moderate income residents.
- At least 10% of the housing units are for transitional foster youth, disabled veterans or homeless persons, with rents restricted at the very low income level.
- At least 20% of the housing units are for low income college students in housing dedicated for full-time students at accredited colleges.
- The project donates at least one acre of land to the city or county for very low income units, and the land has the appropriate general plan designation, zoning, permits and approvals, and access to public facilities needed for such housing.
- The project is a senior citizen housing development (no affordable units required).

- The project is a mobile home park age-restricted to senior citizens (no affordable units required).

Affordable rental units must be restricted by an agreement which sets maximum incomes and rents for those units. As of January 1, 2015, the income and rent restrictions must remain in place for a 55 year term for very low or lower income units. Rents must be restricted as follows:

- For very low income units, rents may not exceed 30% x 50% of the area median income for a household size suitable for the unit.
- For lower income units, rents may not exceed 30% x 60% of the area median income for a household size suitable for the unit.
- Area median income is determined annually by regulation of the California Department of Housing and Community Development, based upon median income regulations adopted by the U.S. Department of Housing and Urban Development.
- Rents must include a reasonable utility allowance.
- Household size appropriate to the unit means 1 for a studio unit, 2 for a one bedroom unit, 3 for a two bedroom unit, 4 for a three bedroom unit, etc. In many cases, achieving a reduction in parking requirements may be more valuable than the additional permitted units.

The Density Bonus Law is often used by developers to obtain more housing than the local jurisdiction would ordinarily permit, it can also be a helpful land use tool. The density bonus can provide a useful mechanism for increasing allowable density without requiring local officials to approve general plan amendments and zoning changes. A project that satisfies the requirements of the Density Bonus Law often can obtain the necessary land use approvals through the award of the density bonus units and requested concessions and incentives, without having to amend the underlying land use requirements.

Although there is no specific density bonus exemption from the California Environmental Quality Act, many density bonus projects are likely candidates for urban infill and affordable housing exemptions from CEQA. One commonly invoked exemption is the Class 32 urban infill exemption found in CEQA Guidelines Section 15332. That exemption is available if the project is consistent with applicable general plan designation and zoning, the site is five acres or less and surrounded by urban uses, is not habitat for endangered, rare or threatened species, does not have any significant effects relating to traffic, noise, air quality or water quality, and is adequately served by utilities and public services. Other exemptions are available for high density housing projects near major transit stops (CEQA Guidelines Section 15195) and affordable housing projects of up to 100 units (CEQA Guidelines Section 15194).

Developer incentives are(1) Eliminate requirement for 75% minimum street wall; and (2) Eliminate requirement for 10 ft landscape buffer (this would otherwise be required along the north side of parking lot).

50% Area Median Income Limits for National City effective April 1, 2021								
Family Size	1	2	3	4	5	6	7	8
	$42,450	$48,500	$54,550	$60,600	$65,450	$70,300	$75,150	$80,000

The site plans for the apartment project at 1628 Orange Street start on the following page.

ABBREVIATIONS

AB:	ANCHOR BOLT
ACT:	ACTUAL
AD:	AREA DRAIN
AFF:	ABOVE FINISHED FLOOR
AIA:	AMERICAN INSTITUTE OF ARCHITECTS
ALT:	ALTERNATE
ALUM:	ALUMINUM
APPROX:	APPROXIMATE
ASTM:	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BOT:	BOTTOM
BTU:	BRITISH THERMAL UNITS
BYP:	BY PASS
CAB:	CABINET
CF:	CUBIC FEET
CL:	CENTERLINE, CLOSET
CMU:	CONCRETE MASONRY UNIT
CONT:	CONTINUOUS
DEMO:	DEMOLITION
DIA:	DIAMETER
DIAM:	DIAMETER
DIFF:	DIFFUSER
DIM:	DIMENSION
EQ:	EQUAL
EXIST:	EXISTING
FAR:	FLOOR AREA RATIO
FDN:	FOUNDATION
FFE:	FINISHED FLOOR ELEVATION
FT:	FOOT, FEET
FTG:	FOOTING
FURR:	FURRING
GA:	GAUGE, GAGE
GALV:	GALVANIZED
GFI:	GROUND FAULT INTERRUPTED
GYP:	GYPSUM
HP:	HIGH POINT
HT:	HEIGHT
HVAC:	HEATING, VENTILATING & AIR CONDITIONING
HVY:	HEAVY
IN:	INCH
INFO:	INFORMATION
INT:	INTERIOR
K:	KELVIN (TEMPERATURE)
KIT:	KITCHEN
LB:	POUND (WEIGHT), LAG BOLT
LN:	LENGTH
LR:	LIVING ROOM
LT:	LIGHT
LTG:	LIGHTING
MAINT:	MAINTENANCE
MAX:	MAXIMUM
MECH:	MECHANICAL
MIN:	MINIMUM
MISC:	MISCELLANEOUS
MO:	MASONRY OPENING
NTS:	NOT TO SCALE
OC:	ON CENTER
OH:	OVERHEAD
OPP:	OPPOSITE
PL:	PLATE
PSI:	POUNDS PER SQUARE INCH
RA:	RETURN AIR
RAD:	RADIUS
RCP:	REFLECTED CEILING PLAN
RD:	ROOF DRAIN
REQ:	REQUIRE
RM:	ROOM
RO:	ROUGH OPENING
ROW:	RIGHT OF WAY
SF:	SQUARE FOOT
SIM:	SIMILAR
SJS:	SILICONE JOINT SEALANT
SPEC:	SPECIFICATION
SQ:	SQUARE
SS:	STAINLESS STEEL
STC:	SOUND TRANSMISSION CLASS
STD:	STANDARD
STOR:	STORAGE
STRUCT:	STRUCTURAL
T&G:	TONGUE & GROOVE
TEMP:	TEMPERED
THRU:	THROUGH
TV:	TELEVISION
TW:	TOP OF WALL
TYP:	TYPICAL
UL:	UNDERWRITERS' LABORATORIES
UNO:	UNLESS NOTED OTHERWISE
VA:	VOLT AMPERE

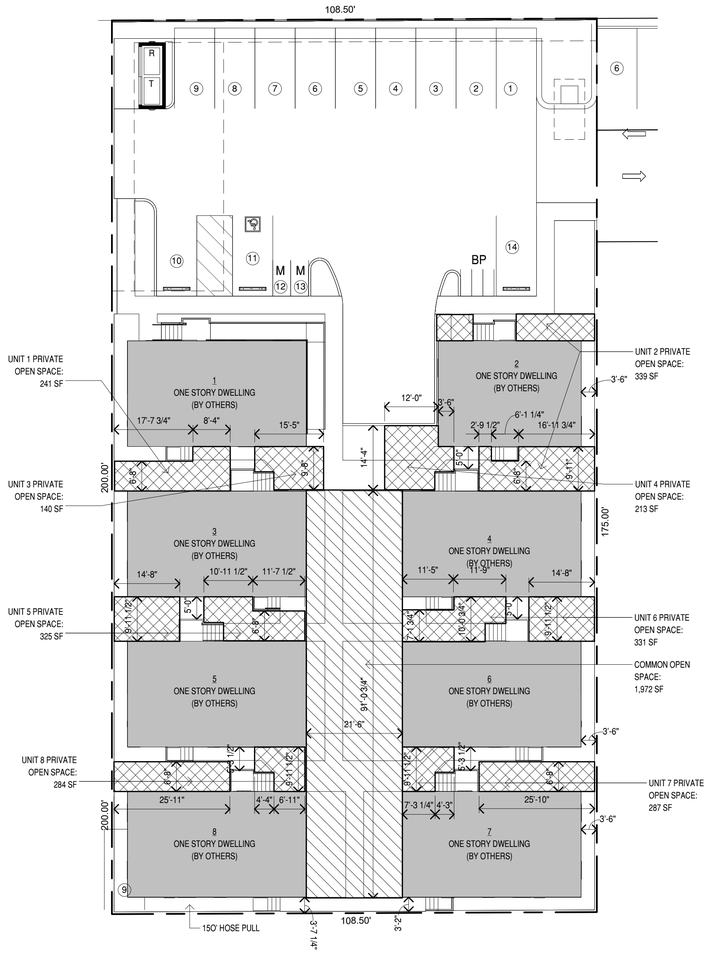
CALGREEN NOTES

1. SITE GRADING AND DRAINAGE SYSTEMS SHALL BE DESIGNED TO MANAGE ALL SURFACE WATER FLOWS FROM ENTERING BUILDINGS. (CGBSC 4.106.3)

2. OUTDOOR PORTABLE WATER USE IN LANDSCAPE AREAS SHALL COMPLY WITH ONE OF THE FOLLOWING:
   a. LOCAL WATER EFFICIENT LANDSCAPE ORDINANCE OR THE CURRENT CALIFORNIA DEPARTMENT OF WATER RESOURCES' MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO), WHICHEVER IS MORE STRINGENT; OR
   b. PROJECTS WITH AGGREGATE LANDSCAPE AREAS LESS THAN 2,500 SF MAY COMPLY WITH MWELO'S APPENDIX D PESCRIPTIVE COMPLIANCE OPTION (CGBSC 4.304.1)

3. A MINIMUM A MINIMUM OF 65% OF NON-HAZARDOUS CONSTRUCTION AND DEMOLITION WASTE SHALL BE RECYCLED OR SALVAGED FOR REUSE. (CGBSC 4.408.1 THROUGH 4.408.5)

4. CONTRACTOR SHALL PREPARE A MANUAL, COMPACT DISC, WEB-BASED REFERENCE OR OTHER MEDIA ACCEPTABLE TO THE ENFORCING AGENCY, AND PLACED IN THE BUILDING AT THE TIME OF FINAL INSPECTION, WHICH INCLUDES ALL OF THE FOLLOWING: (CGBSC 4.410.1)
   a. DIRECTIONS TO THE OWNER OR OCCUPANT THAT THE MANUAL SHALL REMAIN WITH THE BUILDING THROUGHOUT THE LIFE CYCLE OF THE STRUCTURE.
   b. OPERATION AND MAINTENANCE INSTRUCTIONS FOR THE FOLLOWING:
      i. EQUIPMENT AND APPLIANCES, INCLUDING WATER-SAVING DEVICES AND SYSTEMS, HVAC SYSTEMS, PHOTOVOLTAIC SYSTEMS, ELECTRIC VEHICLE CHARGERS, WATER HEATING SYSTEMS AND OTHER MAJOR APPLIANCE AND EQUIPMENT.
      ii. ROOF AND YARD DRAINAGE, INCLUDING GUTTERS AND DOWNSPOUTS
      iii. SPACE CONDITIONING SYSTEMS, INCLUDING CONDENSERS AND AIR FILTERS.
      iv. LANDSCAPE IRRIGATION SYSTEMS.
      v. WATER REUSE SYSTEMS
   c. INFORMATION FROM LOCAL UTILITY, WATER AND WASTE RECOVERY PROVIDERS ON METHODS TO FURTHER REDUCE RESOURCE CONSUMPTION, INCLUDING RECYCLE PROGRAMS AND LOCATIONS.
   d. PUBLIC TRANSPORTATION AND/OR CARPOOL OPTIONS AVAILABLE IN THE AREA
   e. EDUCATIONAL MATERIAL ON THE POSITIVE IMPACTS OF AN INTERIOR RELATIVE HUMIDITY BETWEEN 30-60% AND WHAT METHODS AN OCCUPANT MAY USE TO MAINTAIN THE RELATIVE HUMIDITY LEVEL IN THAT RANGE.
   f. INFORMATION ABOUT WATER CONSERVING LANDSCAPE AND IRRIGATION DESIGN AND CONTROLLERS WHICH CONSERVE WATER.
   g. INSTRUCTIONS FOR MAINTAINING GUTTERS AND DOWNSPOUTS AND THE IMPORTANCE OF DIVERTING WATER AT LEAST 5 FT AWAY FROM FOUNDATIONS.
   h. INFORMATION ON REQUIRED ROUTINE MAINTENANCE MEASURES, INCLUDING, BUT NOT LIMITED TO, CAULKING, PAINTING, GRADING AROUND THE BUILDING, ETC.
   i. INFORMATION ABOUT STATE SOLAR ENERGY AND INCENTIVE PROGRAMS AVAILABLE.



1 OPEN SPACE SITE PLAN
1/16" = 1'-0"

DRAWING INDEX

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH FEDERAL, STATE AND LOCAL BUILDING CODES AND REGULATIONS, INCLUDING NFPA, TITLE 19, LOCAL CITY OF NATIONAL CITY MUNICIPAL CODES AND THE FOLLOWING STATE BUILDING CODES:

   2019 CALIFORNIA BUILDING CODE
   2019 CALIFORNIA RESIDENTIAL CODE
   2019 CALIFORNIA ELECTRICAL CODE
   2019 CALIFORNIA MECHANICAL CODE
   2019 CALIFORNIA PLUMBING CODE
   2019 CALIFORNIA ENERGY CODE
   2019 CALIFORNIA HISTORICAL BUILDING CODE
   2019 CALIFORNIA FIRE CODE
   2019 CALIFORNIA EXISTING BUILDING CODE
   2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

2. CONTRACTOR SHALL COORDINATE AND/OR OBTAIN ALL BUILDING PERMITS REQUIRED FOR CONSTRUCTION AND CERTIFICATES OF OCCUPANCY.

3. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL ASPECTS OF SAFETY DURING BUILDING CONSTRUCTION AND SHALL PROVIDE ADEQUATE SHORING AND BRACING TO ENSURE SAFETY.

4. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND PROCEDURES.

5. ALL DIMENSIONS ARE TO FACE OF STUD, CONCRETE OR MASONRY, UNLESS NOTED OTHERWISE. DO NOT SCALE DRAWINGS.

6. ALL DIMENSIONS AND SITE CONDITIONS TO BE FIELD VERIFIED AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NOTIFY THE ARCHITECT OF ANY DISCREPANCY PRIOR TO COMMENCEMENT OF WORK.

7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER INDICATED ON THE PLANS OR NOT, AND TO PROTECT THEM FROM DAMAGE.

8. DURING CONSTRUCTION, AND PRIOR TO THE INCORPORATION OF ANY CHANGES, REVISIONS, MODIFICATIONS, AND/OR DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ARCHITECT AND SHALL OBTAIN APPROVAL FROM THE GOVERNING BUILDING OFFICIAL BEFORE PROCEEDING WITH THE WORK.

9. THE MANUFACTURERS, PRODUCTS AND EQUIPMENT LISTED ESTABLISH PERFORMANCE REQUIREMENTS. SUBSTITUTIONS OF EQUAL PERFORMANCE MAY BE SUBMITTED FOR THE ARCHITECT'S APPROVAL.

10. ALL MATERIALS SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS/SPECIFICATIONS UNLESS NOTED OTHERWISE.

11. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

12. AS A CONDITION OF APPROVAL, A CERTIFICATE OF COMPLETION SHALL BE SUBMITTED TO THE PLANNING DIVISION WITHIN TEN DAYS OF THE INSTALLATION OF THE LANDSCAPING AND PRIOR TO BUILDING PERMIT FINAL.

13. AS A CONDITION OF APPROVAL, A COPY OF THE RESTRICTIVE COVENANT FOR THE AFFORDABLE UNIT SHALL BE SUBMITTED TO THE PLANNING DIVISION FOR REVIEW PRIOR TO THE ISSUANCE OF THE BUILDING PERMIT.

AREA CALCULATIONS

FLOOR AREA CALCULATIONS

LIVING AREA PER DU:		
2 BR'S DU	757 SF X 1 DU'S =	757 SF
3 BR'S DU	947 SF X 7 DU'S =	6,629 SF
TRASH ENCLOSURE		89 SF
TOTAL FLOOR AREA		**7,475 SF**
EXTERIOR PATIOS & DECKS:		
FRONT STAIR LANDING	25 SF X 8 DU'S =	2OO SF
REAR STAIR LANDING	9 SF X 8 DU'S =	72 SF
		272 SF

USABLE OPEN SPACE REQUIREMENTS:
REQUIRED:
COMMON OPEN SPACE:

300 SF X 8 DU =	2,400 SF
-200 SF X 8 DU =	-1,600 SF
	800 SF
PRIVATE OPEN SPACE:	60 SF PER DU

PROVIDED:

COMMON OPEN SPACE:	1,972 SF
PRIVATE OPEN SPACE:	
UNIT 1	183 SF
UNIT 2	260 SF
UNIT 3	166 SF
UNIT 4	313 SF
UNIT 5	231 SF
UNIT 6	237 SF
UNIT 7	256 SF
UNIT 8	256 SF

PRIVATE STORAGE REQUIREMENTS:
REQUIRED:
150 CF PER 2BR UNIT
200 CF PER 3BR UNIT

PROVIDED:
2BR & 3BR UNITS:

2'x2'x8' LINEN CLOSET	32 CF
5'x2'x4' STORAGE ABOVE W/D	40 CF
EXTERIOR STORAGE UNIT	180 CF
TOTAL	252 CF PER DU

EGRESS CALCULATIONS

TOTAL FLOOR AREA	9,470 SF
AREA PER OCCUPANT	200 SF
	9,470 / 200 = 47.3
TOTAL OCCUPANTS	**= 48 OCCUPANTS**
NUMBER OF EXITS	
REQUIRED	2 PER CBC TABLE 1006.3.1
PROVIDED	8

DEVELOPER INCENTIVES

ONE (12.5%) UNIT WILL BE RESERVED FOR VERY LOW INCOME HOUSEHOLDS IN RETURN FOR REDUCED PARKING AND 2 DEVELOPER INCENTIVES.

1. ELIMINATE REQUIREMENT FOR 75% MIN. STREET WALL
2. ELIMINATE REQUIREMENT FOR 10' LANDSCAPE BUFFER

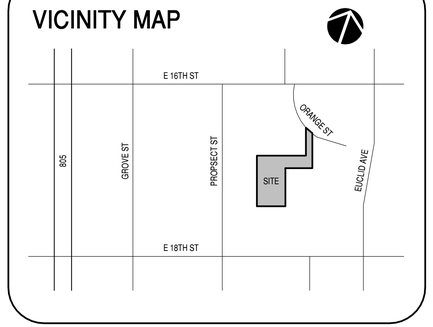
PROJECT TEAM

OWNER/APPLICANT	ORANGE ST. PARTNERS, LLC KEITH ROBINSON, OWNER 3559 4TH ST SAN DIEGO, CA 92103 P 619 202 7283
ARCHITECT	CLAD INC. COLIN LOWRY, AIA 4766 32ND ST SAN DIEGO, CA 92116 P 619 800 8105
CIVIL ENGINEER	PASCO LARET SUITER & ASSOCIATES WILL MACK, PE, PLS, ASSOCIATE PRINCIPAL 535 NORTH HIGHWAY 101, STE A SOLANA BEACH, CA 92075 P 858 259 8212 EXT 112 F 858 259 4812
LANDSCAPE ARCHITECTS	SIMON LANDSCAPE ARCHITECTURE KYLE SIMON, PLA P 619 370 1080
	SILVERCREST HOMES KEVIN OVARD, SALES REPRESENTATIVE 299 NORTH SMITH AVENUE CORONA, CA 92880 P 951 213 0401

PROJECT INFO

ADDRESS	1628 ORANGE STREET NATIONAL CITY, CA 91950
ASSESSOR'S PARCEL NUMBER	561-160-16
LEGAL DESCRIPTION	PARCEL 1 THE NORTHERLY 200.00 FEET OF THE EASTERLY 108.50 FEET OF THE WESTERLY 221.50 FEET OF LOT E, IN BLOCK 5 OF LINCOLN ACRES ORCHARD SUBDIVISION, IN THE CITY OF NATIONAL CITY, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 1785, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 6, 1924. TOGETHER WITH THAT PORTION LYING WITHIN THE EASTERLY 93.50 FEET OF THE WESTERLY 315.00 FEET OF THE NORTHERLY 25.00 FEET OF SAID LOT E. PARCEL 2 THE WESTERLY 15.00 FEET OF THE EASTERLY 30.00 FEET OF LOT F . PARCEL 3 AN EASEMENT AND RIGHT OF WAY FOR ROAD PURPOSES OVER THE EASTERLY 15.00 FEET OF LOT E, AND OVER THE NORTHERLY 50.00 FEET LYING EASTERLY OF THE EASTERLY LINE OF THE WESTERLY 221.50 FEET OF LOT E.
SITE AREA	21,700 SF (0.50 ACRES)
PROJECT DESCRIPTION	PROJECT INCLUDES THE CONSTRUCTION OF (1) 1-STORY 2 BEDROOMS & (7) 1-STORY 3 BEDROOMS DETACHED FACTORY BUILT DWELLING UNITS (BY OTHERS), COMMON OPEN SPACE, AND ON GRADE PARKING.
ZONING CLASSIFICATION	MXC-1
CONSTRUCTION TYPE	TYPE V-B
OCCUPANCY	R-3
DWELLING UNITS	ALLOWED: 48 DU PER ACRE 0.50 X 48 = 24 MAX DU'S ALLOWED PROVIDED: 8 DWELLING UNITS
PARKING	REQUIRED: 0.5 / BR X 23 BR'S = 11.5 = 12 PARKING SPACES MIN. PROVIDED: 11 STANDARD SPACES 1 VAN ACCESSIBLE SPACE 2 MOTORCYCLE SPACES 14 TOTAL (12 COUNT TOWARDS REQ'D TOTAL)
SPRINKLERS	AUTOMATIC FIRE SPRINLKERS PROVIDED IN ALL UNITS

VICINITY MAP



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4766 32nd Street, San Diego, CA 92116
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LICENSED ARCHITECT
COLIN LOWRY
C-35202
REN. 12-31-25
STATE OF CALIFORNIA

1628 Orange Street National City, CA 91950

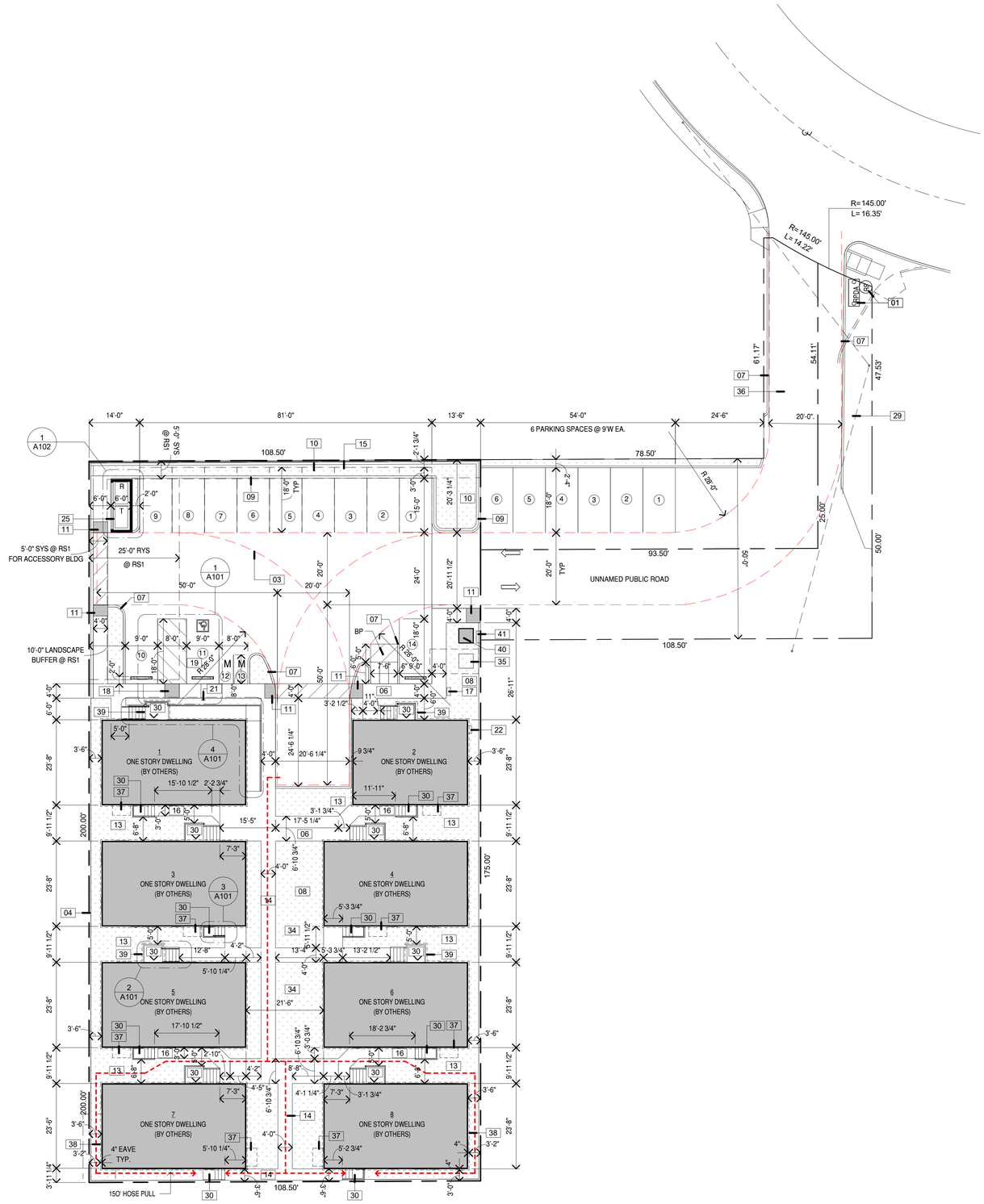
10/11/2022
BUILDING PERMIT SET 3
Project Number: NC-2021-11136, 11147, 11147.e

Revisions

No	Date	Notes

TITLE SHEET & OPEN SPACE SITE PLAN

A001



1 SITE PLAN

1/16" = 1'-0"

KEYNOTE LEGEND

01 BACKFLOW PREVENTERS PER CIVIL PLANS
03 FIRE ACCESS VEHICLE
04 6'H FENCE
06 CONCRETE WALKWAY
07 CONCRETE CURB PER CIVIL PLANS
08 LANDSCAPING AREA PER LANDSCAPING PLANS
09 PLANTER WALL PER CIVIL PLANS
10 RAISED PLANTER BMP PER CIVIL PLANS
11 DETECTABLE WARNING PER CIVIL PLANS
13 PRIVATE PATIO AND YARD SPACE
14 ACCESSIBLE CONCRETE SLAB WALKWAY, MIN 4' WIDE
15 PARKING SPACES OVERHANG 3' INTO BMP PLANTER PER CIVIL PLANS
16 3' WIDE WALKWAY
17 USPS MAILBOX, 4C PEDESTAL MAILBOX MODEL #3412D-11 MNFR BY SALSBURY INDUSTRIES. COLOR TBD BY OWNER.
18 ACCESSIBLE CONCRETE CURB RAMP PER CBC 1112A
19 VAN ACCESSIBLE PARKING SPACE PER CBC 1109A.8.6
21 ACCESSIBILITY SIGN PER CBC 1109A.8.8
22 ELECTRICAL METERS, 200A PANEL PER UNIT, 200A PANEL FOR COMMON AREAS
25 6'H CMU TRASH/RECYCLING ENCLOSURE WITH SLIDING WOOD DOORS
29 EXISTING POWER POLES AND OVERHEAD LINES
30 POURED IN PLACE CONCRETE STAIR AND LANDING
34 USABLE OPEN SPACE
35 SDGE TRANSFORMER PAD
36 EXISTING DRIVEWAY
37 FUTURE TEMPORARY STORAGE UNIT
38 OUTLINE OF ROOF EAVE ABOVE
39 OUTLINE OF ROOF OVER PORCH ABOVE
40 4'x4' ENCLOSED PUMP STORAGE ROOM
41 IRRIGATION BACKFLOW PREVENTER PER CIVIL PLANS

SITE PLAN NOTES

1. SEE CIVIL PLANS FOR GRADING AND DRAINAGE INFORMATION.
2. SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION INFORMATION.
3. PROVIDE BUILDING ADDRESS NUMBERS, VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
4. SURFACE WATER WILL DRAIN AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6" WITHIN THE FIRST 10'.
5. PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF SOIL SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION BY FOLLOWING ONE OF THE FOLLOWING MEASURES:
   A. RETENTION BASIN
   B. WHERE STORM WATER IS CONVEYED TO A PUBLIC DRAINAGE SYSTEM, WATER SHALL BE FILTERED BY US OF A BARRIER SYSTEM, WATTLE OR OTHER METHOD APPROVED BY THE ENFORCING AGENCY.
6. VENTS AND OTHER MECHANICAL EQUIPMENT ON THE EXTERIOR OF THE DWELLING UNITS WILL BE PAINTED TO MATCH THE ADJACENT EXTERIOR MATERIALS
7. WALKS ALONG AN ACCESSIBLE ROUTE OF TRAVEL ARE REQUIRED TO BE 48" MINIMUM WIDTH AND HAVE A SLIP RESISTANT SURFACE.
8. THE MAXIMUM PERMITTED CROSS SLOPE FOR WALKWAYS SHALL BE 1:48.
9. ANY ABRUPT LEVEL CHANGES WILL BE LESS THAN 1/2" ALONG ANY ACCESSIBLE ROUTE OF TRAVEL. WHEN CHANGES DO OCCUR, THEY SHALL BE BEVELED WITH A SLOPE OF LESS THAN OR EQUAL TO 1:2. LEVEL CHANGES OF LESS THAN OR EQUAL TO 1/4" MAY BE VERTICAL.
10. CONTRACTOR TO PROVIDE CONDUIT TO THE PARKING ENTRY FOR A FUTURE GATE.
11. CONTRACTOR TO PROVIDE CONDUIT FOR FUTURE SOLAR ROOF PANELS FOR EACH UNIT. SIZE OF CONDUIT TO BE COORDINATED WITH SOLAR INSTALLER & CONDUIT TO BE LOCATED IN SAME TRENCH AS MAIN POWER.
12. PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL ADVISE THE BUILDING OFFICIAL IN WRITING THAT:
    A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT,
    B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED, AND
    C. THE FOUNDATION EXCAVATIONS, THE SOILS EXPANSIVE CHARACTERISTICS AND BEARING CAPACITY CONFORM TO THE SOILS REPORT.

SITE PLAN LEGEND

- HARDSCAPED AREA
- LANDSCAPED AREA
- PROPOSED BUILDING
- 50.00' PROPERTY LINE
- SETBACK LINE
- CL CENTERLINE OF PUBLIC ROAD
- SW EXISTING SEWER MAIN
- WM EXISTING WATER MAIN
- HOSE PULL PATH
- 01 KEYNOTE; SEE KEYNOTE LEGEND
- FRONT ENTRY DOOR LOCATION
- TW TOP OF WALL
- BW BOTTOM OF WALL
- EG EXISTING GRADE
- FG FINISHED GRADE
- FFE FINISHED FLOOR ELEVATION
- ROW RIGHT OF WAY
- TYP TYPICAL
- UNO UNLESS NOTED OTHERWISE
- EXISTING STREET TREE

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Revisions

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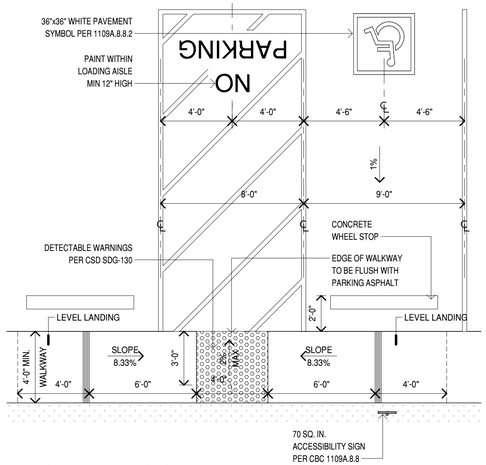
SITE PLAN

A100



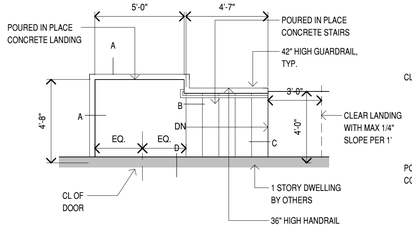
1 ACCESSIBLE PARKING PLAN

1/4" = 1'-0"

PARKING SIGNAGE NOTES

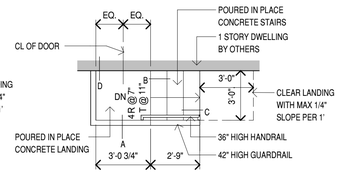
1. EACH PARKING SPACE BE IDENTIFIED BY A REFLECTIVE SIGN CONSISTING OF THE "INTERNATIONAL SYMBOL OF ACCESSIBILITY" PER CBC 1143A.8
2. SIGN SHALL NOT BE SMALLER THAN 70 SQ. IN. AND SHALL BE POSTED 60" MIN. ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED TO THE BOTTOM OF THE SIGN.
3. SIGNS LOCATED ON ACCESSIBLY ROUTE SHALL BE POSTED 80" MIN. ABOVE FINISH FLOOR OR GROUND SURFACE, MEASURED TO THE BOTTOM OF THE SIGN.
4. SIGNS IDENTIFYING ACCESSIBLE PARKING SPACES SHALL BE VISIBLE FROM EACH PARKING SPACE THEY SERVE AND SHALL BE PERMANENTLY POSTED IMMEDIATELY ADJACENT TO THE PARKING SPACE OR WITHIN THE PROJECTED PARKING SPACE WIDTH AT THE HEAD END OF THE PARKING SPACE.
5. VAN ACCESSIBLE SPACE SHALL HAVE AN ADDITIONAL SIGN STATING "VAN ACCESSIBLE" BELOW SYMBOL OF ACCESSIBILITY.
6. AN ADDITIONAL SIGN SHALL BE POSTED IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH ACCESSIBLE STALL OR SPACE. THE SIGN SHALL NOT BE LESS THAN 17"x22" IN SIZE WITH LETTERING NOT LESS THAN 1" IN HEIGHT STATING THE FOLLOWING:
   "UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT THE OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT _____ OR BY TELEPHONING _____."

BLANK SPACES ARE TO BE FILLED IN WITH APPROPIATE INFORMATION AS A PERMANENT PART OF



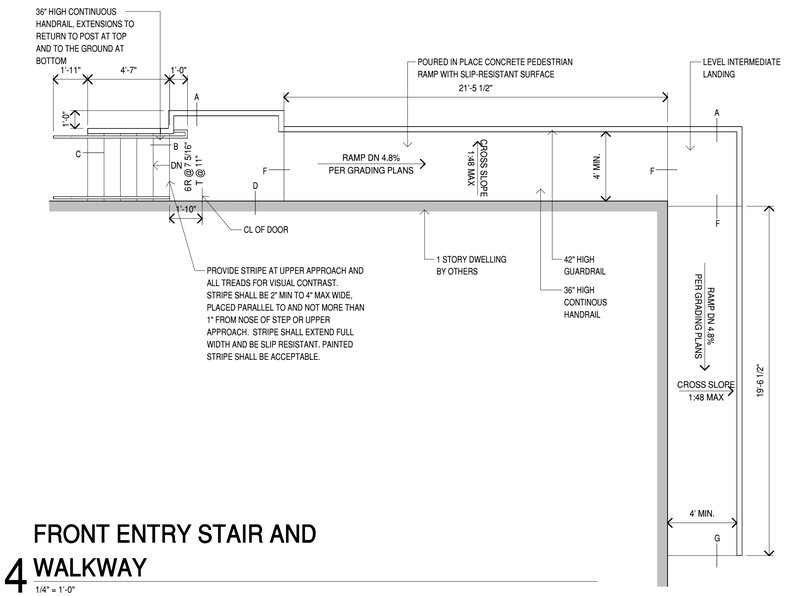
2 FRONT ENTRY STAIR

1/4" = 1'-0"



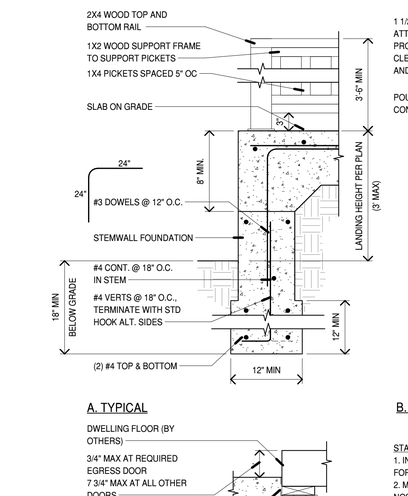
3 BACK ENTRY STAIR

1/4" = 1'-0"

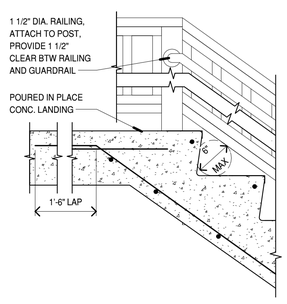


4 FRONT ENTRY STAIR AND WALKWAY

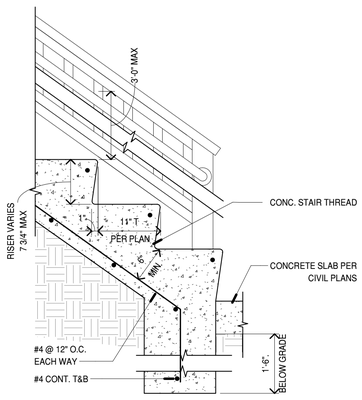
1/4" = 1'-0"



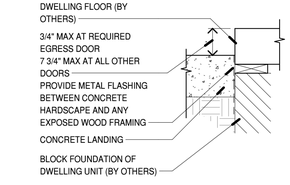
A. TYPICAL



B. TYPICAL STAIR DETAIL



C. TYPICAL STAIR DETAIL



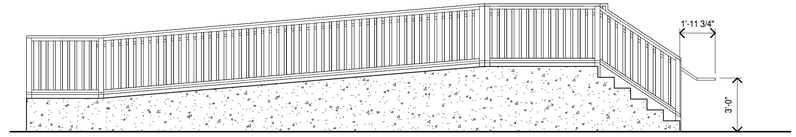
D. TYPICAL SLAB EDGE DETAIL

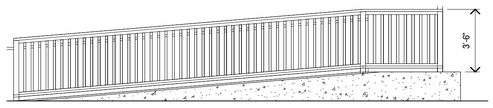
STAIR NOTES

1. INDIVIDUAL STAIR RISERS MAY VARY, COORDINATE WITH GRADING PLAN FOR FFE AND FINISH GRADE AT EACH UNIT.
2. MAX RISE TO BE 7 3/4" AND MIN TREAT TO BE 10" (MEASURED FROM NOSING PROJECTION)
3. MIN HEADEROOM ABOVE STAIRS TO BE 6'-8".
4. MINIMUM WIDTH TO BE 36".
5. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8". THE GREATEST TREAD WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8"

6 STAIR DETAILS

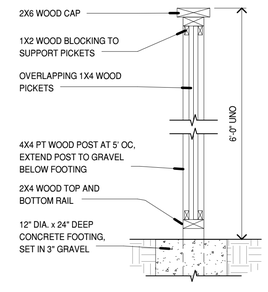
1" = 1'-0"





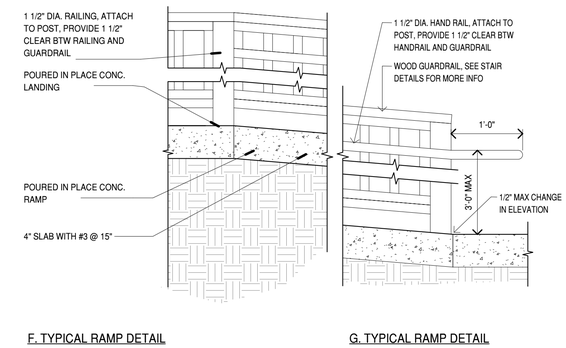
5 RAMP ELEVATIONS

1/4" = 1'-0"



7 FENCE DETAIL

1" = 1'-0"



F. TYPICAL RAMP DETAIL

G. TYPICAL RAMP DETAIL

8 RAMP DETAILS

1" = 1'-0"

CLAD Inc.
4766 32nd Street, San Diego, CA 92116
619.800.8105
info@cladinc.us
cladinc.us

LICENSED ARCHITECT
COLIN LOWRY
C-35202
REN. 12.31.22
STATE OF CALIFORNIA

1628 Orange Street National City, CA 91950

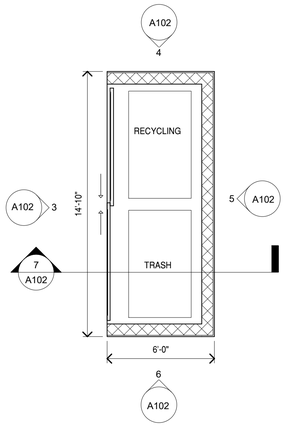
10/11/2022
BUILDING PERMIT SET 3
Project Number: NC-2021-11136, 11147, 11147.e

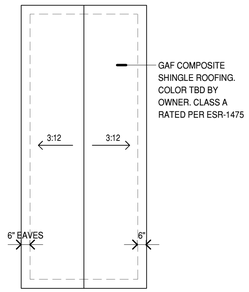
Revisions

No	Date	Notes

SITE DETAILS

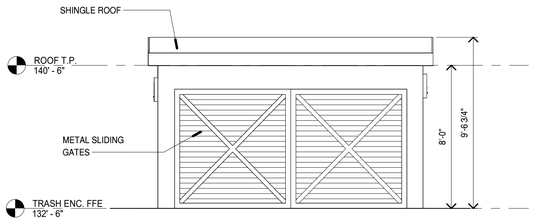
A101

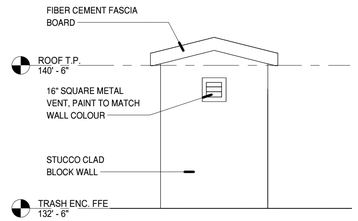




1 TRASH ENCLOSURE PLAN
1/4" = 1'-0"

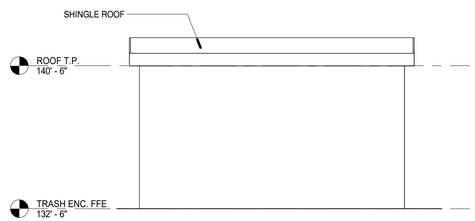
2 ROOF PLAN
1/4" = 1'-0"

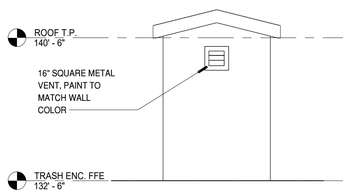


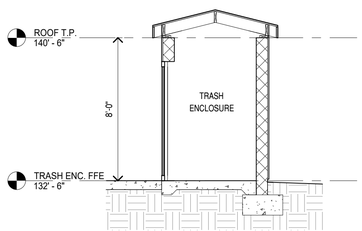


3 WEST ELEVATION
1/4" = 1'-0"

4 NORTH ELEVATION
1/4" = 1'-0"







5 EAST ELEVATION
1/4" = 1'-0"

6 SOUTH ELEVATION
1/4" = 1'-0"

7 BUILDING SECTION
1/4" = 1'-0"

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Revisions

No	Date	Notes

TRASH ENCLOSURE

A102

BP 1

GRUNDFOS

Grundfos Quotation System 22.2.0

Pump Performance Datasheet

Customer	:	Quote Number / ID	: DB220621
Customer ref. / PO	:	Model	: HYDRO MULTI-E 2CRE 5-6 1x230V 60Hz
Tag Number	: Multi-E		
Service	: Water Boosting	Part Number	: 99761500
Quantity	: 1	Stages	: 6
Quantity of pumps	: 2 active + 0 standby	Based on curve number	: RC10493
		Date last saved	: 06/21/2022 12:17 PM

Operating Conditions

System flowrate	: 64.41 USgpm
Flowrate per pump	: 32.21 USgpm
Differential head / pressure, rated (requested)	: 143.6 ft
Differential head / pressure, rated (actual)	: 143.6 ft
Suction pressure, min / max	: 0.00 / 0.00 psi.g
NPSH available, rated	: Ample
Site Supply Frequency	: 60 Hz
Power Supply	: 1ph 230V

Performance

Speed, rated	: 3599 rpm
Speed, maximum	: 3599 rpm
Speed, minimum	: 901 rpm
Pump efficiency	: 61.51 %
NPSH required / margin required	: 8.62 / 0.00 ft
nq (imp. eye flow) / S (imp. eye flow)	: 37 / 79 Metric units
Head maximum, rated speed	: 197.1 ft
Head rise to shutoff	: 37.22 %
Flow, best eff. point	: 32.21 USgpm
Flow ratio, rated / BEP	: 100.00 %
Speed ratio (rated / max)	: 100.00 %
Head ratio (rated speed / max speed)	: 100.00 %
Cq/Ch/Ca/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 0.99 / 1.00
Selection status	: Near miss

Energy Indexes

PEI (VL)	: Out of scope
ER (VL)	: Out of scope

Liquid

Liquid type	: Cold Water
Additional liquid description	:
Temperature, max	: 68.00 deg F
Fluid density, rated / max	: 1.000 / 1.000 SG
Viscosity, rated	: 1.00 cP
Vapor pressure, rated	: 0.34 psi.a

Material

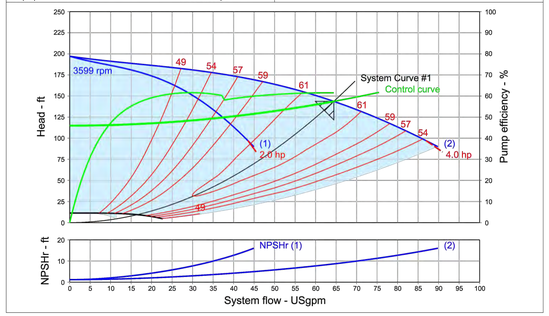
Material selected	: Standard - Cast Iron / 304 Stainless Steel

Pressure Data

Pump shut off pressure	: 85.31 psi.g
Maximum allowable suction pressure	: 145.0 psi.g

Driver & Power Data (@Max density) (Per Pump)

Motor sizing specification	: Max power (non-overloading)
Margin over specification	: 0.00 %
Service factor	: 1.15
Rated power (based on duty point)	: 1.90 hp
Max power (non-overloading)	: 2.03 hp
Motor rating	: 2.00 hp / 1.49 kW (Fixed)



3. Construction

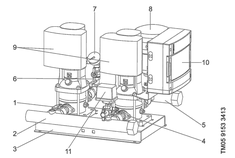


Fig. 4 Hydro Multi-E with two CRE pumps

Pos.	Description	Quantity: Hydro Multi-E 0.5 - 10 hp (0.37 - 7.5 kW)
1	Isolating valve	2 per pump
2	Inlet manifold	1
3	Base frame	1
4	Check valve	1 per pump
5	Outlet manifold	1
6	Outlet-pressure sensor	2
7	Pressure gauge	1
8	Diaphragm tank*	Sold as accessory
9	Pump	2 to 3
10	Breaker box	1
11	Pressure switch as dry-running protection	1

* We recommend that you use a diaphragm tank.

System components

Hydro Multi-E has a base frame fitted with these components:

Components fitted on the inlet side

- an inlet manifold
- one isolating valve per pump
- a pressure gauge
- a pressure switch for dry-running protection.

Components fitted on the outlet side

- an outlet manifold
- one check valve per pump
- one isolating valve per pump
- a pressure gauge
- two outlet-pressure sensors.

Hydro Multi-E is fitted with a breaker box for switching the power supply on and off.

Materials

Hydro Multi-E incorporates the well-known high-quality Grundfos CRE pumps. However, the quality extends beyond the pumps. As standard, Hydro Multi-E is supplied with stainless-steel (AISI 304, 316)* manifolds manufactured using an extrusion method that creates a smooth surface from the connecting pipe to the manifold. This minimizes the risk of stagnant water and reduces noise and friction loss.

* Manifold constructed with AISI 316 and threaded fittings constructed with AISI 304.

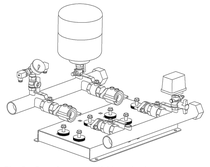


Fig. 5 Base frame, manifolds and valves

Pump type	Material specification for base frame and manifold	
CRE	Stainless steel	AISI 316 TI (EN1.4571)

Diaphragm tank

To ensure optimum operation, the tank must be precharged with pressure.

The precharge pressure = 0.7 x setpoint.

The diaphragm tank precharge pressure must be measured in a pressureless system.

We recommend that you refill the tank with nitrogen.

Environmental considerations

We manufacture our motors and other products with a high degree of consideration for the environment in respect of materials, production methods, energy-saving operation and recycling of as many materials as possible.

Grundfos is certified as environmentally friendly in accordance with ISO 14001.

Grundfos holds an ISO 9001 certificate.

BOOSTER PUMP SPECIFICATIONS | 3

PIPE MATERIAL SCHEDULE

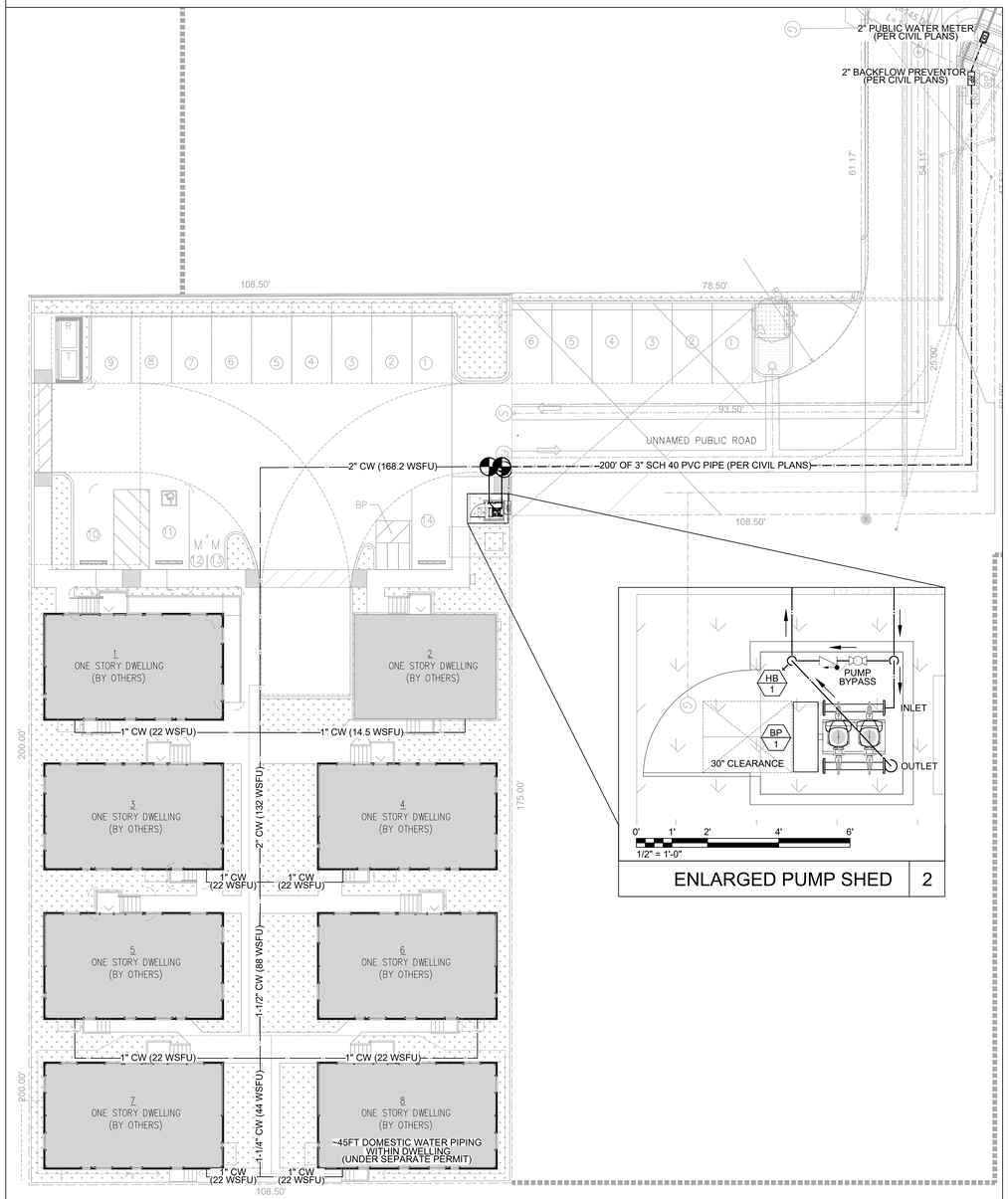
SYSTEM SERVICE	LOCATION	MATERIAL	SUPPORT REQUIREMENTS	REMARKS
DOMESTIC WATER	BLW GRADE	TYPE K COPPER	TRENCH: PER MANUFACTURER'S SPECIFICATIONS	SEEMLESS TUBING WITH BRAZED JOINTS; OR NO JOINTS WITH SOFT TEMPER TUBING SLEEVED INSIDE A PVC PIPE.

NOTES:
1. VERIFY WITH BUILDER THAT ALL PIPING MATERIAL VARIANCES (ALT. MEANS & METHODS) HAVE BEEN FILED WITH, AND APPROVED BY, THE THE LOCAL AUTHORITY
2. ALTERNATES AND SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER A MINIMUM OF 7 DAYS PRIOR TO PURCHASE AND REQUIRE NON-VERBAL ACCEPTANCE.

FIXTURE SCHEDULE

TAG	FIXTURE TYPE	MAKE AND MODEL	CONNECTION ROUGH-IN					MAXIMUM WATER CONSUMPTION RATE	REMARKS
			COLD WATER	HOT WATER	TRAP / WASTE	SAN. VENT	STORM DRAIN		
HB 1	HOSE BIB	TBD BY BUILDER	3/4"	- -	- -	- -	- -	- -	PROVIDE ANTI-SIPHON ATMOSPHERIC VACUUM BREAKER DEVICE

NOTES:
1. THE ABOVE LISTED PRODUCTS INDICATE THE BASIS OF DESIGN. REFER TO MANUFACTURER LITERATURE FOR OTHER INFORMATION NOT SPECIFICALLY SHOWN.
2. ALTERNATES AND SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER A MINIMUM OF 7 DAYS PRIOR TO PURCHASE AND REQUIRE NON-VERBAL ACCEPTANCE.



ENLARGED PUMP SHED | 2

PLUMBING ONSITE POTABLE WATER PLAN | 1

FIXTURE UNIT CALCULATION - 2 BED / 1 BATH (UNIT#2)

FIXTURE TYPE	QTY	WATER SUPPLY (WSFU)				WASTE LOAD (DFU)	
		FIXTURE SUPPLY	75% HOT	COLD SUBTOTAL	HOT SUBTOTAL	FIXTURE LOAD	WASTE SUBTOTAL
WATER CLOSET	1	2.5	0	2.5	0.0	3	3
LAVATORY	1	1	0.8	1.0	0.8	1	1
BATHTUB	1	4	3	4.0	3.0	2	2
SHOWER	0	2	1.5	0.0	0.0	2	0
KITCHEN SINK	1	1.5	1.3	1.5	1.3	2	2
DISHWASHER	1	1.5	1.5	1.5	1.5	0	0
CLOTHES WASHER	1	4	3	4.0	3.0	3	3
TOTAL SUPPLY/LOAD (FIXTURE UNITS)				14.5	9.6		11.0
EQUIVALENT FLOW RATE (GPM)				11	13		

FIXTURE UNIT CALCULATION - TYPICAL 3-BED/2-BATH UNITS

FIXTURE TYPE	QTY	WATER SUPPLY (WSFU)				WASTE LOAD (DFU)	
		FIXTURE SUPPLY	75% HOT	COLD SUBTOTAL	HOT SUBTOTAL	FIXTURE LOAD	WASTE SUBTOTAL
WATER CLOSET	2	2.5	0	5.0	0.0	3	6
LAVATORY	2	1	0.8	2.0	1.6	1	2
BATHTUB	2	4	3	8.0	6.0	2	4
SHOWER	0	2	1.5	0.0	0.0	2	0
KITCHEN SINK	1	1.5	1.3	1.5	1.3	2	2
DISHWASHER	1	1.5	1.5	1.5	1.5	0	0
CLOTHES WASHER	1	4	3	4.0	3.0	3	3
TOTAL SUPPLY/LOAD (FIXTURE UNITS)				22.0	13.4		17.0
EQUIVALENT FLOW RATE (GPM)				16	10		

FIXTURE UNIT CALCULATION - WHOLE SITE

FIXTURE TYPE	QTY	WATER SUPPLY (WSFU)		WASTE LOAD (DFU)	
		FIXTURE SUPPLY	FIXTURE SUBTOTAL	FIXTURE LOAD	WASTE SUBTOTAL
WATER CLOSET	15	2.5	37.5	3	45
LAVATORY	15	1	15.0	1	15
BATHTUB	15	4	60.0	2	30
SHOWER	0	2	0.0	2	0
KITCHEN SINK	8	1.5	12.0	2	16
DISHWASHER	8	1.5	12.0	0	0
CLOTHES WASHER	8	4	32.0	3	24
HOSE BIB	1	2.5	2.5	0	0.0
HOSE BIB (ADD'L)	1	1.0	1.0	0	0.0
TOTAL SUPPLY/LOAD (FIXTURE UNITS)			172.0		130.0
EQUIVALENT FLOW RATE (GPM)			59		
DRIP IRRIGATION FLOW RATE (GPM) PER LANDSCPAPE DWG			11.51		
TOTAL SERVICE FLOW RATE (GPM)			70.51		

ALLOWABLE WATER PRESSURE LOSS CALCULATION

MIN AVAILABLE STATIC PRESSURE AT CONNECTION TO PUBLIC MAIN	42	PSIG
PRESSURE LOSS THRU 2" METER @ 71 GPM (NEPTUNE OR EQUAL)	-2	PSIG
PRESSURE LOSS THRU 2" BFP @ 71 GPM (WILKENS 975XL2 OR EQUAL)	-13.5	PSIG
HEAD LOSS (FROM METER TO PUMP) 12 FT x .433 FT/PSI	-5.2	PSIG
PIPE FRICTION LOSS FROM 200FT OF 3" PVC PIPE @ 71GPM	-1.1	PSIG
MIN PRESSURE AT BOOSTER PUMP INLET	20.2	PSIG
SET BOOSTER PUMP OUTLET TO 75 PSI (~55 PSI BOOST)	75	PSIG
PRESSURE LOSS THRU 5/8" SUBMETER @ 16 GPM (NEPTUNE OR EQUAL)	-5	PSIG
HEAD LOSS (PUMP TO SHOWERHEAD) 12 FT x .433 FT/PSI	-5.2	PSIG
MINIMUM RESIDUAL PRESSURE AT MOST REMOTE SHOWERHEAD	-20	PSIG
PRESSURE AVAILABLE FOR PIPE FRICTION	44.8	PSIG
LENGTH OF PIPE FROM BLDG POC TO MOST REMOTE FIXTURE	290	FT
EQUIVALENT LENGTH OF PIPE INCLUDING FITTINGS	333.5	FT
MAXIMUM PERMISSIBLE FRICTION LOSS PER 100FT OF PIPE	13.4	PSI/ 100FT

SCH. 40 PVC PIPE SIZING TABLE

BASED ON HAZEN-WILLIAMS FORMULA (C=150) WITH MAX. FLOW VELOCITY OF 8FPS

13 PSI/100FT MAX. PRESSURE LOSS

PIPE SIZE	PIPE I.D.	COLD WATER		
		VELOCITY (FPS)	FLOWRATE (GPM)	FIXTURE UNIT
1"	1.18	8	27.27	46
1-1/4"	1.36	8	36.22	69
1-1/2"	1.59	8	49.51	123
2"	2.05	8	82.30	284
3"	3.04	8	180.99	809
4"	4.26	8	355.40	2250

KRAL ENGINEERING COMPANY
6035 ZORA STREET
LA MESA, CA 91942
T: 619-832-8827

REGISTERED PROFESSIONAL ENGINEER ADAM KRAL M36716 EXP. 03-31-23 MECHANICAL STATE OF CALIFORNIA

PROJECT NO: KEC-2217

PROJECT TITLE:

ORANGE STREET RESIDENCES

BUILDER:
ORANGE ST PARTNERS, LLC

ARCHITECT:
CLAD INC
4766 32ND ST
SAN DIEGO, CA

LOCATION:
1628 ORANGE ST
NATIONAL CITY, CA

PLOT DATE: 8/26/22

NO.	DATE	DESCRIPTION

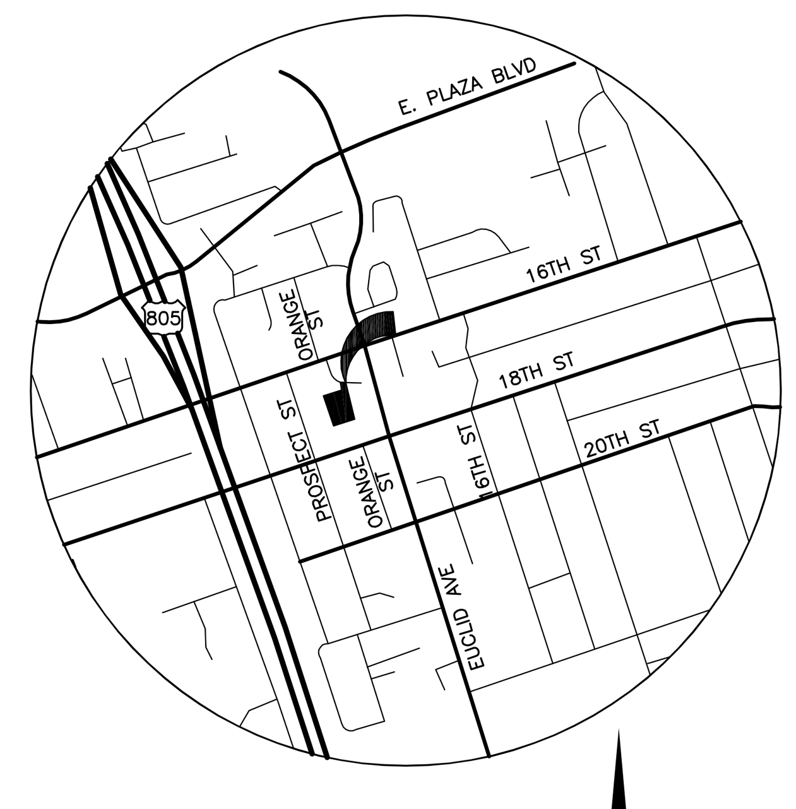
SHEET NAME:
PLUMBING
SITE PLAN, SCHEDULES AND CALCULATIONS

SHEET NUMBER:

P0.1

1628 ORANGE STREET

CONSTRUCTION DOCUMENTS
CITY OF NATIONAL CITY



VICINITY MAP
N.T.S.

N

GENERAL NOTES

APPROVAL OF THESE PLANS BY THE CITY ENGINEER OF THE CITY OF NATIONAL CITY DOES NOT CONSTITUTE CERTIFICATION OF THE PROJECT AS A WHOLE, IN TERMS OF COMPLETENESS, ACCURACY, DESIGN, AND CONSTRUCTION STANDARDS. APPROVED STANDARDS: PUBLIC WORKS SDRSD. IT IS THE RESPONSIBILITY OF THE ENGINEER-OF-WORK TO EXERCISE CONTROL OVER THE DESIGN OF THE PROJECT.

1. A PERMIT SHALL BE OBTAINED FROM THE ENGINEERING DEPARTMENT FOR ALL IMPROVEMENT WORK WITHIN THE PUBLIC RIGHT-OF-WAY AND ALL GRADING OPERATIONS ON PRIVATE PROPERTY.
2. APPROVAL OF THESE PLANS BY THE CITY OF NATIONAL CITY DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL A VALID PERMIT HAS BEEN ISSUED.
3. NOTWITHSTANDING THE MINIMUM STANDARDS SET FORTH IN THE GRADING ORDINANCE AND NOTWITHSTANDING THE APPROVAL OF THESE PLANS, THE CONTRACTOR IS RESPONSIBLE FOR THE PREVENTION OF DAMAGE TO THE ADJACENT PROPERTY. NO PERSON SHALL EXCAVATE ON LAND SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PUBLIC STREET, SIDEWALK, ALLEY OR ANY OTHER PUBLIC OR PRIVATE PROPERTY WITHOUT SUPPORTING AND PROTECTING SUCH PROPERTY FROM SETTLING, CRACKING, EROSION, SILTING, SCOUR OR THE DAMAGE WHICH MIGHT RESULT FROM THE GRADING DESCRIBED ON THESE PLANS.
4. THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK, NOTICE OF PROPOSED WORK SHALL BE GIVEN TO THE FOLLOWING AGENCIES:

UNDERGROUND SERVICE ALERT	1-800-227-2600
AT&T	(858) 268-2062
CITY OF NATIONAL CITY PUBLIC WORKS DEPARTMENT	(619) 336-4380
COX COMMUNICATIONS	(619) 266-5038
CROWN CASTLE	(760) 224-5264
SAN DIEGO GAS AND ELECTRIC	(858) 547-2009
SWEETWATER AUTHORITY	(619) 409-6751

5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL SUBSTRUCTURES WHETHER SHOWN OR NOT AND PROTECT THEM FROM DAMAGE. THE EXPENSE OF REPAIR OR REPLACEMENT OF SAID SUBSTRUCTURES SHALL BE BORN BY THE CONTRACTOR.
6. THE ENGINEER-OF-WORK SHALL BE NOTIFIED WHEN CONSTRUCTION COMMENCES AND ANY CHANGES OR ADDITIONS ARE MADE DURING THE PROGRESS OF CONSTRUCTION. A REPORT CONFIRMING THIS, SIGNED BY THE REGISTERED SOILS ENGINEER, SHALL BE SUBMITTED TO THE CITY'S ENGINEERING DEPARTMENT AT THE COMPLETION OF THE PROJECT SPECIFICS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ENGINEER OF RECORD PRIOR TO COMMENCING DEMOLITION OF ANY MONUMENTATION AND/OR BENCHMARKS, OF ALLOWING ENGINEER'S SURVEYOR OF LOCATING MONUMENTATION AND/OR BENCHMARKS PRIOR TO DEMOLITION, AND OF NOTIFYING ENGINEER AFTER CONSTRUCTION IS COMPLETE. MONUMENTATION SHALL BE OFF-SET. PROTECT AND REPLACE IF DISTURBED.
8. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS: AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CITY ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
9. CONTRACTOR WILL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF ACTUAL LOCATION OF EXISTING FACILITIES.
10. LOCATION AND ELEVATION OF IMPROVEMENTS OF WORK TO BE DONE SHALL BE CONFIRMED BY FIELD MEASUREMENT PRIOR TO CONSTRUCTION OF NEW WORK.
11. BEFORE EXCAVATING, VERIFY LOCATION OF UNDERGROUND UTILITIES. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWING LOCATION OF UTILITIES WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO OTHER EXISTING UTILITIES EXCEPT AS SHOWN ON THE PLANS.
12. NEITHER THE OWNER NOR THE CITY ENGINEER-OF-WORK WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
13. INSPECTION NOTES: NO WORK SHALL BE COMMENCED ON THE SITE PRIOR TO A PRE-CONSTRUCTION MEETING WITH THE ENGINEERING DEPARTMENT. CALL THE CITY CONSTRUCTION ENGINEER AT (619) 336-4380 TO SCHEDULE A MEETING.
14. ALL OPERATIONS CONDUCTED ON THE PREMISES, INCLUDING THE WARMING UP, REPAIR, ARRIVAL, DEPARTURE, OR RUNNING OF TRUCKS, EARTHMOVING EQUIPMENT, CONSTRUCTION EQUIPMENT, AND ANY OTHER ASSOCIATED EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 8:00 A.M. AND 4:00 P.M. EACH DAY, MONDAY THROUGH FRIDAY. UNLESS OTHERWISE NOTED, PRIOR APPROVAL OF THE CITY ENGINEER WILL BE REQUIRED FOR WORK BEFORE 8:00 A.M. AND AFTER 4:00 P.M.
15. STRUCTURAL SECTIONS OF THE STREET IMPROVEMENTS SHALL BE PER PLAN, BUT NOT LESS THAN THE MINIMUM REQUIREMENTS PER NATIONAL CITY STANDARD DRAWING NO. 113-S-B.
16. THE ASPHALT CONCRETE PAVEMENT SHALL BE INSTALLED IN A MINIMUM OF TWO LIFTS. THE FINAL LIFT SHALL BE AT LEAST 2 INCHES THICK AND SHALL BE PAVED AFTER COMPLETION OF ALL STRUCTURES.
17. CHANGE ORDER: CHANGE ORDERS SHALL BE REQUESTED IN WRITING USING THE CITY OF NATIONAL CITY STANDARD FORM AND ATTACHED WITH PLANS SHOWING IN RED THE REVISIONS FOR APPROVAL.
18. PUBLIC WATER SYSTEM IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH SWEETWATER AUTHORITY'S DESIGN STANDARDS AND STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER FACILITIES. PUBLIC WATER SYSTEM SHALL BE MAINTAINED AND OPERATED BY SWEETWATER AUTHORITY.

EARTHWORK QUANTITIES

CUT: 125 CU. YD(S) IMPORT: 75 CU. YD(S)

FILL: 200 CU. YD(S) EXPORT: 0 CU. YD(S)

UTILITY NOTES

1. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS WAS DETERMINED FROM A SEARCH OF AVAILABLE PUBLIC RECORDS. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE POSSIBLE EXISTENCE OF UNDERGROUND FACILITIES NOT SHOWN OR IN A LOCATION DIFFERENT FROM THAT SHOWN ON THE PLANS. THE CONTRACTOR SHALL DETERMINE THE LOCATION AND DEPTH OF ALL UTILITIES, INCLUDING SERVICE CONNECTIONS, THAT MAY AFFECT OR BE AFFECTED BY HIS OPERATIONS AND SHALL TAKE ADEQUATE MEASURES TO PROTECT THE UNDERGROUND UTILITIES SHOWN ON THE PLANS AND THOSE FACILITIES ENCOUNTERED DURING CONSTRUCTION BUT NOT SHOWN ON THE PLANS.
2. PURSUANT TO STATE LAW, CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 NOT LESS THAN TWO (2) WORKING DAYS PRIOR TO CONDUCTING ANY EXCAVATION WORK ON THIS PROJECT. THIS REQUIREMENT SHALL EXTEND TO EXCAVATION WORK CONDUCTED WITHIN PUBLIC RIGHT-OF-WAY AND TO EXCAVATION WORK CONDUCTED ON PRIVATE PROPERTY. THE CONTRACTOR SHALL MARK OUT THE APPROXIMATE LIMITS OF THE PROPOSED EXCAVATION PRIOR TO CALLING USA TO ASSIST THE EXISTING UTILITY OWNERS IN UNDERSTANDING THE LIMITS OF THE REQUIRED PREMARK SERVICES.
3. EXISTING UTILITIES IN CONFLICT WITH THE PROPOSED WORK SHALL BE REMOVED, RELOCATED, OR ADJUSTED BY THEIR RESPECTIVE OWNERS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR IS REFERRED TO SECTION 4 OF THE STANDARD SPECIFICATIONS.
4. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING FACILITIES (BELOW GROUND AND ABOVE GROUND) WITHIN THE PROJECT SITE SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT THE REVISION OF THE CONSTRUCTION PLANS IF IT IS FOUND THAT ACTUAL LOCATIONS ARE IN CONFLICT WITH THE PROPOSED WORK. THIS WORK SHALL BE AT THE CONTRACTOR'S EXPENSE.
5. THE CONTRACTOR SHALL MAINTAIN THE SERVICE OF ALL EXISTING WATER AND SEWER UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER AND SEWER MAINS DURING CONSTRUCTION, AND SHALL HAVE SUFFICIENT PIPELINE MATERIALS AND EQUIPMENT ONSITE TO IMMEDIATELY REPAIR ANY DAMAGE TO EXISTING MAINS. CONTRACTOR IS RESPONSIBLE TO REPLACE OR REPAIR ANY DAMAGE, PRIVATE OR PUBLIC
6. BEFORE EXCAVATING, THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES BY CONTACTING EACH OF THE FOLLOWING, 48 HOURS PRIOR TO COMMENCING WORK:

UNDERGROUND SERVICE ALERT	1-800-227-2600
CABLE TELEVISION: (COX COMMUNICATIONS)	(619) 266-5038
FIBER OPTICS: (CROWN CASTLE)	(760) 224-5264
GAS & ELECTRIC: (SDG&E)	(858) 547-2009
SEWER, STORM, STREET LIGHT, & TRAFFIC SIGNAL: (CITY OF NATIONAL CITY)	(619) 336-4380
TELEPHONE: (AT&T)	(858) 268-2062
WATER: (SWEETWATER AUTHORITY)	(619) 409-6751

ASPHALT CONCRETE, PORTLAND CEMENT CONCRETE, TRENCH BACKFILL & COMPACTION

1. EXISTING PAVEMENT WILL BE SAWCUT AT ALL LOCATIONS THAT JOIN WITH PROPOSED IMPROVEMENTS.
2. ASPHALT CONCRETE SECTIONS GREATER THAN 3" SHALL BE LAID IN TWO LIFTS MINIMUM AND SHALL BE COMPRISED OF AN AC BASE AND A SURFACE COURSE. AC FOR THE BASE COURSE SHALL BE CLASS B-PG 64-10 (3/4"). AC FOR THE SURFACE COURSE SHALL BE CLASS C2-PG 64-10 (1/2"). SURFACE COURSE SHALL BE 2" THICK MINIMUM.
3. STRUCTURAL SECTIONS OF THE STREET IMPROVEMENTS SHALL BE PER PLAN, BUT NOT LESS THAN THE MINIMUM REQUIREMENTS PER NATIONAL CITY STANDARD DRAWING NO. 113-S-B.
4. THE UPPER 6" OF THE TRENCH OR PAVEMENT SECTION MEASURED FROM THE BOTTOM OF THE BASE COURSE SHALL BE COMPACTED TO A RELATIVE COMPACTION OF 95 PERCENT OF MAXIMUM DRY DENSITY.

SHEET LIST TABLE

GRADING NOTES

DUMPING AND STOCKPILING IS PROHIBITED IN NATIONAL CITY. ALL MATERIAL EXCAVATED AND REMOVED FROM THE SITE. NO EXCEPTIONS.

1. ALL GRADING, TESTING AND OBSERVATION SHALL BE DONE IN ACCORDANCE WITH APPENDIX "J" OF THE CALIFORNIA BUILDING CODE AND CHAPTER 15.70 OF THE NATIONAL CITY MUNICIPAL CODE.
2. THE STANDARD TEST USED TO DEFINE THE MAXIMUM DENSITY OF ALL COMPACTION WORK SHALL BE PER ASTM D-1557-91 PER SPECIFICATION 301-1.3. ALL DENSITIES SHALL BE EXPRESSED AS A RELATIVE COMPACTION IN THE FOREGOING STANDARD PROCEDURE.
3. CLEARING, GRUBBING, AND PREPARING AREAS TO BE FILLED
   - 3.1 ANY TREES NOT UTILIZED IN LANDSCAPING, ABANDONED STRUCTURES, WEEDS, TREE STUMPS AND ANY OTHER RUBBISH SHALL BE REMOVED, FILLED OR OTHERWISE DISPOSED OF SO AS TO LEAVE THE AREAS THAT HAVE BEEN DISTURBED WITH A NEAT AND FINISHED APPEARANCE, FREE FROM UNSIGHTLY DEBRIS.
   - 3.2 ALL VEGETABLE MATTER AND SOIL DESIGNATED AS UNSUITABLE BY THE SOILS ENGINEER SHALL BE REMOVED UNDER THE DIRECTION OF THE SOILS ENGINEER. ALL EXPOSED SURFACES SHALL BE PLOWED OR SCARIFIED TO A DEPTH OF AT LEAST EIGHT INCHES, UNTIL THE SURFACE IS FREE FROM RUTS, HUMMOCKS, OR THE UNEVEN FEATURES WHICH WOULD TEND TO PREVENT UNIFORM COMPACTION BY THE EQUIPMENT TO BE USED.
   - 3.3 WHERE FILL IS TO BE PLACED, CARE SHOULD BE TAKEN THAT ANY EXISTING UNCOMPACTED SOILS BE REMOVED AND THAT NATURAL GROUND SHALL BE SCARIFIED AT LEAST EIGHT INCHES AND COMPACTED AT LEAST 90% OF MAXIMUM DENSITY. FILL SOILS SHOULD BE COMPACTED AT LEAST 90%. PAVEMENT BASE COURSE MATERIAL SHOULD BE COMPACTED AT LEAST 95%.

MATERIALS

4. THE MATERIALS FOR THE FILL SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE COMMENCEMENT OF GRADING OPERATIONS, OR THEIR IMPORT.
5. PLACING, SPREADING AND COMPACTION OF FILL MATERIAL
   - 5.1 THE SELECTED FILL MATERIAL SHALL BE PLACED IN LAYERS WHICH WHEN COMPACTED SHALL ALLOW ADEQUATE BONDING AND COMPACTION.
   - 5.2 WHEN MOISTURE CONTENT OF THE FILL MATERIAL IS BELOW THAT SPECIFIED BY THE SOILS ENGINEER, WATER SHALL BE ADDED UNTIL THE MOISTURE CONTENT IS AS SPECIFIED TO ASSURE THOROUGH BONDING DURING THE COMPACTION PROCESS. WHEN THE MOISTURE CONTENT OF THE FILL MATERIAL IS ABOVE THAT SPECIFIED BY THE SOILS ENGINEER, THE FILL MATERIAL SHALL BE AERATED BY BLADING OR OTHER SATISFACTORY METHODS UNTIL THE MOISTURE CONTENT IS AS SPECIFIED.
   - 5.3 AFTER EACH LAYER HAS BEEN PLACED, MIXED, AND SPREAD EVENLY, IT SHALL BE THOROUGHLY COMPACTED TO A RELATIVE COMPACTION OF NOT LESS THAN 90%.
   - 5.4 FIELD DENSITY TEST SHALL BE MADE BY THE SOILS ENGINEER. WHERE SHEEPSFOOT ROLLERS ARE USED, THE SOIL MAY BE DISTURBED TO A DEPTH OF SEVERAL INCHES. DENSITY TEST SHALL BE TAKEN IN COMPACTED MATERIAL BELOW THE DISTURBED SURFACE. WHEN THESE TEST INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED 90% DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED UNTIL THE REQUIRED DENSITY HAS BEEN OBTAINED.
   - 5.5 EXPANSIVE SOIL ENCOUNTERED IN CUT AREAS SHALL BE REMOVED AND DISPOSED OF OFFSITE. UNCLASSIFIED FILL SHALL BE USED TO REPLACE ANY EXPANSIVE SOILS, AND SHALL BE COMPACTED TO MINIMUM 90%.
6. DISPOSAL OF OVERSIZE ROCKS
   - 6.1 OVERSIZE ROCK SHALL BE EXPORTED FROM THE SITE, USED FOR LANDSCAPING PURPOSES, OR PLACED IN DESIGNATED NON-STRUCTURAL FILL AREAS.
7. ENGINEERING OBSERVATION
   - 7.1 FIELD OBSERVATION BY SOILS ENGINEER SHALL BE MADE DURING THE FILL AND COMPACTION OPERATION SO THAT HE CAN EXPRESS HIS OPINION REGARDING THE CONFORMANCE OF THE ACCEPTED SPECIFICATIONS.
8. SEASONAL LIMITS
   - 8.1 NO FILL SHALL BE PLACED, SPREAD, OR ROLLED WHILE IT IS IN AN UNSUITABLE HIGH MOISTURE CONTENT. NOR DURING UNFAVORABLE WEATHER CONDITIONS. WHEN THE WORK IS INTERRUPTED BY HEAVY RAIN, OPERATIONS SHALL NOT BE RESUMED UNTIL FIELD TEST BY THE SOILS ENGINEER INDICATE THAT THE MOISTURE CONTENT AND DENSITY OF FILL ARE AS PREVIOUSLY SPECIFIED.
9. GRADING TOLERANCE
   - 9.1 THE ACCEPTABLE ACCURACY FOR VERTICAL AND HORIZONTAL COMPLIANCE WITH THE DESIGN ON THIS PLAN SHALL BE ACCORDING TO THE STANDARDS SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

EMERGENCY EROSION CONTROL MEASURES NOTES:

1. ALL BUILDING PADS TO BE DIKED AND THE DIKES TO BE MAINTAINED TO PREVENT WATER FROM FLOWING FROM THE PAD UNTIL THE STREET AND DRIVEWAYS ARE PAVED AND WATER CAN FLOW FROM THE PADS WITHOUT CAUSING EROSION, OR CONSTRUCT DRAINAGE FACILITIES TO THE SATISFACTION OF THE CITY ENGINEER THAT WILL ALLOW WATER TO DRAIN FROM THE PAD WITHOUT CAUSING EROSION.
2. THE TOPS OF ALL SLOPES ARE TO BE DIKED OR TRENCHED TO PREVENT WATER FROM FLOWING OVER THE CREST OF SLOPES.
3. AS SOON AS CUTS OR EMBANKMENTS ARE COMPLETED, BUT NOT LATER THAN NOVEMBER I, ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITH BONDED FIBER MATRIX (BFM) OR AN EQUAL TREATMENT APPROVED BY THE CITY ENGINEER. BETWEEN NOVEMBER I AND APRIL 30 APPROVED SLOPE PROTECTION MEASURES SHALL PROCEED IMMEDIATELY BEHIND THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES.
4. CATCH BASINS, DESILTING BASINS AND STORM DRAIN SYSTEM SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY OF NATIONAL CITY PUBLIC WORKS DEPARTMENT AND ENGINEERING.
5. GRAVEL BAG CHECK DAMS SHALL BE PLACED IN A MANNER APPROVED BY THE CITY OF NATIONAL CITY PUBLIC WORKS DEPARTMENT AND ENGINEERING IN UNPAVED STREETS WITH GRADIENTS IN EXCESS OF TWO PERCENT (2%) AND ON OR IN OTHER GRADED OR EXCAVATED AREAS OR AS REQUIRED BY THE CITY ENGINEER.
6. THE OWNER TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE UNTIL RELIEVED OF THE SAME BY THE CITY. THE OWNERS TO REMOVE ALL SOIL INTERCEPTED BY THE USE OF GRAEL BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AS DIRECTED BY THE CITY ENGINEER. THE OWNER SHALL REPAIR ANY ERODED SLOPES AS DIRECTED BY THE CITY ENGINEER AND PUBLIC WORKS DEPARTMENT.

GRADING NOTES (CONT'D)

10. RECORD DRAWING (AS-BUILT)
    10.1 NOTE TO CONTRACTOR: UPON COMPLETION OF WORK, CONTRACTOR SHALL DELIVER TO THE CITY, AN UP-TO-DATE SET OF (AS-BUILT) RECORD DRAWINGS PREPARED BY THE ENGINEER-OF-WORK. SUCH DRAWINGS SHALL BE BLUEPRINT COPIES OF THE PLANS SHOWING IN RED INK AND IN DETAIL ALL CONSTRUCTION CHANGES, ESPECIALLY DEPTHS OF CONDUIT. UTILITIES SHALL BE DIMENSIONED FROM THE CLOSEST PERMANENT STRUCTURE. ENGINEER-OF-WORK SHALL MAKE CHANGES TO THE ORIGINAL MYLARS ON FILE WITH THE CITY ENGINEER'S OFFICE. ENGINEER-OF-WORK SHALL ALSO PROVIDE SAID AS-BUILTS IN DIGITAL FORMAT (PDF FILE).
11. OWNER:
    THOMAS STRAFFORD INVESTMENTS
    2801 B STREET, #70
    SAN DIEGO, CA 92102
12. CONTRACTOR
    TBD
13. ACCESSORS PARCEL NUMBER
    561-160-16
14. BENCHMARK
    CITY OF NATIONAL CITY VERTICAL CONTROL BENCHMARK
    MONUMENT DESCRIPTION: BRASS PLUG/TOP OF CURB
    LOCATION: NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
    DATUM: MEAN SEA LEVEL (NGVD 29)
    ELEVATION: 100.80 FEET
15. LEGAL DESCRIPTION
    PARCEL 1
    THE NORTHERLY 200.00 FEET OF THE EASTERLY 108.50 FEET OF THE WESTERLY 221.50 FEET OF LOT E, IN BLOCK 5 OF LINCOLN ACRES ORCHARD SUBDIVISION, IN THE CITY OF NATIONAL CITY, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 1785, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 6, 1924.
    TOGETHER WITH THAT PORTION LYING WITHIN THE EASTERLY 93.50 FEET OF THE WESTERLY 315.00 FEET OF THE NORTHERLY 25.00 FEET OF SAID LOT E.
    PARCEL 2
    THE WESTERLY 15.00 FEET OF THE EASTERLY 30.00 FEET OF LOT F.
    PARCEL 3
    AN EASEMENT AND RIGHT OF WAY FOR ROAD PURPOSES OVER THE EASTERLY 15.00 FEET OF LOT E, AND OVER THE NORTHERLY 50.00 FEET LYING EASTERLY OF THE EASTERLY LINE OF THE WESTERLY 221.50 FEET OF LOT E.
16. STANDARD DRAWINGS AND SPECIFICATIONS
    SAN DIEGO REGIONAL STANDARD DRAWINGS (LATEST EDITION) AND CITY OF NATIONAL CITY STANDARD DRAWINGS, AND THE STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION, TOGETHER WITH THE LATEST REGIONAL SUPPLEMENTAL AMENDMENTS.
17. SOILS REPORT
    BY: ADVANCED GEOTECHNICAL SOLUTIONS, INC.
    NO: 1706-05-B-2
    DATE: AUGUST 10,2017
    PHONE NO.: (619) 867-0487
    EMAIL.: PAULD@ADV-GEOSOLUTIONS.COM
    AGS, INC.
    485 CORPORATE DRIVE, SUITE B
    ESCONDIDO, CA 92029
    THESE PLANS HAVE BEEN REVIEWED BY THE UNDERSIGNED AND FOUND TO BE IN CONFORMANCE WITH THE RECOMMENDATIONS AND SPECIFICATIONS OUTLINED IN THE SOILS REPORT PREPARED FOR THIS DEVELOPMENT.
    BY: ______________ DATE: ______________
    PAUL J. DERISI
18. REFERENCE DRAWINGS
    SWEETWATER AUTHORITY WATER MAIN REPACEMENT E16TH STREET TO EUCLID AVE. WORK ORDER #20155001 EUCLID AVE STREET IMPROVEMENT PLANS DRAWING NO. 6448-D
19. AFTER COMPLETION OF GRADING, THE FOLLOWING STATEMENT SHALL BE EXECUTED BY THE ENGINEER-OF-WORK: ``I HEREBY CERTIFY THAT THE GRADING HAS BEEN DONE ACCORDING TO THE SOILS REPORT LISTED IN ITEM 17."
    BY: ______________
    DATE: ______________
    SEAL: ______________
20. AFTER THE COMPLETION OF THE PROJECT, THE FOLLOWING STATEMENT SHALL BE EXECUTED BY THE ENGINEER-OF-WORK: "I HEREBY CERTIFY, IN ACCORDANCE WITH SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, THAT ALL OF THE WORK SHOWN ON DRAWINGS ________ ________THROUGH ________ MARKED "AS-BUILT" HAS BEEN CONSTRUCTED IN CONFORMANCE WITH LINES AND GRADES, AND DETAILS AND SPECIFICATIONS, AS SHOWN ON SAID PLANS AND REFERRED DRAWINGS.
    BY: ______________
    DATE: ______________
    SEAL: ______________

PASCO LARET SUITER & ASSOCIATES
San Diego | Solana Beach | Orange County
Phone 858.259.8212 | www.plsaengineering.com

PLANS REVIEWED BY:

TAMARA O'NEAL RCE# 69107 DATE
PLAN CHECK ENGINEER

ENGINEERING DEPARTMENT DATE
CHARLES NISSLEY

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONAL CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF THESE PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF NATIONAL CITY IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN.

(WILLIAM G MACK, PE 73620) DATE

REGISTERED PROFESSIONAL ENGINEER — WILLIAM GREGG MACK — No. 73620 — Exp. 12/31/22 — CIVIL — STATE OF CALIFORNIA

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET
TITLE SHEET

CITY OF NATIONAL CITY

ROBERT YANO RCE# 56292 DATE
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER

PROJ. #EG22-00249 | NAD 83 HORIZ. DATUM

SHEET 1 OF 6 SHEETS | 11594-01-D

PRECISE GRADING PLANS – CITY OF NATIONAL CITY – ORANGE STREET RESIDENCES

SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80

HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE CA COORDINATE SYSTEM, CCS83, ZONE 6, 2011.00 EPOCH, AS DETERMINED LOCALLY BY THE CENTERLINE OF ORANGE STREET AS SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS
DATE STARTED: ______
INSPECTOR: ______
DATE COMPLETED: ______

GEOTECHNICAL OF RECORD
PAUL J. DERISI — AGS
NAME — COMPANY
SIGNATURE

CONSTRUCTION SURVEYOR
NAME — COMPANY
SIGNATURE

ENGINEERING DEPARTMENT

	BY	APPROVED	DATE
AS-BUILT			
REVISIONS			

DIGALERT
DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG
TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

EROSION CONTROL NOTES

1. IN CASE EMERGENCY WORK IS REQUIRED, CONTACT ANDREW THOMAS GREER AT (619) 202-7283.
2. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ON SITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
3. EROSION CONTROL DEVICES SHOWN ON PLANS SHALL NOT BE MOVED OR MODIFIED WITHOUT APPROVAL OF THE ENGINEERING INSPECTOR OR CITY STORM WATER COMPLIANCE INSPECTOR. THE CONTRACTOR SHALL RESTORE ALL EROSION CONTROL DEVICES TO THE WORKING ORDER DURING AND AFTER EACH RUN-OFF PRODUCING RAINFALL.
4. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED TO THE SATISFACTION OF THE CITY ENGINEER OR CITY STORM WATER COMPLIANCE INSPECTOR. MAINTENANCE SHALL INCLUDE REMOVAL OF SILT FROM BARRIERS AND SEDIMENTATION DEVICES, SEEDING OR MULCHING OF DAMAGED STABILIZED AREAS AND REPLACEMENT OR REPAIR OF WORN OR DAMAGED GEOTEXTILE FABRIC.
5. ALL EROSION CONTROL DEVICES PROVIDED PER THE APPROVED GRADING PLAN SHALL BE INCORPORATED HEREON. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL MEASURES AS MAY BE REQUIRED BY THE ENGINEERING CONSTRUCTION INSPECTOR OR CITY STORM WATER COMPLIANCE INSPECTOR.
6. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THERE IS A FIFTY PERCENT (50%) CHANCE OF RAIN WITHIN A FORTY-EIGHT (48) HOUR PERIOD. SILT AND DEBRIS SHALL BE REMOVED AFTER EACH RAINFALL.
7. DURING THE RAINY SEASON THE AMOUNT OF EXPOSED SOIL ALLOWED AT ONE TIME SHALL NOT EXCEED THAT WHICH CAN BE ADEQUATELY PROTECTED IN THE EVENT OF A RAINSTORM. ADDITIONAL SUPPLIES NEEDED FOR BMP MEASURES SHALL BE RETAINED ON THE JOB SITE IN A MANNER THAT ALLOWS FULL DEPLOYMENT AND COMPLETE INSTALLATION IN FORTY EIGHT (48) HOURS OR LESS OF A FORECASTED RAIN.
8. ALL BARE SLOPES AND DISTURBED AREAS SHALL BE PLANTED AS EACH STAGE OF GRADING IS COMPLETE. SUITABLE MEASURES TO PREVENT SLOPE EROSION, INCLUDING, BUT NOT LIMITED TO, RAPID GROWING VEGETATION SUFFICIENT TO STABILIZE THE SOILS SHOULD BE INSTALLED ON ALL AREAS, AND/OR SUCH AREAS SHOULD BE MULCHED, WHILE THE PERMANENT VEGETATION COVER MATURES ENOUGH TO PROVIDE STABILITY.
9. ANY EXPOSED SOIL, INCLUDING SOIL STOCKPILES, THAT WILL NOT BE DISTURBED FOR FOURTEEN (14) DAYS OR MORE SHALL BE FULLY PROTECTED FROM EROSION UNTIL ADEQUATE LONG-TERM PROTECTIONS ARE INSTALLED. ALL EROSION CONTROL MEASURES SHALL REMAIN INSTALLED AND MAINTAINED DURING ANY INACTIVE PERIOD.
10. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
11. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AND ALONG THE GUTTER OF PAVED STREET AREAS. VELOCITY CHECK DAMS MAY BE CONTRUCTED OF GRAVEL BAGS, TIMBER, OR OTHER MATERIAL APPROVED BY THE CITY ENGINEER. VELOCITY CHECK DAMS MAY ALSO SERVE AS SEDIMENT TRAPS. CHECK DAMS WILL BE INSTALLED PER THE FOLLOWING:

GRADE OF THE CHANNEL / STREET:	
LESS THAN 3%	100 FEET
3% TO 6%	50 FEET
OVER 6%	25 FEET

12. PROVIDE GRAVEL BAG, SILT BASIN, OR TRAP OR OTHER APPROVED DEVICE BY EVERY STORM DRAIN INLET TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM. CHECK DAMS SHALL BE INSTALLED IN THE STREET GUTTER UPSTREAM OF CURB INLETS IN ACCORDANCE TO THE SPACING PROVIDED ABOVE, AT MINIMUM.
13. GRADED AREAS AROUND THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
14. ALL GRAVEL BAGS SHALL BE BURLAP TYPE WITH 0.5 TO 1 INCH CRUSHED ROCK.
15. CONSTRUCTION DEBRIS AND SEDIMENT ON THE STREET AND GUTTER SHALL BE SWEPT OR VACUUMED AND DISPOSED OF PROPERLY AT CLOSE OF BUSINESS EACH DAY. FREQUENCY SHALL BE INCREASED IF DEBRIS AND SEDIMENT ARE NOTICEABLE WITHIN THE TRAVELLED WAY.
16. TRASH AND CONSTRUCTION RELATED SOLID WASTES SHALL BE DEPOSITED INTO A COVERED RECEPTACLE OR COVERED AND CONTAINED TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
17. CONSTRUCTION MATERIALS SHALL BE STORED IN STAGING AREAS ON-SITE UNTIL NEEDED FOR INSTALLATION. WASTE WILL EITHER BE PLACED IN DUMPSTERS OR IN WASTE MANAGEMENT AREAS. ALL WASTE SHALL BE TRANSPORTED OFF-SITE IN A TIMELY MANNER TO APPROVED WASTE DISPOSAL AREAS (DUMPS). STORAGE, HANDLING AND TRANSPORTATION OF WASTE SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS.
18. CONSTRUCTION MATERIAL SHALL BE STORED IN DESIGNATED AREA WITH APPROPRIATE CONTAINMENT MEASURES. WASTE PILES THAT ARE NOT IN USE AND INACTIVE STOCKPILES SHALL BE PROTECTED. THE CONTRACTOR SHALL STORE THE MATERIALS AS TO MINIMIZE THE RISK OF STORM WATER POLLUTION, GROUND WATER POLLUTION, SOIL CONTAMINATION, AND INJURY TO WORKERS AND VISITORS.
19. EQUIPMENT TO BE STORED, FUELED AND MAINTAINED ON SITE SHALL BE KEPT AWAY FROM ANY DRAINAGE COURSES. CONTRACTOR SHALL USE A DRAINAGE PAN OR DROP CLOTH TO CATCH ANY LEAKS OR SPILLS AT A MINIMUM.
20. MATERIAL OR DEBRIS RESULTING FROM CONSTRUCTION ACTIVITIES (I.E. SAW CUTTING, CONCRETE/ASPHALT GRINDING, ETC.) SHALL BE RECLAIMED AND DISPOSED OF APPROPRIATELY.
21. THE TOPS OF ALL SLOPES SHALL BE DIKED OR TRENCHED TO PREVENT WATER FROM FLOWING OVER THE CREST OF SLOPES.

SILTATION AND SEDIMENT CONTROL NOTES:

SEE SHEET 5 FOR SILTATION AND SEDIMENT CONTROL NOTES

TEMPORARY EROSION CONTROL

PLANTING AND IRRIGATION NOTES:

ALL PERMANENT AND TEMPORARY EROSION CONTROL PLANTING SHALL BE INSTALLED AND MAINTAINED AS REQUIRED IN SECTION 212 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

A. HYDROSEEDING SHALL BE APPLIED TO:
   1. ALL SLOPES THAT ARE GRADED 6:1 (HORIZONTAL TO VERTICAL) OR STEEPER WHEN THEY ARE:
      a. THREE (3) FEET OR MORE IN HEIGHT AND ADJACENT TO A PUBLIC WALL OR STREET.
      b. ALL SLOPES FOUR (4) FEET OR MORE IN HEIGHT.
   2. AREAS GRADED LESS THAN 6:1 WHEN ANY OF THE FOLLOWING CONDITIONS EXIST:
      a. NOT SCHEDULED FOR IMPROVEMENTS (CONSTRUCTION OR GENERAL LANDSCAPING) WITHIN SIXTY (60) DAYS OF ROUGH GRADING.
      b. IDENTIFIED BY THE CITY AS HIGHLY VISIBLE TO THE PUBLIC.
      c. HAVE ANY SPECIAL CONDITION IDENTIFIED BY THE CITY ENGINEER THAT WARANTS IMMEDIATE TREATMENT.

B. HYDROSEEDED AREAS SHALL BE IRRIGATED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:
   1. ALL SLOPES THAT ARE GRADED 6: 1 OR STEEPER AND THAT ARE:
      a. THREE (3) TO EIGHT (8) FEET IN HEIGHT SHALL BE IRRIGATED BY HAND WATERING FROM QUICK COUPLERS/HOSE BIBS OR A CONVENTIONAL SYSTEM OF LOW PRECIPITATION SPRINKLER HEADS PROVIDING ONE HUNDRED PERCENT (100%) COVERAGE.
      b. GREATER THAN EIGHT (8) FEET IN HEIGHT SHALL BE WATERED BY A CONVENTIONAL SYSTEM OF LOW PRECIPITATION SPRINKLER HEADS PROVIDING ONE HUNDRED PERCENT (100%) COVERAGE.
   2. AREAS SLOPED LESS THAN 6:1 SHALL BE IRRIGATED AS APPROVED BY THE CITY ENGINEER. PRIOR TO HYDROSEEDING THE DEVELOPER SHALL SUBMIT A PROPOSED SCHEME TO PROVIDE IRRIGATION TO THE CITY ENGINEER. THE PROPOSAL SHALL BE SPECIFIC REGARDING THE NUMBERS, TYPES, AND COSTS OF THE ELEMENTS OF THE PROPOSED SYSTEM.
   3. IRRIGATION SHALL MAINTAIN THE MOISTURE LEVEL OF THE SOIL AT THE OPTIMUM LEVEL FOR GROWTH OF HYDROSEEDED MIX.
   4. CONDITIONING THE SOIL SO IT IS SUITABLE FOR PLANTING BY:
      a. ADJUSTING THE SURFACE SOIL MOISTURE TO PROVIDE DAMP BUT NOT SATURATED SEED BED
      b. THE ADDITION OF SOIL AMENDMENTS, PH ADJUSTMENT, LEACHING OR COVERING SALINE SOILS TO PROVIDE VALUABLE CONDITIONS FOR GROWTH.
      c. HYDROSEEDED AREAS SHALL BE MAINTAINED TO PROVIDE A VIGOROUS GROWTH UNTIL THE PROJECT IS PERMANENTLY LANDSCAPED OR, FOR AREAS WHERE HYDROSEEDING IS THE PERMANENT LANDSCAPING, UNTIL THE PROJECT IS COMPLETED AND ALL BONDS RELEASED.

C. HYDROSEED MIXTURES SHALL CONFORM TO THE FOLLOWING:
   1. HYDROSEED MIXTURES SHALL BE DETERMINED BY EVALUATION OF THE SITE CONDITIONS WITH RESPECT TO:
      a. SOIL CONDITIONS
      b. SITE TOPOGRAPHY
      c. MAINTENANCE REQUIREMENTS
      d. SENSITIVE ADJACENT AREAS
      e. SEASON AND CLIMATE
      f. WATER AVAILABILITY
      g. VEGETATION TYPES
      h. PLANS FOR PEMANENT VEGETAION

   ** THE ENGINEER OF WORK SHALL APPROVE HYDROSEEDING SELECTION

   2. ALL SEED MATERIALS SHALL BE IN CONFORMANCE WITH THE CALIFORNIA STATE SEED LAW OF THE DEPARTMENT OF AGRICULTURE. EACH SEED BAG SHALL BE DELIVERED TO THE SITE SEALED AND CLEARLY MARKED AS TO SPECIES, PURITY, PERCENT GERMINATION, DEALER'S GUARANTEE, AND DATES OF TESTS. THE CONTAINER SHALL BE MARKED AS TO THE PERCENT OF PURE LIVE SEED (PLS) CONTAINED. ALL LEGUME SEED SHALL BE PELLET-INOCULATED. INOCULANT SOURCE SHALL BE SPCIES SPECIFIC AND SHALL BE APPLIED AT A RATE OF 2 KG OF INOCULANT PER 100 KG OF SEED (2LB OF INUCLANT PER 100 LB OF SEED).
   3. COMMERCIAL FERTILIZER SHALL CONFORM TO THE REQUIREMENTS OF THE CALIFORNIA FOOD AND AGRICULURAL CODE. FERTILIZER SHALL BE PELLETED OR GRANULAR FORM.
   4. THE CONTRACTOR SHALL MAKE FOLLOW-UP APPLICATIONS AS NEEDED TO COVER WEAK SPOTS, AND TO MAINTAIN ADEQUATE SOIL PROTECTION.
   5. THE CONTRACTOR SHALL AVOID OVER-SPRAY ONTO THE TRAVEL WAYS, SIDEWALKS, LINED DRAINAGE CHANNELS AND EXISTING VEGETATION.

SWEETWATER AUTHORITY GENERAL NOTES

1. THE WATER FACILITIES SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SWEETWATER AUTHORITY STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER FACILITIES AND STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK), USING THE LATEST REVISIONS OF BOTH, EFFECTIVE AT THE TIME PLANS ARE SIGNED.
2. SWEETWATER AUTHORITY STANDARD SPECIFICATIONS TAKE PRECEDENCE IN CASE OF CONFLICT WITH THESE PLANS.
3. SWEETWATER AUTHORITY SHALL DEPOSIT INSPECTION FEES PRIOR TO BEGINNING WORK ON THE PROJECT.
4. SWEETWATER AUTHORITY WILL SUPPLY ALL MATERIAL FOR WATER IMPROVEMENTS INCLUDING SHOP DRAWINGS WHERE APPROPRIATE.
5. APPROVED CONSTRUCTION MATERIALS ARE THOSE LISTED ON THE SWEETWATER AUTHORITY APPROVED MATERIALS LIST.
6. WET TAPS, IF REQUIRED, WILL BE ACCOMPLISHED BY SWEETWATER AUTHORITY FORCES FOLLOWING THE SWEETWATER AUTHORITY EXCAVATING, PLACING, TAPPING FITTINGS, HYDROTESTING WITH CHLORINATED WATER AND PUMPING TO 150 P.S.I. TO VERIFY THAT NO LEAKS OCCUR AROUND FLANGES, JOINTS OR WELDS, PLACING CONCRETE THRUST BLOCKS AND MAKING ALL PREPARATION AS REQUIRED BY THE ENGINEER. THE SWEETWATER AUTHORITY IS TO PROVIDE BACKFILLING AND PAVING PER SPECIFICATIONS.
7. SWEETWATER AUTHORITY IS REQUIRED TO VERIFY LOCATION OF ALL EXISTING UTILITIES WHICH MAY NOT BE SHOWN ON THESE PLANS.
8. WATER SERVICES AND SEWER LATERALS TO HAVE 10 FOOT HORIZONTAL SEPARATION UNLESS APPROVED BY THE SWEETWATER AUTHORITY'S DIRECTOR OF ENGINEERING.
9. SWEETWATER AUTHORITY SHALL NOTIFY ALL CONSUMERS OF CONSTRUCTION RELATED WATER SHUTDOWNS ACCORDING TO SHUTDOWN NOTIFICATION PROCEDURE.
10. CONCRETE THRUST BLOCKS SHALL BE INSTALLED ACCORDING TO SECTION 12-02 AND STANDARD DWG. NO. 11 OF SWEETWATER AUTHORITY STANDARD SPECIFICATIONS. THRUST BLOCKS FOR MAINS 12" AND LARGER ARE SHOWN ON THE PLANS.
11. ALL PUBLIC IMPROVEMENTS TO BE REPLACED PER CITY OF NATIONAL CITY STANDARDS, THE SAN DIEGO REGIONAL STANDARD DRAWINGS, AND THE GREEN BOOK, USING THE LATEST REVISIONS OF BOTH, EFFECTIVE AT THE TIME PLANS ARE SIGNED.
12. THE SWEETWATER AUTHORITY CANNOT GUARANTEE DRY SHUT DOWNS DURING CONNECTIONS AND/OR CUT AND PLUGS OF EXISTING WATER LINES.
13. ALL ADJUSTED, RELOCATED, OR RENEWED WATER SERVICES SHALL BE INSTALLED WITH A CONSUMER BALL VALVE AND METER BOX PER SWEETWATER STANDARD SPECIFICATION DRAWING No. 1, 2, AND 20.

SWEETWATER AUTHORITY GENERAL NOTES (CONT'D)

14. ALL CONNECTIONS TO EXISTING MAINS, FIRE HYDRANTS, FIRE SERVICES, AND NEW FIRE HYDRANT LATERALS, 12" AND SMALLER, SHALL BE CONSTRUCTED WITH P.V.C. PIPE, USING CLOSURE COUPLINGS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. NO SAW CUTTING OF A.C. PIPE WILL BE ALLOWED. ONLY A.C. PIPE SNAPPING WITH APPROVED TOOLS IS ALLOWED.
15. NEW PIPELINE TRENCHES ARE TO BE BACKFILLED, RESURFACED AND STRUCTURALLY REPAIRED IN ACCORDANCE WITH THE CITY OF NATIONAL CITY MODIFIED STD. DWG. G-24
16. BACKFILLING OF TRENCHES, STREET RESURFACING, STRIPING AND INSTALLATION OF PAVEMENT MARKERS (PER CALTRANS SPECS), AND INSTALLATION OF PUBLIC IMPROVEMENTS SHALL BE SUBJECT TO APPROVAL BY THE CITY OF NATIONAL CITY.
17. NO WORK SHALL COMMENCE ON THE SITE PRIOR TO A PRE-CONSTRUCTION MEETING WITH THE CITY OF NATIONAL CITY. CALL 619-336-4380 TO SCHEDULE A MEETING.
18. CROSS GUTTERS SHALL BE REPLACED ACCORDING TO SAN DIEGO REGIONAL STANDARD DRAWING G-12, WITH THE FOLLOWING EXCEPTIONS: CONCRETE SHALL BE 8-INCHES THICK WITH 10-INCHES CLASS 2 AGGREGATE BASE, COMPACTED 95%. CONCRETE SHALL BE REINFORCED WITH 6x6x10 WIRE MESH.
19. A PERMIT SHALL BE OBTAINED FROM THE CITY OF NATIONAL CITY ENGINEERING DEPARTMENT FOR ALL IMPROVEMENT WORK WITHIN THE PUBLIC RIGHT-OF-WAY. THE SWEETWATER AUTHORITY SHALL SUBMIT TO THE CITY NATIONAL CITY ENGINEERING DEPARTMENT A PROPOSED PROJECT SCHEDULE FOR ALL PHASES AND LOCATIONS OF THE PROJECT INCLUDING DATES, HOURS OF WORK, AND PROPOSED STREET CLOSURES, PRIOR TO OBTAINING PERMIT.
20. ALL OPERATIONS CONDUCTED ON THE CITY OF NATIONAL CITY RIGHT-OF-WAY, INCLUDING THE IDLING, REPAIR, ARRIVAL, DEPARTURE, OR RUNNING OF TRUCK EARTHMOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 A.M. AND 5:00 P.M. EACH DAY, MONDAY - FRIDAY. PRIOR APPROVAL OF THE CITY ENGINEER WILL BE REQUIRED FOR WORK BEFORE 7:00AM AND AFTER 5:00PM.
21. SWEETWATER AUTHORITY SHALL MAKE EXPLORATORY EXCAVATIONS TO VERIFY EXISTING UTILITY LOCATIONS SUFFICIENTLY AHEAD OF CONSTRUCTION TO ALLOW TIME FOR REVISION REQUIRED BY EXISTING CONDITIONS.
22. SERVICE SADDLE AND DRY PACK OF PORTLAND CEMENT ARE REQUIRED ON ALL NEW SERVICE LATERALS FOR P.V.C. PIPE, SEE SWEETWATER AUTHORITY STANDARD DRAWING NO. 3.
23. SWEETWATER AUTHORITY SHALL REPLACE STREET PAVEMENT SURFACE WITH MATERIAL THAT CONFORMS WITH THE ORIGINAL SURFACING, INCLUDING CHIP SEALS.
24. IT SHALL BE THE RESPONSIBILITY OF THE SWEETWATER AUTHORITY TO LOCATE ALL SUBSTRUCTURES WHETHER SHOWN OR NOT AND PROTECT THEM FROM DAMAGE. THE EXPENSE OF REPAIR AND OR REPLACEMENT OF SAID SUBSTRUCTURES SHALL BE BORNE BY THE SWEETWATER AUTHORITY.
25. ALL MECHANICAL JOINT SYSTEMS TO BE INSTALLED WITH "ROMAC GRIPRING"JOINT RESTRAINTS OR EQUAL. THEY SHALL HAVE A RATED WORKING PRESSURE OF 350 P.S.I. FOR PIPE 16" AND SMALLER, AND 250 P.S.I. FOR PIPE GREATER THAN 16".
26. NEITHER THE OWNER, NOR THE ENGINEER OF WORK WILL ENFORCE SAFETY MEASURES OR REGULATIONS, SWEETWATER AUTHORITY SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
27. SWEETWATER AUTHORITY AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROTECTION OF PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE SWEETWATER AUTHORITY SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
28. ADEQUATE COMPACTION TESTING SHALL BE PERFORMED AND RESULTS SUBMITTED TO SWEETWATER AUTHORITY ENGINEERING DEPARTMENT.
29. DAMAGED TRAFFIC DETECTOR LOOPS MUST BE REPLACED PRIOR TO FINAL INSPECTION BY THE SWEETWATER AUTHORITY INSPECTOR.
30. ALL IMPROVEMENTS DAMAGED DURING CONSTRUCTION INCLUDING CURBS, GUTTERS, SIDEWALKS AND CROSS GUTTERS SHALL BE REPLACED TO CITY OF NATIONAL CITY STANDARDS.
31. ALL SIDEWALKS OR CROSS GUTTERS THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED FROM JOINT TO JOINT OR AS DETERMINED BY CITY OF NATIONAL CITY SENIOR INSPECTOR.
32. PRIOR TO BEGINNING CONSTRUCTION ON THIS PROJECT, SWEETWATER AUTHORITY WILL SUBMIT AND OBTAIN APPROVAL FROM THE CITY OF NATIONAL CITY ON A SEPARATE TRAFFIC CONTROL PLAN.
33. THE DISCHARGE OF NON STORMWATER POLLUTANTS TO THE STORMWATER CONVEYANCE SYSTEM IS PROHIBITED. ALL STORMDRAIN INLETS SHALL BE PROTECTED USING THE STANDARDIZED BEST MANAGEMENT PRACTICES AND THE USE OF GRAVEL BAGS AND/OR OTHER PROTECTIVE BARRICADES. THE SWEETWATER AUTHORITY SHALL BE REQUIRED TO CONSTRUCT, MONITOR, AND MAINTAIN ALL STORM WATER STANDARDIZED BEST MANAGEMENT PRACTICES AT THE SITE.
34. ALL WATER DISCHARGES RESULTING FROM TESTING AND FLUSHING SHALL BE DECHLORINATED PRIOR TO RELEASE IN ANY STORM DRAIN SYSTEM OR WATERCOURSE. ALL SAWCUT SLURRY SHALL BE REMOVED BY USE OF VACUUM.

TRAFFIC CONTROL / DETECTOR LOOPS NOTES

1. SWEETWATER AUTHORITY SHALL LEAVE NO OPEN TRENCHES AT NIGHT OR WEEKENDS, AND TRENCHES SHALL BE BACKFILLED OR COVERED WITH STEEL PLATES AS DIRECTED BY ENGINEER AND THE CITY OF NATIONAL CITY.
2. NO STOCKPILES OF PIPE OR OTHER MATERIAL WILL BE ALLOWED IN TRAVELED RIGHT-OF-WAYS AT ANY TIME, UNLESS OTHERWISE APPROVED BY THE ENGINEER AND THE CITY OF NATIONAL CITY.
3. PROPERTIES ADJACENT TO THE WORK SITE SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF CLOSING OF DRIVEWAYS, ALLEYS, OR EXCAVATIONS IN PUBLIC RIGHT-OF-WAY ADJACENT TO PROPERTIES. THE SWEETWATER AUTHORITY SHALL MAKE EVERY EFFORT TO MINIMIZE THE AMOUNT OF PUBLIC PARKING OR DRIVEWAY AND ALLEY ACCESS TEMPORARILY ELIMINATED DUE TO CONSTRUCTION IN AREAS FRONTING THE PROPERTIES.
4. THE SWEETWATER AUTHORITY MUST SUBMIT FOR REVIEW AND APPROVAL BY THE CITY OF NATIONAL CITY ANY LETTER AND/OR DOOR NOTICES USED TO NOTIFY RESIDENCES OR BUSINESSES OF WORK TO BE DONE IN AREAS FRONTING THEIR PROPERTIES.
5. SWEETWATER AUTHORITY SHALL BE RESPONSIBLE FOR CLEANING OF THE SITE DAILY ON A REGULAR BASIS AND PRIOR TO WEEKENDS FOR CONTROL OF DUST, DIRT, AND DEBRIS.
6. TRAFFIC DETECTOR LOOPS SHALL CONFORM TO THE PROVISIONS OF SECTION 86-5, DETECTORS, OF THE CALTRANS STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.
7. SWEETWATER AUTHORITY SHALL CORE DRILL A WOUND TRAFFIC SIGNAL LOOP USING A 6' DIAMETER CORE BIT WITH DIAMOND IMPREGNATED SEGMENTS, THE SLOTS SHALL BE VERTICAL AND 0.25" WIDE BY 3.0" DEEP. ANY OTHER METHOD SHALL BE SUBMITTED FOR THE CITY OF NATIONAL CITY'S APPROVAL
8. SAWCUT TO THE APPROPRIATE PULL BOX . SAWCUT TO BE 0.25" WIDE AND 3.0" DEEP MINIMUM. IN NO CASE SHALL MINIMUM DEPTH BE GREATER THAN THE DEPTH OF PAVEMENT.
9. ALL CUTS SHALL BE WASHED CLEAN. WATER AND SLURRY SHALL BE VACUUMED OUT OR BLOWN OUT DRY WITH COMPRESSED AIR, LEAVING A CLEAN AND DRY LOOP AREA.
10. ALL LEAD-INS SHALL ENTER THE HAND HOLES AND PULL LOOP AND SHALL BE NUMBERED AND IDENTIFIED.
11. A PREWOUND LOOP WIRE FOR ROUND LOOPS MADE OF DETECTA-DUCT TRAFFIC SIGNAL LOOP WIRE SHALL BE STACKED IN THE CUTS AND SECURED FROM FLOATING BY USE OF 5/8" BACKER ROD. ALL CUTS ARE TO BE SEALED WITH A SEALANT IN ACCORDANCE WITH THE STATE OF CALIFORNIA SPECIFICATION FOR HOT-MELT RUBBERIZED ASPHALT SEALANT 86-5.01a(5) "MAX SEAL3".
12. PREWOUND LOOPS SHALL CONSIST OF 3-6' DIAMETER TURNS OF DETECTA-DUCT LOOP WIRE, LAID 1 LOOP ON TOP OF THE OTHER AND SECURED SO EACH LOOP REMAINS IN PLACE. LOOP "TAILS" THAT RUN TO THE PULL BOX SHALL BE APPROXIMATELY 50'.

LEGEND

DESCRIPTION	STD.	SYMBOL
EXISTING IMPROVEMENTS		
EXISTING CONTOUR LINE		47
EXISTING WATER MAIN (SIZE PER PLAN)		W
EXISTING SEWER MAIN (SIZE PER PLAN)		S
EXISTING GAS MAIN (SIZE PER PLAN)		G
EXISTING OVERHEAD UTILITIES		OE
EXISTING FENCE		X X
PROPOSED IMPROVEMENTS		
PROPERTY LINE		
RIGHT OF WAY		
EASEMENTS		
CENTERLINE OF ROAD		
PROPOSED CONTOUR LINE		47
DRAINAGE SWALE		
SAWCUT OF EXISTING AC PAVEMENT		
GRADE BREAK		
PVC STORM DRAIN		
12" x 12" PLASTIC SQUARE DRAINAGE CATCH BASIN	NDS	
BROOKS BOX (SIZE PER PLAN)	BROOKS OR EQUAL	
ROOF DRAIN		
CURB DRAINAGE OUTLET	SDRSD D-25	
CURB DRAINAGE OUTLET	CURB-O-LET TCD-312	
PCC CURB (SIZE PER PLAN) (SEE DETAIL 3 FOR MODIFIED DESIGN)	SDRSD G-01	
4" PCC PAVEMENT	SDRSD G-07	
AC PAVEMENT (PRIVATE PARKING LOT)		
LANDSCAPED AREA		
BIOFILTRATION BASIN		
TRUNCATED DOMES	SDRSD G-30	
RETAINING WALL	SDRSD C-03	
PROTECTION POST	SDRSD WM-04	
10' DIAMETER TREE	SDRSD L-01	
RIP-RAP ENERGY DISSIPATION		
PROPOSED FENCE		X X
PROPOSED 3" COPPER WATER SERVICE		W RP W W
PROPOSED 8" PVC FIRE SERVICE		FS RPDA F F
PROPOSED 4" SEWER LATERAL		S S S S

ABREVIATION LEGEND:

FL= FLOWLINE
FS= FINISHED SURFACE
FG= FINISHED GRADE
TC= TOP OF CURB
FF = FINISHED FLOOR
TW=TOP OF WALL
BW= BOTTOM OF WALL / TOP OF FOOTER
IE= INVERT ELEVATION
TG= TOP OF GRATE
(FG)= MATCH EX FINISHED GRADE
(FS)= MATCH EX FINISHED SURFACE
(TC)= MATCH EX TOP OF CURB

PASCO LARET SUITER & ASSOCIATES
San Diego | Solana Beach | Orange County
Phone 858.259.8212 | www.plsaengineering.com

PLANS REVIEWED BY:

TAMARA O'NEAL RCE# 69107 — DATE
PLAN CHECK ENGINEER

ENGINEERING DEPARTMENT — DATE
CHARLES NISSLEY

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONAL CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF THESE PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF NATIONAL CITY IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN.

(WILLIAM G MACK, PE 73620) — DATE

REGISTERED PROFESSIONAL ENGINEER
WILLIAM GREGG MACK
No. 73620
Exp. 12/31/22
CIVIL
STATE OF CALIFORNIA

NATIONAL CITY 1887

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET
NOTES

CITY OF NATIONAL CITY

ROBERT YANO RCE# 56292 — DATE
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER

PROJ. #EG22-00249	NAD 83 HORIZ. DATUM
SHEET 2 OF 6 SHEETS	11594- 02 -D

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SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80

HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE CA COORDINATE SYSTEM, CCS83, ZONE 6, 2011.00 EPOCH, AS DETERMINED LOCALLY BY THE CENTERLINE OF ORANGE STREET AS SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS
DATE STARTED: ____
INSPECTOR: ____
DATE COMPLETED: ____

GEOTECHNICAL OF RECORD
PAUL J. DERISI — AGS
NAME — COMPANY
SIGNATURE

CONSTRUCTION SURVEYOR
NAME — COMPANY
SIGNATURE

ENGINEERING DEPARTMENT

	BY	APPROVED	DATE
AS-BUILT			
REVISIONS			

SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL
BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
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CONSTRUCTION RECORDS

DATE STARTED:

INSPECTOR:

DATE COMPLETED:

GEOTECHNICAL OF RECORD

PAUL J. DERISI — AGS

NAME — COMPANY

SIGNATURE

CONSTRUCTION SURVEYOR

NAME — COMPANY

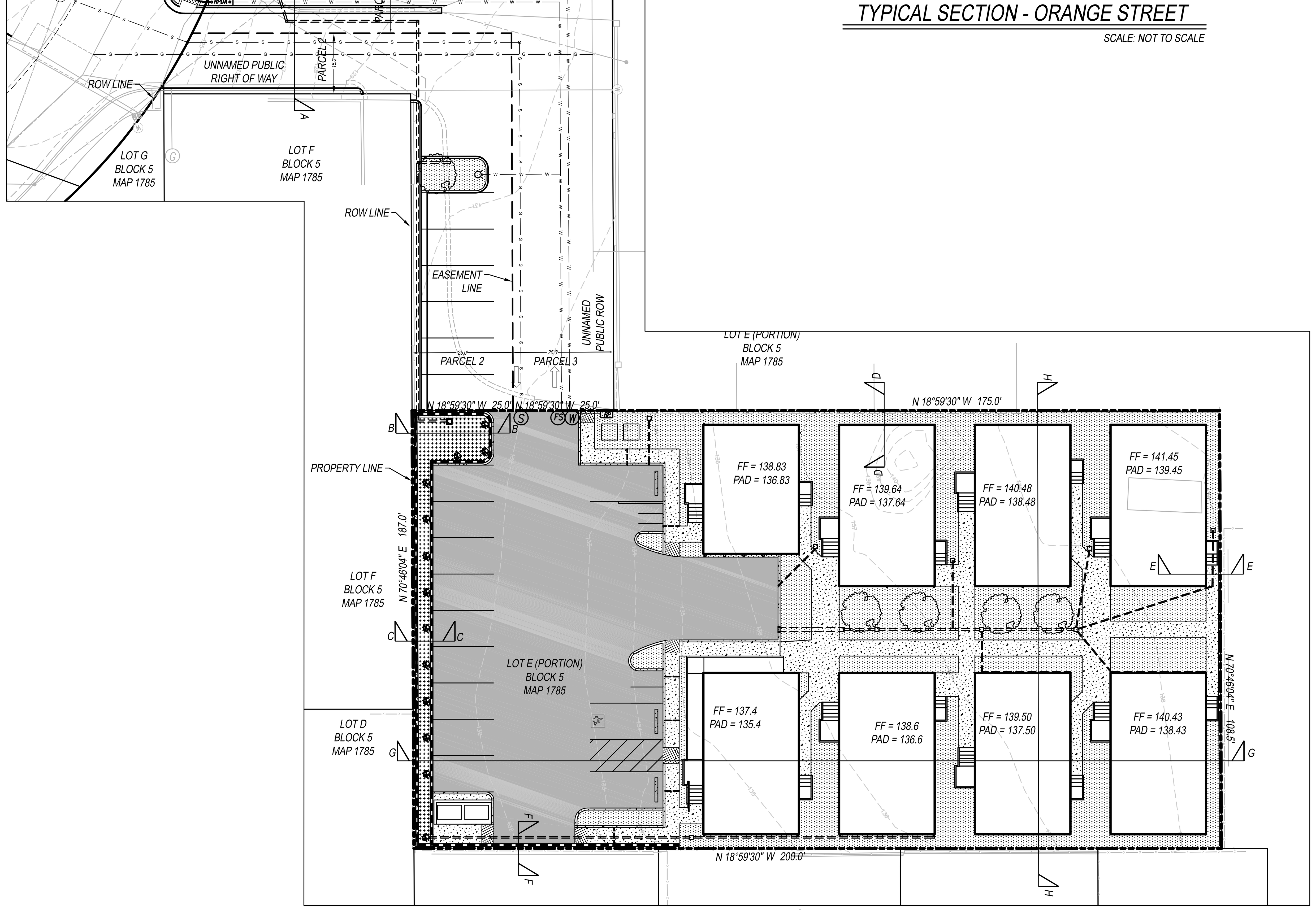
SIGNATURE

ENGINEERING DEPARTMENT

AS-BUILT

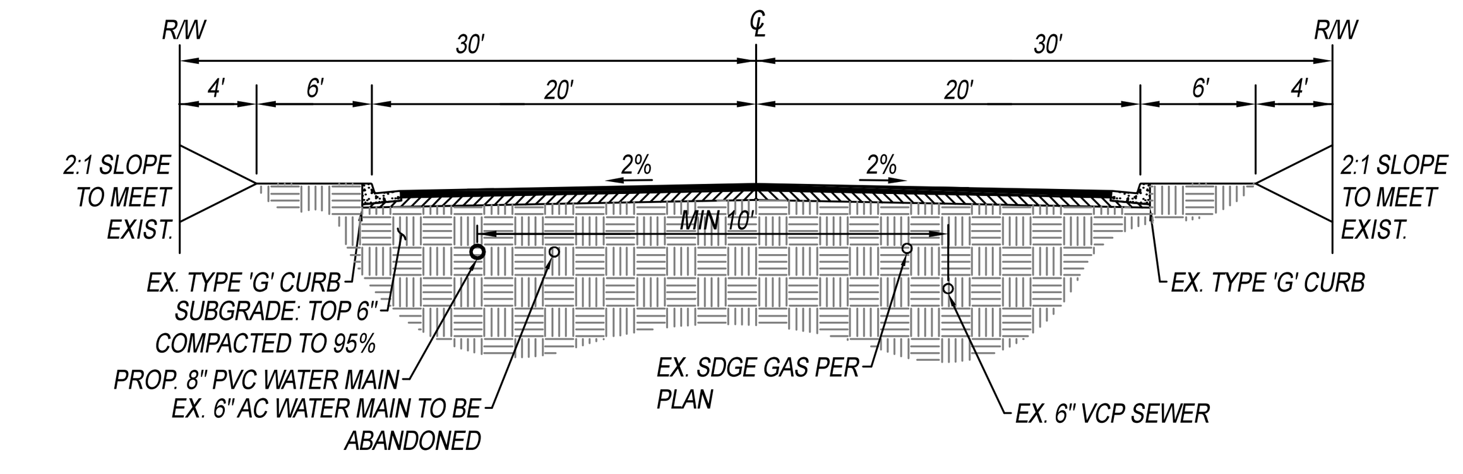
REVISIONS

BY | APPROVED | DATE



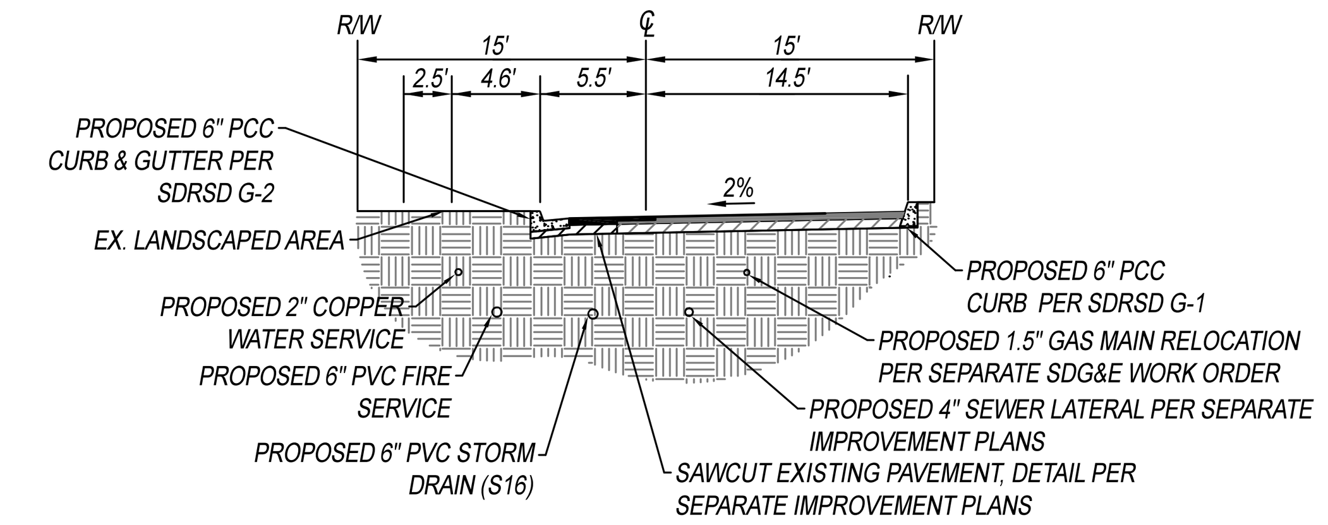
KEY MAP

SCALE: 1" = 20' HORIZONTAL



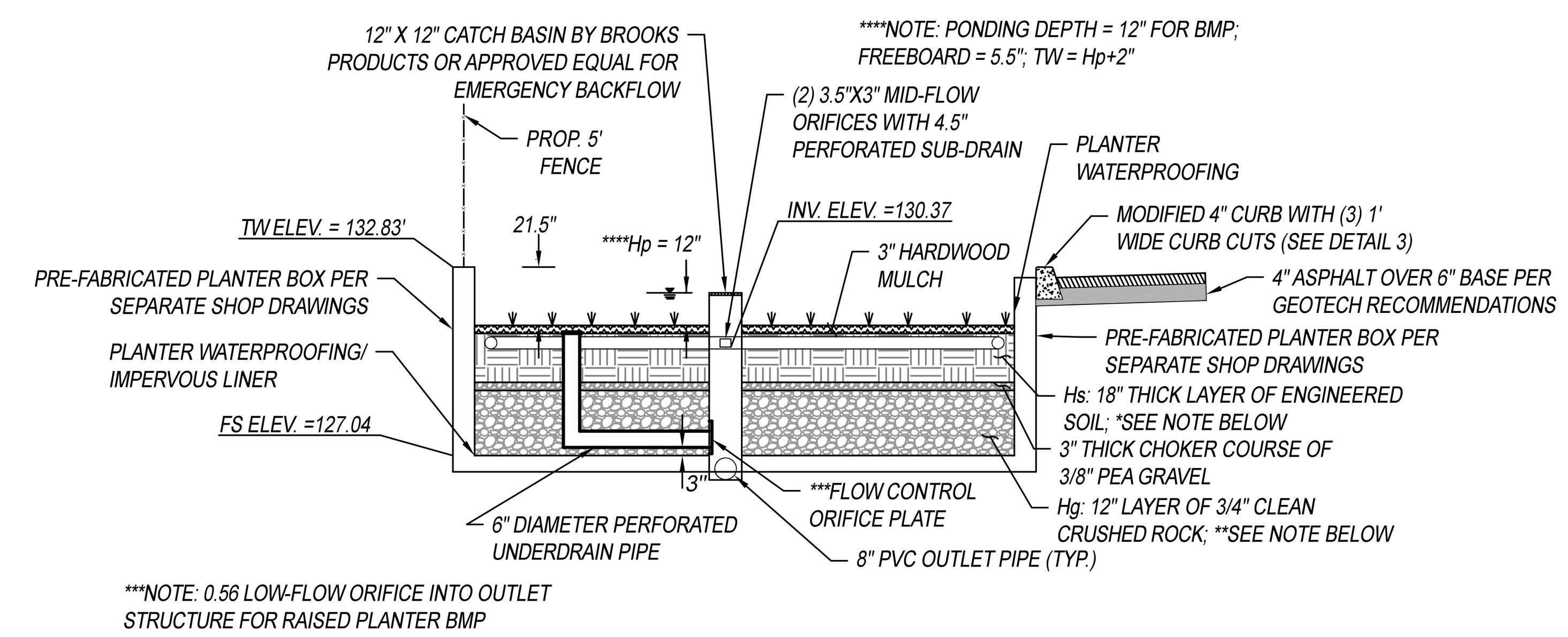
TYPICAL SECTION - ORANGE STREET

SCALE: NOT TO SCALE



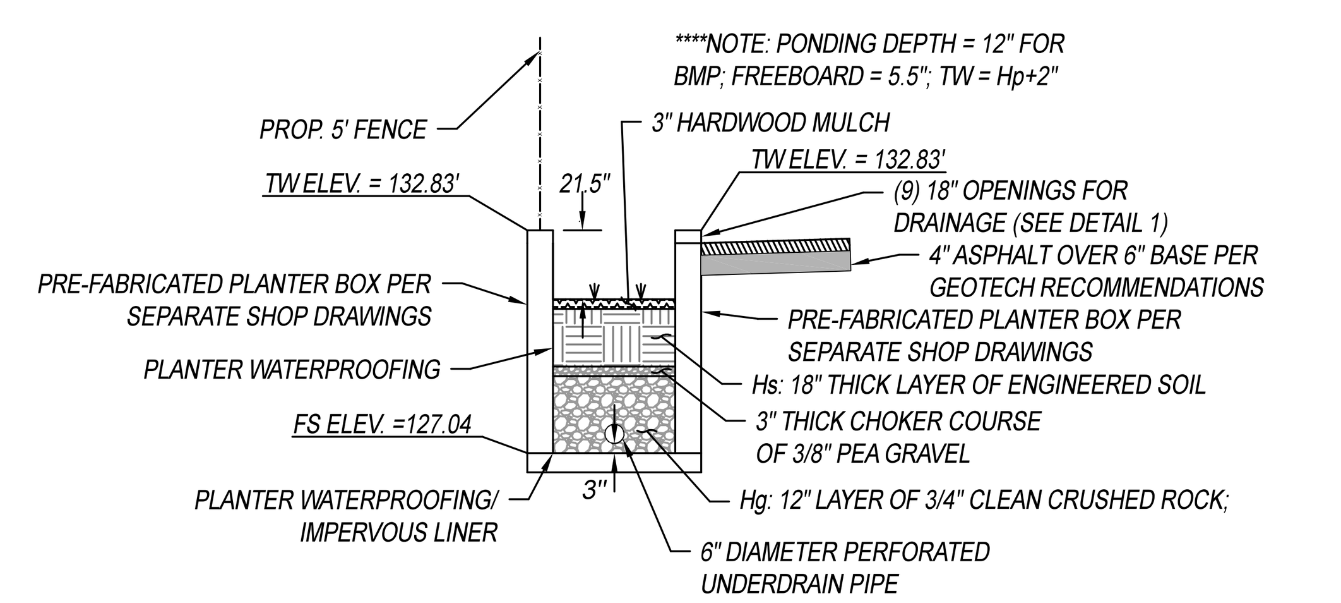
SECTION A-A: UNNAMED PUBLIC ROW

SCALE: NOT TO SCALE



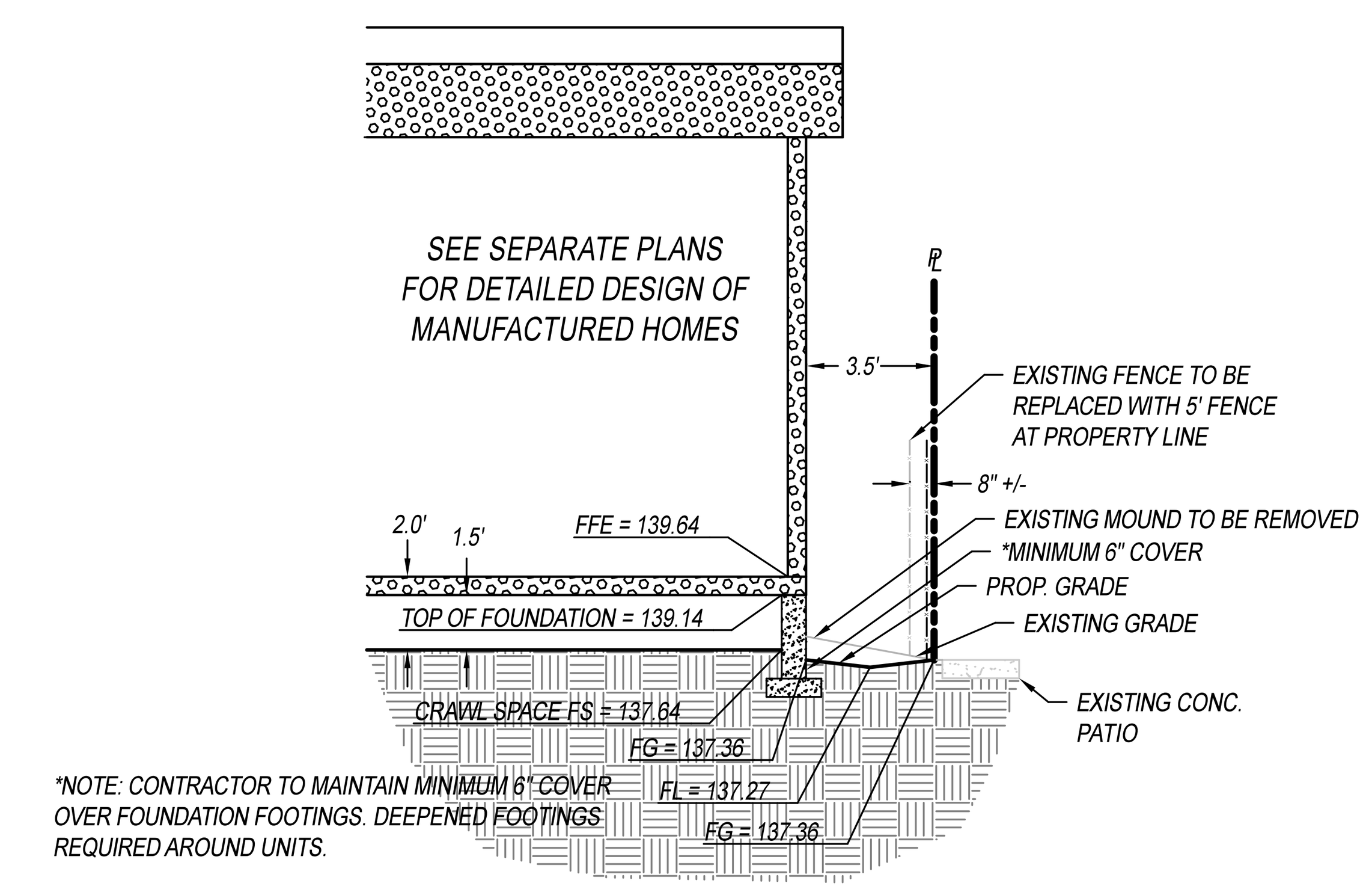
SECTION B-B: SITE CROSS SECTION

SCALE: NOT TO SCALE



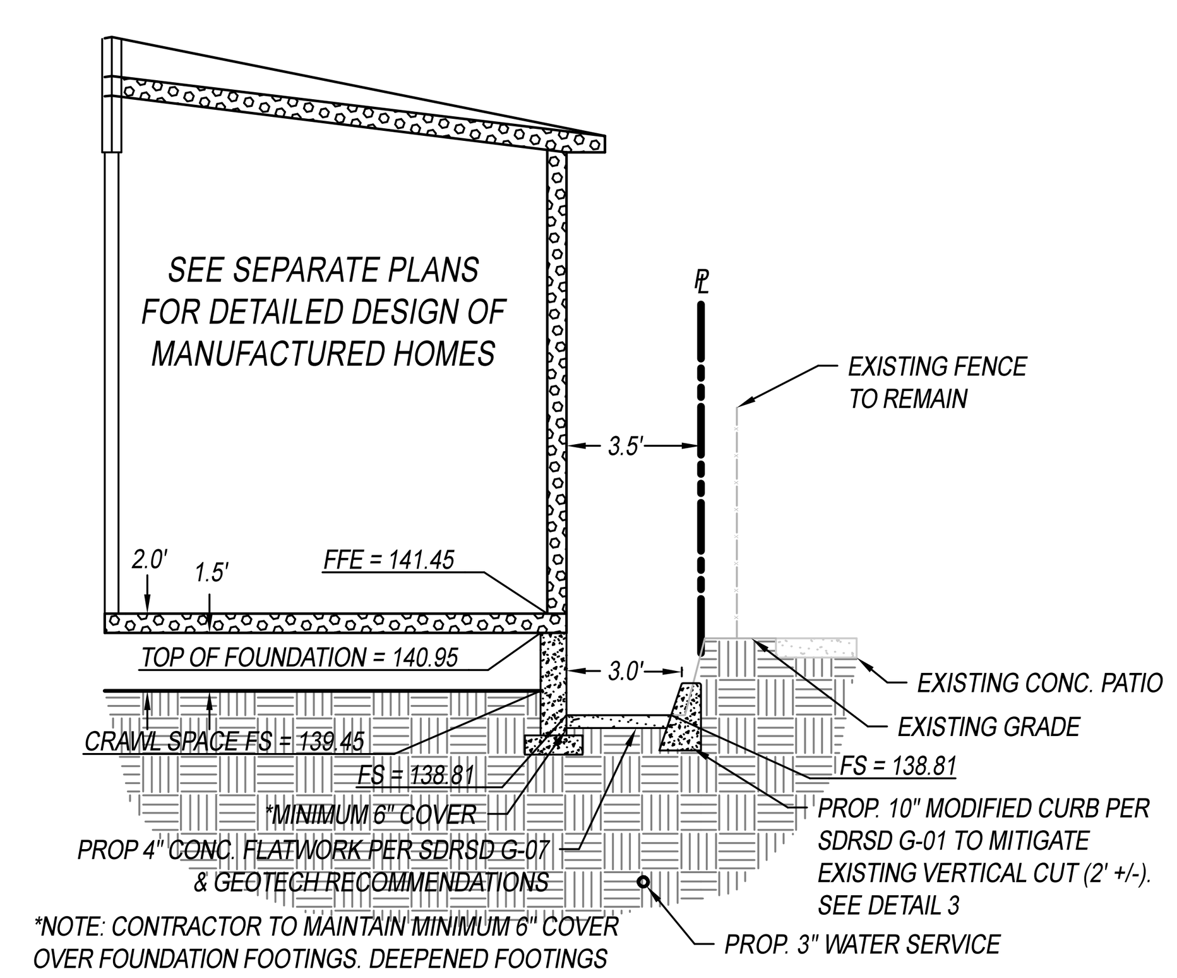
SECTION C-C: SITE CROSS SECTION

SCALE: NOT TO SCALE



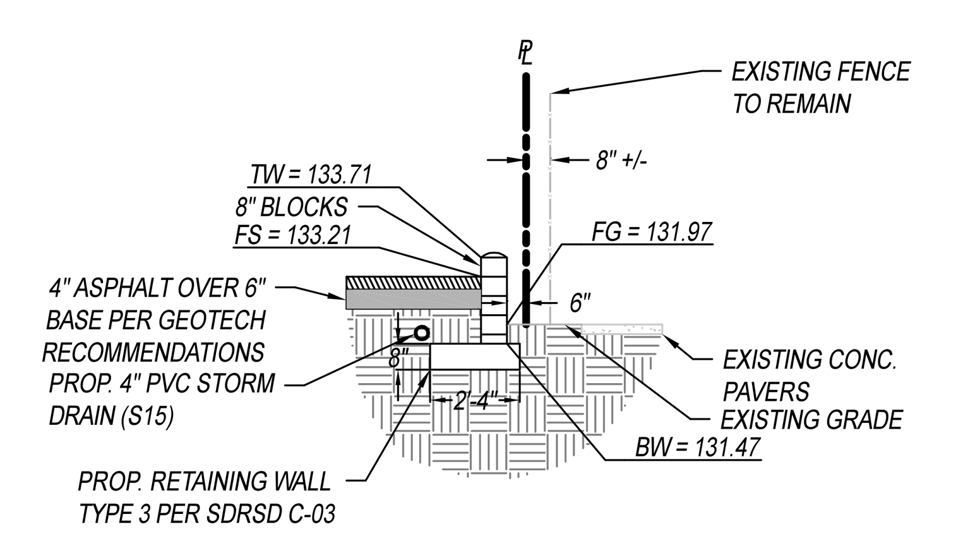
SECTION D-D: SITE CROSS SECTION

SCALE: NOT TO SCALE



SECTION E-E: SITE CROSS SECTION

SCALE: NOT TO SCALE



SECTION F-F: SITE CROSS SECTION

SCALE: NOT TO SCALE

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PLANS REVIEWED BY:

TAMARA O'NEAL RCE# 69107 — DATE
PLAN CHECK ENGINEER

ENGINEERING DEPARTMENT — DATE
CHARLES NISSLEY

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONAL CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF NATIONAL CITY IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN.

(WILLIAM G MACK, PE 73620) — DATE

REGISTERED PROFESSIONAL ENGINEER — WILLIAM GREGG MACK — No. 73620 — Exp. 12/31/22 — CIVIL — STATE OF CALIFORNIA

NATIONAL CITY

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET
SECTIONS AND KEY MAP

CITY OF NATIONAL CITY

ROBERT YANO RCE# 56292 — DATE
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER

PROJ. #EG22-00249 | NAD 83 HORIZ. DATUM

SHEET 3 OF 6 SHEETS | 11594-03-D

SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL
BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB
LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND
EL TORDO AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80

HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE
CENTERLINE OF 16TH STREET, BEING N 18°59'30" W, AS
DETERMINED BY THE CENTERLINE OF ORANGE STREET AS
SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS

DATE STARTED:

INSPECTOR:

DATE COMPLETED:

GEOTECHNICAL OF RECORD

PAUL J. DERISI — AGS
NAME — COMPANY
SIGNATURE

CONSTRUCTION SURVEYOR

NAME — COMPANY
SIGNATURE

ENGINEERING DEPARTMENT

	BY	APPROVED	DATE
AS-BUILT			
REVISIONS			

SITE NOTES

1. EXISTING SURVEY MONUMENTS TO BE PROTECTED IN PLACE. IF MONUMENT IS DISTURBED OR DESTROYED, IT SHALL BE REPLACED BY A LICENSED LAND SURVEYOR AND A CORNER RECORD OF SURVEY SHALL BE FILED WITH THE COUNTY.
2. ALL UTILITIES SHOWN HEREON PER BEST AVAILABLE RECORD INFORMATION. CONTRACTOR SHALL VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD OF DISCREPANCIES UPON DISCOVERY.
3. ALL EXISTING ONSITE STRUCTURES AND IMPROVEMENTS TO BE DEMOLISHED
4. ALL EXISTING ONSITE TREES AND VEGETATION TO BE REMOVED UNLESS OTHERWISE NOTED
5. NO GRADING SHALL OCCUR OUTSIDE THE LIMITS OF THE APPROVED GRADING PLAN UNLESS PRIOR WRITTEN AUTHORIZATION IS OBTAINED FROM THE CITY AND THE OWNERS OF OTHER AFFECTED PROPERTIES.
6. AC PAVEMENT SHALL BE 4" AC OVER 6" CLASS II AB MINIMUM OR PER GEOTECHNICAL RECOMMENDATIONS. AC SHALL BE PG64-10 HOT MIX.

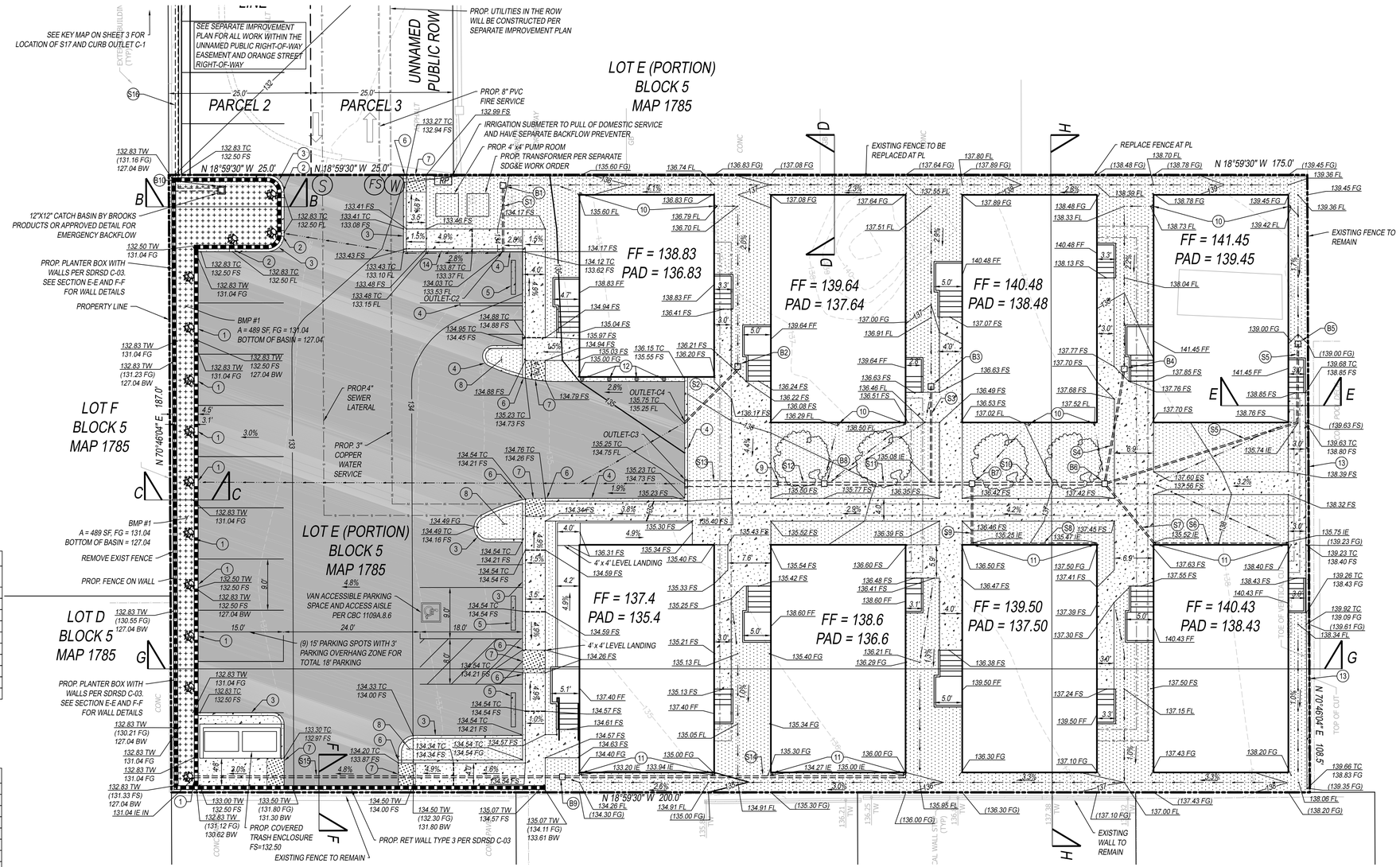
CONSTRUCTION NOTES

1. 18"x4" RETAINING WALL OPENING FOR FLOW PATH WITH RIP RAP ENERGY DISSIPATION (SEE DETAIL 1)
2. 12" WIDE CURB CUTS FOR FLOW PATH WITH RIP RAP ENERGY DISSIPATION
3. PROPOSED 4" MODIFIED CURB PER SDRSD G-01 (SEE DETAIL 3)
4. PROPOSED 6" CURB PER SDRSD G-01
5. PROPOSED 4" WHEEL STOP
6. TRANSITION WALKWAY TO MATCH RAISED CURB
7. PROPOSED TRUNCATED DOMES PER SDRSD G-30
8. LANDSCAPED MEDIAN
9. CURB-O-LET STRAIGHT ADAPTER (SEE DETAIL 4)
10. PROPOSED ROOF GUTTER DOWNSPOUT TO OUTLET AT GRADE (SEE DETAIL 2)
11. PROPOSED ROOF GUTTER DOWNSPOUT WITH DIRECT CONNECTION TO STORM DRAIN (SEE DETAIL 2)
12. PROPOSED PROTECTION POSTS PER SDRSD VIM-04
13. PROPOSED 10" MODIFIED CURB PER SDRSD G-01 (SEE DETAIL 3)
14. TRANSITION FROM 4" TO 6" CURB

CATCH BASIN DATA						
ITEM	SIZE	MODEL	TYPE	TOP OF GRATE INVERT ELEVATION	I.E. IN	I.E. OUT
B1	12"x12"	NDS	SQUARE PLASTIC	134.00'	NA	133.53' ~ S1
B2	12"x12"	NDS	SQUARE PLASTIC	136.15'	NA	135.38' ~ S2
B3	12"x12"	NDS	SQUARE PLASTIC	136.54'	NA	135.24' ~ S3
B4	12"x12"	NDS	SQUARE PLASTIC	137.71'	NA	135.60' ~ S4
B5	12"x12"	NDS	SQUARE PLASTIC	138.91'	NA	135.90' ~ S5
B6	12"x12"	NDS	SQUARE PLASTIC	137.39'	135.41' ~ S4/S5/S7	135.39' ~ S10
B7	12"x12"	NDS	SQUARE PLASTIC	136.35'	135.17' ~ S9/S10	135.15' ~ S11
B8	12"x12"	NDS	SQUARE PLASTIC	135.70'	134.92' ~ S11	134.90' ~ S12
B9	12"x12"	NDS	SQUARE PLASTIC	134.23'	133.10' ~ S14	133.07' ~ S15
B10	12"x12"	BROOKS	CONCRETE	132.04'	NA	126.54' ~ S16

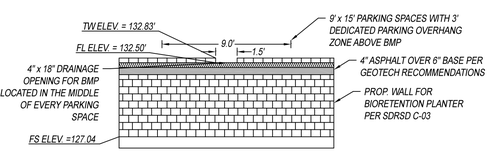
STORM DRAIN DATA							
ITEM	TYPE	SIZE	COMMENTS	SLOPE (%)	LENGTH (FT)	I.E. UP	I.E. DOWN
S1	PVC	3" DIAM	-	0.5%	11.2'	133.59'	133.53'
S2	PVC	3" DIAM	-	1.0%	13.5'	135.38'	135.25'
S3	PVC	3" DIAM	-	1.0%	16.3'	135.24'	135.08'
S4	PVC	3" DIAM	-	1.0%	19.4'	135.60'	135.41'
S5	PVC	3" DIAM	-	1.0%	48.5'	135.90'	135.41'
S6	PVC	3" DIAM	-	1.0%	23.3'	135.75'	135.52'
S7	PVC	3" DIAM	-	1.0%	13.1'	135.52'	135.41'
S8	PVC	3" DIAM	-	1.0%	21.9'	135.47'	135.25'
S9	PVC	3" DIAM	-	1.0%	10.0'	135.25'	135.17'
S10	PVC	6" DIAM	-	1.0%	22.3'	135.39'	135.17'
S11	PVC	6" DIAM	-	1.0%	24.9'	135.15'	134.92'
S12	PVC	6" DIAM	-	0.5%	7.6'	134.90'	134.86'
S13	TCD-312	3" x 12"	CURB-O-LET OUTLET	0.7%	15.9'	134.86'	134.75'
S14	PVC	4" DIAM	-	3.2%	59.8'	135.00'	133.10'
S15	PVC	4" DIAM	-	3.2%	64.2'	133.10'	131.04'
S16	PVC	6" DIAM	-	1.6%	165.2'	126.54'	123.83'
S17	TCD-312	3" x 12"	CURB-O-LET OUTLET	2.1%	9.1'	123.83'	123.64'

CURB OUTLET DATA (PRIVATE)						
ITEM	TYPE	MODEL	OUTLET SIZE	Q100 (CFS)	V100 (FPS)	IE. OUT
C1	CURB-O-LET	TCD-312	12" WIDTH x 3" HEIGHT	0.90	3.60	123.64'
C2	SDRSD	D-27	3" DIAM	0.08	1.63	133.53'
C3	CURB-O-LET	TCD-312	12" WIDTH x 3" HEIGHT	0.87	3.48	134.75'
C4	SDRSD	D-27	3" DIAM	0.07	1.43	135.25'



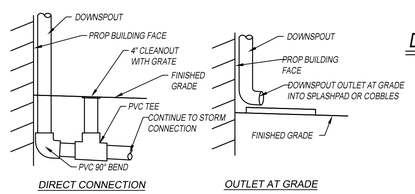
PLAN VIEW - GRADING PLAN

SCALE: 1" = 10' HORIZONTAL



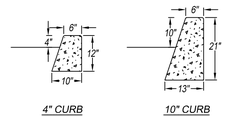
DETAIL 1: PARKING OVERHANG WALL OPENINGS

SCALE: NOT TO SCALE



DETAIL 2: DOWNSPOUT CONNECTION DETAILS

SCALE: NOT TO SCALE



DETAIL 3: MODIFIED CURB DETAILS

SCALE: NOT TO SCALE

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NOTE: SEE SEPARATE IMPROVEMENT PLAN FOR ALL WORK WITHIN THE UNNAMED PUBLIC RIGHT-OF-WAY, EASEMENT AND ORANGE STREET RIGHT-OF-WAY.

RETAINING WALL NOTE: TW AND BW AS SHOWN ON THIS SHEET DENOTES TOP OF WALL AND BOTTOM OF WALL / TOP OF FOOTER.

PLANS REVIEWED BY:

TAMARA O'NEAL RCE# 69107
PLAN CHECK ENGINEER — DATE

ENGINEERING DEPARTMENT
CHARLES NISSLEY — DATE

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(WILLIAM G MACK, PE 73620) — DATE

REGISTERED PROFESSIONAL ENGINEER WILLIAM GREGG MACK No. 73620 Exp. 12/31/22 CIVIL STATE OF CALIFORNIA

PASCO LARET SUITER & ASSOCIATES
San Diego | Solana Beach | Orange County
Phone 858.259.8212 | www.plsaengineering.com

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET
PRECISE GRADING PLAN

CITY OF NATIONAL CITY

ROBERT YANO RCE# 56292 — DATE
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER

PROJ. #EG22-00249 | NAD 83 HORIZ. DATUM

SHEET 4 OF 6 SHEETS | 11594-04-D

PRECISE GRADING PLANS — CITY OF NATIONAL CITY — ORANGE STREET RESIDENCES

PRECISE GRADING PLANS – CITY OF NATIONAL CITY – ORANGE STREET RESIDENCES

SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL
BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB
LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND
EULATO AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80

HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE NORTH AMERICAN DATUM OF 1983 (2011) CALIFORNIA COORDINATE SYSTEM, ZONE 6, EPOCH 2010.00. DETERMINED BY THE CENTERLINE OF ORANGE STREET AS SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS

DATE STARTED:

INSPECTOR:

DATE COMPLETED:

GEOTECHNICAL OF RECORD

AGS
COMPANY

PAUL J. DERISI
NAME

SIGNATURE

CONSTRUCTION SURVEYOR

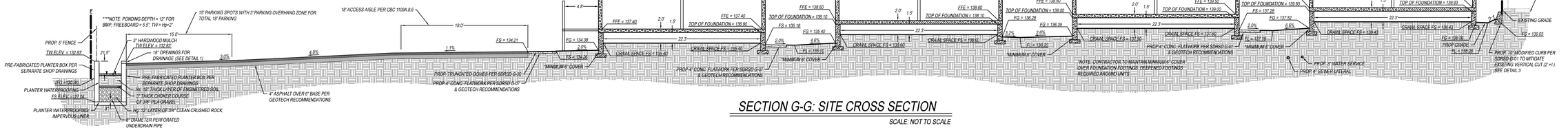
COMPANY

NAME

SIGNATURE

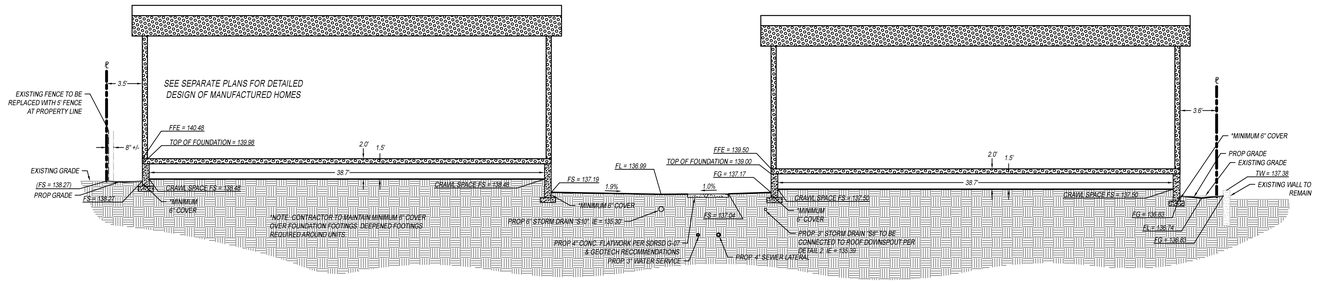
	DATE	APPROVED	BY
AS-BUILT			
REVISIONS			

ENGINEERING DEPARTMENT

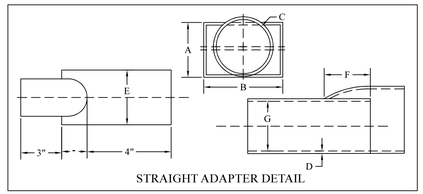


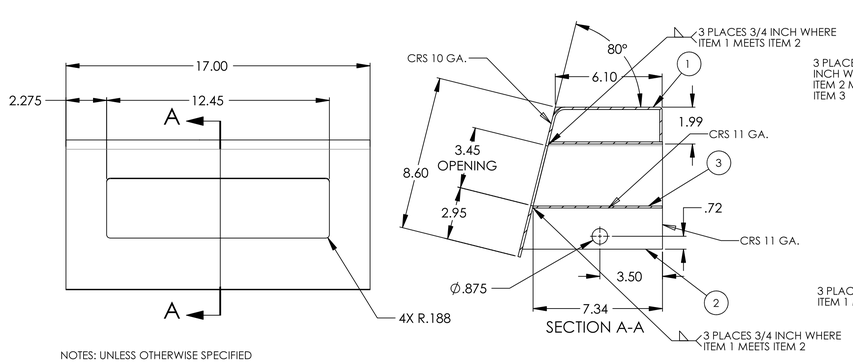
SECTION G-G: SITE CROSS SECTION

SCALE: NOT TO SCALE



SECTION H-H: SITE CROSS SECTION





NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: NOTED.
2. FINISH: AFTER ASSEMBLY.
3. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

4 INSTALLATION: FOR 6 INCH CURB, INVERT OF CURB-O-LET TO BE 1/2 INCH ABOVE FLOW LINE ±1/4 INCH, FOR 8 INCH CURBS, BOTTOM OF CURB-O-LET TO BE INBEDDED IN CONCRETE ±1/4 INCH.

5 STAMP COMPANY NAME IN 3/4" HIGH LETTERS APPROXIMATELY WHERE SHOWN, .02-.04 DEEP.

DETAIL 4: CURB-O-LET CURB OUTLET & ADAPTER

SCALE: NOT TO SCALE

PRODUCT SPECIFICATION - STRAIGHT ADAPTER

PRODUCT LIST				PRODUCT DIMENSIONS						
ROUND EQUIV	DIMENSIONS	MODEL	ROUND TRANSVERSE AREA (SQ. IN.)	A	B	C	D	E	F	G
4"	3"x5"x9"	CP-SPA05	12.724	3.269"	5.269"	4.5"	10 GA.	5"	2"	3"
5"	3"x8"x11"	CP-SPA08	20.040	3.269"	8.269"	5.563"	10 GA.	8"	4"	3"
6"	3"x12"x13"	CP-SPA12	28.886	3.269"	12.269"	6.625"	10 GA.	12'	6"	3"
8"	4"x14"x15"	CP-SPA14	50.014	4.269"	14.269"	8.625"	10 GA.	14"	8"	4"
8"	3"x17"x15"	CP-SPA17	50.014	3.269"	17.269"	8.625"	10 GA.	17"	8"	3"
10"	3"x27"x17"	CP-SPA27	78.814	3.269"	27.269"	10.625"	10 GA.	27"	10"	3"
10"	4"x22"x17"	CP-SPA22	78.814	4.269"	22.269	10.625"	10 GA.	22"	10"	4"

MATERIAL: 10 GAUGE GALVANIZED A653 G90 MEETS ASTM A-653. TENSILE STRENGTH 50,000.0 YIELD 36,000.
ALL WELDS WILL BE SPRAYED, ROLLED OR BRUSHED WITH GALVANIZED #90 COATING.
RECTANGULAR CONNECTION: MASTIC, CAULKING, EPOXY BINDING OR OTHER APPROVED METHOD.
ROUND CONNECTION: CAST IRON/PLASTIC PIPE CONNECTION USE CAST IRON OR PLASTIC TO STEEL COUPLINGS.

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PLANS REVIEWED BY:

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ENGINEERING DEPARTMENT
CHARLES NISSLEY — DATE

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(WILLIAM G MACK, PE 73620) — DATE

REGISTERED PROFESSIONAL ENGINEER
WILLIAM GREGG MACK
No. 73620
Exp. 12/31/22
CIVIL
STATE OF CALIFORNIA

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PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET
SECTIONS AND DETAILS

CITY OF NATIONAL CITY

ROBERT YANO RCE# 56292
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER — DATE

PROJ. #EG22-00249 | NAD 83 HORIZ. DATUM

SHEET 5 OF 6 SHEETS | 11594-05-D

SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL
BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB
LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND
LUDLOW AVENUE ELEVATION: 100.80
DATUM: MSL (NGVD 29)

HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE
COORDINATE SYSTEM, NAD83, ZONE VI, 2017 EPOCH AS
DETERMINED BY THE CITY OF NATIONAL CITY GPS NETWORK AS
SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS

DATE STARTED:

INSPECTOR:

DATE COMPLETED:

GEOTECHNICAL OF RECORD

PAUL J. DERISI — AGS
NAME — COMPANY

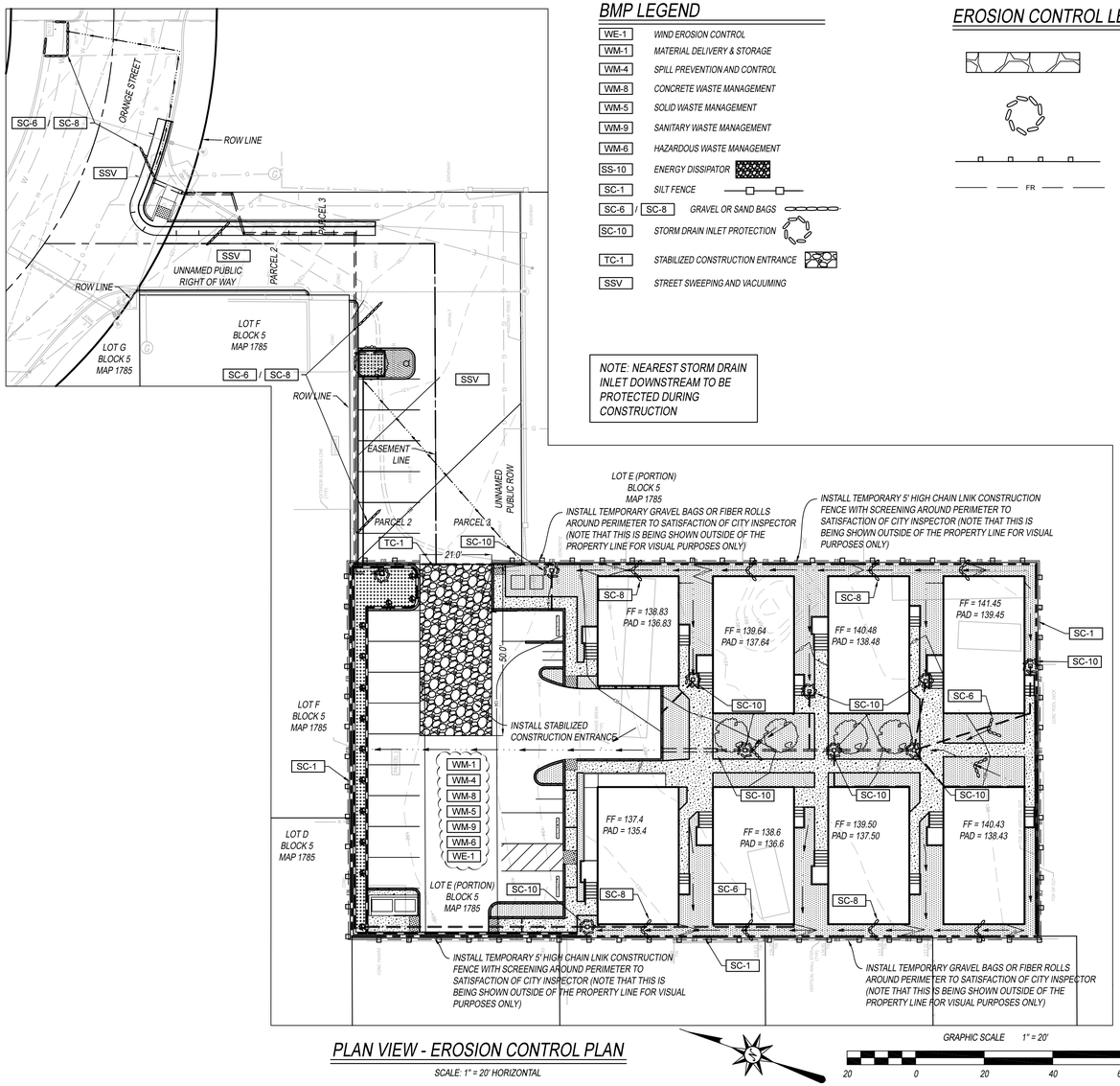
SIGNATURE

CONSTRUCTION SURVEYOR

NAME — COMPANY

SIGNATURE

	BY	APPROVED	DATE
ENGINEERING DEPARTMENT			
AS-BUILT			
REVISIONS			



GRAPHIC SCALE 1" = 20'
20 0 20 40 60

PLAN VIEW - EROSION CONTROL PLAN

SCALE: 1" = 20' HORIZONTAL

NOTE: NEAREST STORM DRAIN INLET DOWNSTREAM TO BE PROTECTED DURING CONSTRUCTION

BMP LEGEND

WE-1	WIND EROSION CONTROL
WM-1	MATERIAL DELIVERY & STORAGE
WM-4	SPILL PREVENTION AND CONTROL
WM-8	CONCRETE WASTE MANAGEMENT
WM-5	SOLID WASTE MANAGEMENT
WM-9	SANITARY WASTE MANAGEMENT
WM-6	HAZARDOUS WASTE MANAGEMENT
SS-10	ENERGY DISSIPATOR
SC-1	SILT FENCE
SC-6 / SC-8	GRAVEL OR SAND BAGS
SC-10	STORM DRAIN INLET PROTECTION
TC-1	STABILIZED CONSTRUCTION ENTRANCE
SSV	STREET SWEEPING AND VACUUMING

EROSION CONTROL LEGEND

CONSTRUCTION ENTRANCE PER DETAIL A

GRAVEL BAGS PER DETAIL B

SILT FENCE PER DETAIL C

FIBER ROLLS PER DETAIL D

SILTATION AND SEDIMENT CONTROL NOTES

1. A SEDIMENT BASIN SHALL BE PROVIDED AT THE LOWER END OF EVERY DRAINAGE AREA PRODUCING SEDIMENT RUNOFF. THE BASIN SHALL BE MAINTAINED AND LEANED TO DESIGN CONTOURS AFTER EVERY RUNOFF PRODUCING RAINFALL. THE BASINS SHOULD BE SEMI PERMANENT STRUCTURES THAT WOULD REMAIN UNTIL SOIL STABILIZING VEGETATION HAS BECOME WELL ESTABLISHED ON ALL ERODIBLE SLOPES.
2. SEDIMENTATION BASINS MAY NOT BE REMOVED OR MADE INOPERATIVE WITHOUT PRIOR APPROVAL OF THE CITY ENGINEER.
3. SEWER OR STORM DRAIN TRENCHES THAT ARE CUT THROUGH BASIN DIKES OR BASIN INLET DIKES SHALL BE PLUGGED WITH GRAVEL BAGS FROM TOP OF PIPE TO TOP OF DIKE.
4. ALL UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF GRAVEL BAGS AT THE TOP OF THE TRENCH AND TWO (2) GRAVEL BAGS BELOW THE GRADED SURFACE OF THE STREET. GRAVEL BAGS ARE TO BE PLACED WITH LAP COURSES. THE INTERVALS PRESCRIBED BETWEEN GRAVEL BAG BLOCKING SHALL DEPEND ON THE SLOPE OF THE GROUND, SURFACE, BUT NOT EXCEED THE FOLLOWING:

GRADE OF THE STREET	
LESS THAN 2%	AS REQUIRED
2% TO 4	100 FEET
4% TO 10%	50 FEET
OVER 10%	25 FEET

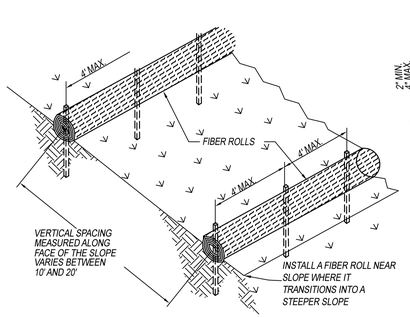
5. AFTER UTILITY TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCHES SHALL BE MOUNDED SLIGHTLY TO PREVENT CHANNELING OF WATER IN THE TRENCH AREA. CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTER LINE OF A CROWNED STREET.
6. ALL BUILDING PADS SHOULD BE SLOPED TOWARD THE DRIVEWAYS AND VELOCITY CHECK DAMS PROVIDED AT THE BASE OF ALL DRIVEWAYS DRAINING INTO THE STREET.
7. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS INDICATED BELOW.

GRADE OF THE CHANNEL	
LESS THAN 3%	100 FT
3% TO 6%	50 FEET
OVER 6%	25 FEET

8. PROVIDE VELOCITY CHECK DAMS IN ALL PAVED STREET AREAS AT THE INTERVAL INDICATED ABOVE. VELOCITY CHECK DAMS MAY BE CONSTRUCTED OF GRAVEL BAGS, TIMBER, OR OTHER MATERIAL APPROVED BY THE CITY ENGINEER, AND SHALL EXTEND COMPLETELY ACROSS THE STREET OR CHANNEL AT RIGHT ANGLES TO THE CENTERLINE. VELOCITY CHECK DAMS MAY ALSO SERVE AS SEDIMENT TRAPS.
9. PROVIDE A GRAVEL BAG, SILT BASIN OR TRAP OR OTHER CITY APPROVED DEVICE BY EVERY STORM DRAIN INLET TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM.
10. GRAVEL BAG AND FILL MATERIALS SHALL BE STOCKPILED AT INTERVALS, READY FOR USE WHEN REQUIRED.
11. ALL EROSION CONTROL DEVICES WITHIN THE DEVELOPMENT SHALL BE MAINTAINED DURING AND AFTER EACH RUN-OFF PRODUCING RAINFALL. IF POSSIBLE, MAINTENANCE CREWS WOULD BE REQUIRED TO HAVE ACCESS TO ALL AREAS.
12. PROVIDE ROCK RIP RAP ON CURVES AND AT STEEP DROPS IN ALL EROSION PRONE DRAINAGE CHANNELS DOWNSTREAM FROM THE DISTURBED AREA. THIS PROTECTION WOULD REDUCE EROSION CAUSED BY THE INCREASED FLOWS THAT MAY BE ANTICIPATED FROM DENUDED SLOPES, OR FROM IMPERVIOUS SURFACES.
13. THE CITY ENGINEER MUST APPROVE ANY ALTERNATE CONTROL MEASURE IN ADVANCE OF LAND DISTURBANCE.
14. THE MATERIALS RESULTING FROM THE SAW CUTTING AND GRINDING OF CONCRETE AND ASPHALT CONCRETE SHALL BE VACUUMED AND DISPOSED OF TO A PROPER SITE, AS APPROVED BY THE CITY ENGINEER.
15. DURING THE CONSTRUCTION PERIOD, THE NUISANCE MATERIALS ON THE STREETS AND IN THE GUTTER SHALL BE ENTIRELY SWEPT, VACUUMED AND DISPOSED OF INTO A PROPER SITE, AS APPROVED BY THE CITY ENGINEER.

PERMANENT STORM WATER BMP NOTES

1. LANDSCAPED AREAS SHALL BE DESIGNED IN ACCORDANCE WITH WATER EFFICIENT LANDSCAPE ORDINANCE REQUIREMENTS.
2. ROOF DRAINAGE SHALL BE DIRECTED TO LANDSCAPED AREAS OR RAIN BARRELS.
3. WALKWAYS SHALL BE DESIGNED TO DRAIN TO ADJACENT LANDSCAPED OR NATURAL AREAS OR CONSTRUCTED USING PERMEABLE MATERIALS.
4. STREETS, SIDEWALKS, AND PARKING LOT AISLES SHALL BE CONSTRUCTED TO THE MINIMUM WIDTH NECESSARY, PROVIDED PUBLIC SAFETY IS NOT COMPROMISED.
5. EXISTING TREES AND NATURAL AREAS, INCLUDING BUT NOT LIMITED TO NATURAL WATER BODIES AND NATURAL STORAGE RESERVOIRS AND DRAINAGE CORRIDORS (E.G., TOPOGRAPHIC DEPRESSIONS, NATURAL SWALES, AND AREAS OF NATURALLY PERMEABLE SOILS), SHALL BE CONSERVED OR OTHERWISE PROTECTED TO THE EXTENT FEASIBLE.
6. THE IMPERVIOUS FOOTPRINT, INCLUDING ROOFED AREAS AND PAVED AREAS, OF THE PROJECT SHALL BE MINIMIZED TO THE EXTENT APPLICABLE AND FEASIBLE.
7. DUMPSTERS, OTHER TRASH RECEPTACLES, AND WASTE COOKING OIL CONTAINERS SHALL BE STORED INSIDE BUILDINGS OR IN FOUR-SIDED ENCLOSURES WITH A STRUCTURAL OVERHEAD CANOPY DESIGNED TO PREVENT PRECIPITATION FROM CONTACTING MATERIALS STORED IN THE ENCLOSURE.
8. ONSITE STORM DRAINS SHALL BE STENCILED OR OTHERWISE PERMANENTLY LABELED WITH "NO DUMPING, DRAINS TO OCEAN" OR OTHER EQUIVALENT LANGUAGE APPROVED BY THE CITY.
9. OUTDOOR MATERIAL STORAGE AREAS AND OUTDOOR WORK AREAS SHALL BE PROTECTED FROM RAINFALL, RUN-ON AND WIND DISPERSAL

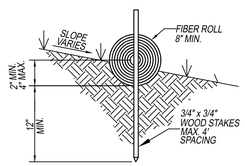


TYPICAL FIBER ROLL INSTALLATION

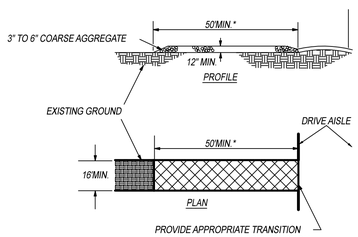
N.T.S.

DETAIL B: FIBER ROLLS

NOT TO SCALE



FIBER ROLL SPACING (PLACED ON LEVEL CONTOURS)	
SLOPE INCLINATION	HORIZONTAL INTERVAL
4:1 (H:V) OR FLATTER	20 FEET (MAXIMUM)
BETWEEN 4:1 AND 2:1 (H:V)	15 FEET (MAXIMUM)
2:1 (H:V) OR STEEPER	10 FEET (MAXIMUM)

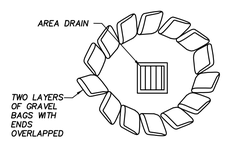


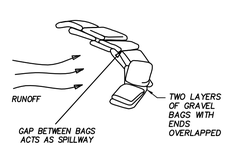
PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC RIGHT-OF- WAY

*LESSER DISTANCE ALLOWED WITH CITY INSPECTOR APPROVAL

DETAIL A: CONSTRUCTION ENTRANCE

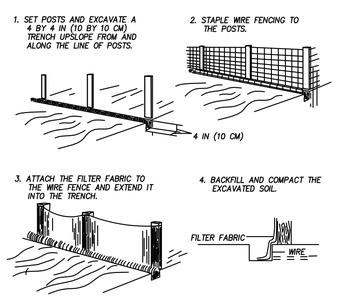
NOT TO SCALE





DETAIL B: GRAVEL BAGS

NOT TO SCALE



DETAIL C: SILT FENCE

NOT TO SCALE

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PLANS REVIEWED BY:

TAMARA O'NEAL RCE# 69107
PLAN CHECK ENGINEER — DATE

ENGINEERING DEPARTMENT
CHARLES NISSLEY — DATE

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONAL CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF THESE PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF NATIONAL CITY IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN.

(WILLIAM G MACK, PE 73620) — DATE

REGISTERED PROFESSIONAL ENGINEER
WILLIAM GREGG MACK
No. 73620
Exp. 12/31/22
CIVIL
STATE OF CALIFORNIA

PASCO LARET SUITER & ASSOCIATES
San Diego | Solana Beach | Orange County
Phone 858.259.8212 | www.plsaengineering.com

NATIONAL CITY 1887

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET

EROSION CONTROL PLAN

CITY OF NATIONAL CITY

ROBERT YANO RCE# 56292
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER — DATE

PROJ. #EG22-00249 | NAD 83 HORIZ. DATUM

SHEET 6 OF 6 SHEETS | 11594-06-D

PRECISE GRADING PLANS — CITY OF NATIONAL CITY — ORANGE STREET RESIDENCES

CONSTRUCTION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER / MODEL	COLOR / FINISHES / REMARKS	DETAIL	SHEET
	CONCRETE PAVING	-	NATURAL GRAY / TOP CAST FINISH #03 LIGHT VIOLET - "ACID ETCH" CONTRACTOR TO PROVIDE 5' X 5' REFEREE PANEL. CONCRETE TO BE SAW CUT / DEPTH PER GEOTECHNICAL ENGINEER	A/B	3
	CRUSHED ROCK	SOUTHWEST BOULDER	DESERT GOLD / 3/4" SCREENED / 3" DEPTH / OR APPROVED EQUAL	C	3
NO SYMBOL	BARK MULCH	AGRISERVICE, INC.	FOREST FINES / 3" DEPTH / ALL PLANTING AREAS TO RECEIVE BARK MULCH UNLESS OTHERWISE SHOWN ON CONSTRUCTION OR PLANTING PLANS	C	3
	ALUMINUM EDGER	-	-	D	3

GENERAL LEGEND

- EXPANSION JOINT
- SAWCUT JOINT
- ALIGNMENT SYMBOL
- CENTERLINE
- PERPENDICULAR
- ALN ALIGN

PA PLANTING AREA

DETAIL CALLOUT A / L-8 — DETAIL, SHEET NUMBER

GENERAL NOTES:

1. ALL GRADED, DISTURBED, OR ERODED AREAS THAT WILL NOT BE PERMANENTLY PAVED OR COVERED BY STRUCTURES SHALL BE PERMANENTLY REVEGETATED AND IRRIGATED IN ACCORDANCE WITH THE STANDARDS IN THE CITY OF CARLSBAD LANDSCAPE MANUAL.
2. GRADED PAD AREAS SHALL BE HYDRO-SEEDED TO PREVENT EROSION IN THE EVENT THAT CONSTRUCTION OF BUILDINGS DOES NOT OCCUR WITHIN 30 DAYS OF GRADING. HYDRO-SEED SHALL BE IRRIGATED OR REAPPLIED AS NECESSARY TO ESTABLISH GROWTH.
3. ALL PLANTING, IRRIGATION, AND LANDSCAPE RELATED IMPROVEMENTS WILL COMPLY WITH THE CITY OF NATIONAL CITY LANDSCAPE REGULATIONS AND THE LANDSCAPE MANUAL STANDARDS.
4. ALL TREES SHALL BE MAINTAINED SO THAT ALL BRANCHES OVER THE PEDESTRIAN WALKWAYS ARE AT LEAST 6 FEET ABOVE THE WALKWAY GRADE AND SO THAT ALL BRANCHES OVER VEHICLE TRAVEL WAYS ARE 14 FEET ABOVE GRADE OF THE TRAVEL WAY.
5. ALL PLANTING AREAS SHALL BE MAINTAINED FREE OF WEEDS, DEBRIS, AND LITTER.
6. ALL PROPOSED IRRIGATION SYSTEMS WILL USE AN APPROVED RAIN SENSOR SHUTOFF DEVICE.
7. HIGH WATER USE PLANTS SHALL BE LIMITED TO NOT MORE THAN 10 PERCENT OF THE TOTAL DEVELOPED LANDSCAPE AREA. ALL OTHER PLANTINGS SHALL BE COMPOSED OF LOW-WATER-USE PLANT MATERIAL.
8. AN AUTOMATIC, ELECTRICALLY CONTROLLED IRRIGATION SYSTEM SHALL BE INSTALLED AS SHOWN ON THE CONSTRUCTION PLANS. IRRIGATION SYSTEMS SHALL ME MAINTAINED FOR PROPER DEVELOPMENT AND MAINTENANCE OF THE VEGETATION IN A HEALTHY, DISEASE-RESISTANT CONDITION. THE DESIGN OF THE SYSTEM SHALL PROVIDE ADEQUATE SUPPORT FOR THE VEGETATION SELECTED.
9. INCORPORATE COMPOST AT A RATE OF AT LEAST FOUR CUBIC YARDS PER 1,000 SQUARE FEET TO A DEPTH OF SIX INCHES INTO LANDSCAPE AREA (UNLESS CONTRAINDICATED BY A SOIL TEST).
10. 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 AND A SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE.
11. ALL LANDSCAPED AREAS SHALL RECEIVE A 3" LAYER OF WOOD BARK MULCH UNLESS OTHERWISE NOTED ON PLANS.

DESIGN STATEMENT:

THE LANDSCAPE CONCEPT FOR THE APARTMENT COMPLEX IS INFLUENCED BY THE STYLE OF THE ADJACENT COMMUNITY AND COMPLEMENTS THE ARCHITECTURAL STYLE OF THE BUILDING. THE ARRANGEMENT OF HARDSCAPE AND PLANTINGS PROMOTES MOVEMENT THROUGH THE SITE. ORNAMENTAL VEGETATION HAS BEEN SELECTED WITH CONSIDERATION OF DROUGHT TOLERANCE, EASE OF MAINTENANCE, STRUCTURE, FLOWER AND FOLIAGE. A RESTRICTED PALETTE OF PLANT MATERIAL SHALL MAINTAIN THE COHESIVE THEME OF THE LANDSCAPE DESIGN. THE LANDSCAPE STYLE SHALL MAINTAIN CONSISTENCY TO AVOID COMPLEX PLANT MIXTURES AND VISUAL CONFUSION.

CONDITIONS OF APPROVAL:

1. AS A CONDITION OF APPROVAL, A CERTIFICATE OF COMPLETION SHALL BE SUBMITTED TO THE PLANNING DIVISION WITHIN TEN DAYS OF THE INSTALLATION OF THE LANDSCAPING AND PRIOR TO BUILDING PERMIT FINAL.
2. AS A CONDITION OF APPROVAL, A COPY OF THE RESTRICTIVE COVENANT FOR THE AFFORDABLE UNIT SHALL BE SUBMITTED TO THE PLANNING DIVISION FOR REVIEW PRIOR TO THE ISSUANCE OF THE BUILDING PERMIT.

IRRIGATION NOTES:

1. IRRIGATION CONTROLLER SHALL BE:
   HUNTER IRRIGATION X-CORE 8 STATION
   WALL MOUNT CONTROLLER. MODEL # XC-800.
2. RAIN SENSOR SHALL BE:
   HUNTER IRRIGATION WIRELESS SOLAR SYNC
   MODEL # WSS-SEN.
3. PRESSURE REGULATORS SHALL BE INSTALLED ON THE IRRIGATION SYSTEM TO ENSURE THE DYNAMIC PRESSURE OF THE SYSTEM IS WITHIN THE MANUFACTURERS RECOMMENDED PRESSURE RANGE.
   PRESSURE REGULATOR SHALL BE:
   WILKINS #500 YSBR
   FACTORY SET AT 70 PSI
   PRESSURE REDUCING VALVE SHALL BE LOCATED AS CLOSE TO POINT OF CONNECTION AS POSSIBLE.
4. MANUAL SHUT-OFF VALVES (SUCH AS A GATE VALVE, BALL VALVE, OR BUTTERFLY VALVE) SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF CONNECTION OF THE WATER SUPPLY.
5. ALL IRRIGATION EMISSION DEVICES MUST MEET THE REQUIREMENTS SET IN THE ANSI STANDARD. ASABE/ICC 802-2014 "LANDSCAPE IRRIGATIOON SPRINKLER AND EMITTER STANDARD." AND ALL SPRINKLER HEADS SNSTALLED IN THE LANDSCAPE MUST DOCUMENT A DISTRIBUTION UNIFORMITY LOW QUARTER OF 0.65 OR HIGHER USING THE PROTOCOL DEFINED IN ASABE/ICC 802-2014.
   OVERHEAD IRRIGATION NOZZLES SHALL BE:
   HUNTER IRRIGATION MP ROTATOR
   MODEL MP1000,2000,3000 AS NEEDED WITH A WORKING PRESSURE OF 40 PSI.
   DISTRIBUTION UNIFORMITY OF THESE NOZZLES ARE .8 PER HUNTER.COM
   DRIP IRRIGATION SHALL BE:
   HUNTER IRRIGATION PLD DRIP LINE.
   MODEL AND SPACING SHALL BE DETERMINED AFTER A SOILS REPORT IS COMPLETED. INSTALL PER MANUFACTURERS RECOMMENDATION. DISTRIBUTION UNIFORMITY OF THIS LINE IS .9 PER HUNTER.COM
6. FOR GENERAL VALVE LOCATIONS REFER TO HYDROZONE CHART ON SHEET L1.1. SYSTEMS SHALL BE DESIGNED SO THAT VALVES ONLY OPERATE HEADS INSIDE THE SAME HYDROZONE.
7. ALL HYDROZONES SHALL BE VALVED/ZONED SEPERATELY

DESIGN CRITERIA:

1. ALL LANDSCAPE AND IRRIGATION SHALL CONFORM TO THE LANDSCAPE STANDARDS OF THE CITY-WIDE LANDSCAPE REGULATIONS,THE CITY OF NATIONAL CITY LANDSCAPE MANUAL AND ALL OTHER LANDSCAPE-RELATED CITY AND REGIONAL STANDARDS.
2. PLANTING WILL BE DESIGNED TO HIGHLIGHT ENTRANCE AREAS TO THE PROJECT AND ADD VISUAL INTEREST TO THE SITE.
3. ALL PLANT MATERIAL SELECTED FOR USE WILL BE OF A TYPE KNOWN TO BE SUCCESSFUL IN THE AREA OR IN SIMILAR CLIMATIC AND SOIL CONDITIONS.
4. COLOR FROM PLANT FOLIAGE, BARK, OR FLOWER WILL BE UTILIZED TO CREATE AN INVITING, WARM, AND VISUALLY APPEALING LANDSCAPE ENVIRONMENT.

IRRIGATION CONCEPT:

THE LANDSCAPE ASSOCIATED WITH THIS PROJECT SHALL BE IRRIGATED BY MEANS OF A POTABLE AUTOMATIC IRRIGATION SYSTEM. THE SYSTEM SHALL INCLUDE THE FOLLOWING:

1. IRRIGATION SYSTEM SHALL BE PROTECTED BY A BACKFLOW PREVENTION DEVICE.
2. IRRIGATION SYSTEM SHALL BE AN AUTOMATIC, PERMANENT, BELOW-GRADE SYSTEM.
3. HOSE BIBBS SHALL BE INCLUDED TO SERVICE PLANTING AREAS.
4. IRRIGATION SYSTEMS SHALL BE SPRAY OR DRIP SYSTEMS.
5. NO IRRIGATION RUN-OFF SHALL DRAIN OFF-SITE INTO THE PUBLIC RIGHT-OF-WAY, STREETS, DRIVES, OR ALLEYS. A CONNECTION SHALL NOT BE MADE TO ANY STORMWATER SYSTEM WITHOUT PROPER BMP'S.
6. THE BMP'S SHALL STORE AND TREAT ALL STORMWATER AND ACCIDENTAL IRRIGATION RUN-OFF PRIOR TO DISCHARGE INTO CITY STORMWATER SYSTEM.
7. ALL IMPERMEABLE SURFACES SHALL BE CONSTRUCTED TO CAUSE WATER TO DRAIN ENTIRELY INTO A LANDSCAPED AREA.
8. ONLY SUBSURFACE IRRIGATION SHALL BE USED TO IRRIGATE ANY VEGETATION WITHIN TWENTY-FOUR INCHES OF AN IMPERMEABLE SURFACE UNLESS THE ADJACENT IMPERMEABLE SURFACES ARE DESIGNED AND CONSTRUCTED TO CAUSE WATER TO DRAIN ENTIRELY INTO A LANDSCAPED AREA.

MIN. TREE / IMPROVEMENT SEPARATION DISTANCE:

TRAFFIC SIGNAL / STOP SIGN - 20 FEET
UNDERGROUND UTILITY LINES - 5 FEET
ABOVE GROUND UTILITY STRUCTURES - 10 FEET
SEWERS - 10 FEET
DRIVEWAYS - 10 FEET
INTERSECTIONS (INTERSECTING CURB LINES OF TWO STREETS) - 25 FEET

MAINTENANCE:

ALL REQUIRED LANDSCAPE AREAS SHALL BE MAINTAINED BY THE OWNER. LANDSCAPE AREAS SHALL BE FREE OF DEBRIS AND LITTER AND ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION

MANUFACTURER PHONE NUMBERS:

SOIL RETENTION: (800) 346-7995
KRC ROCK: (800) 572-7625
SOUTHWEST BOULDER: (619) 591-2366
HANDY METAL MART: (619) 474-3379

simon. landscape architecture
619.370.1080

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE LANDSCAPE ARCHITECT OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONAL CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

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(KYLE SIMON, LLA 6290) DATE

LICENSED LANDSCAPE ARCHITECT · KYLE J. SIMON · NO. 6290 · 8/22/22 · STATE OF CALIFORNIA
LIC.EXP. 7/30/2023

PLANS REVIEWED BY:

RCE# XXXXX DATE
DEPUTY CITY ENGINEER

ENGINEERING DEPARTMENT DATE

CALIFORNIA NATIONAL CITY INCORPORATED 1887

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET

LANDSCAPE CONSTRUCTION PLAN

CITY OF NATIONAL CITY

RCE# XXXXX DATE
DIRECTOR PUBLIC WORKS/CITY ENGINEER

PROJ. #XXXX-XXXX | NAD 83 HORIZ. DATUM
SHEET 1 OF 12 SHEETS | XXXXX-1 -D

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SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80

HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE CA COORDINATE SYSTEM, CCS83, ZONE 6, 2011.00 EPOCH, AS DETERMINED LOCALLY BY THE CENTERLINE OF ORANGE STREET AS SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS — DATE STARTED: INSPECTOR: DATE COMPLETED:

GEOTECHNICAL OF RECORD — PAUL J. DERISI, NAME — AGS, COMPANY — SIGNATURE

CONSTRUCTION SURVEYOR — NAME — COMPANY — SIGNATURE

ENGINEERING DEPARTMENT — AS-BUILT — REVISIONS — BY — APPROVED — DATE

SURVEYOR: METROPOLITAN MAPPING

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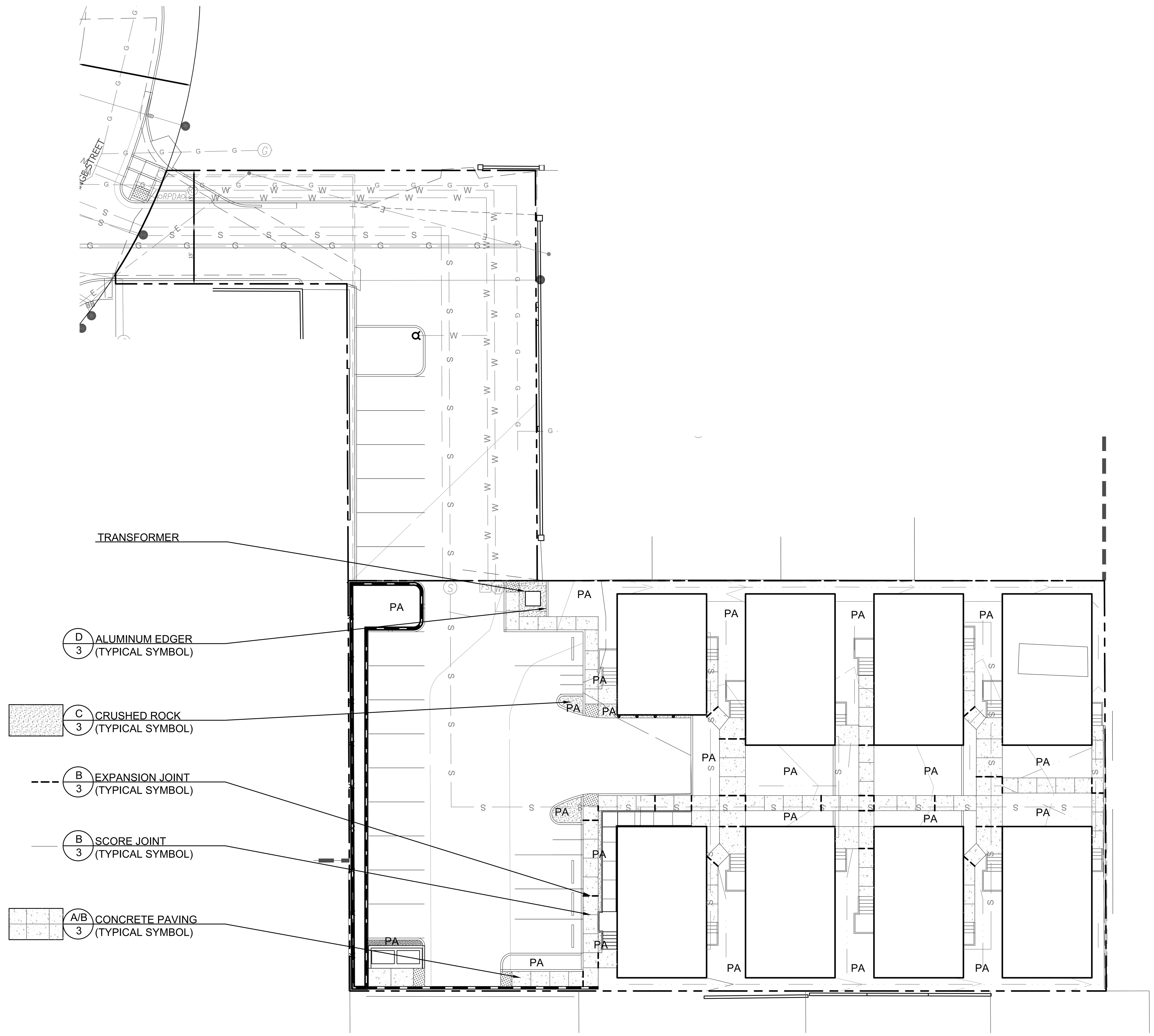
DATE STARTED:
INSPECTOR:
DATE COMPLETED:

GEOTECHNICAL OF RECORD
PAUL J. DERISI — NAME
AGS — COMPANY
SIGNATURE

CONSTRUCTION SURVEYOR
NAME
COMPANY
SIGNATURE

ENGINEERING DEPARTMENT
AS-BUILT
REVISIONS

BY	APPROVED	DATE



LANDSCAPE CONSTRUCTION PLAN
SCALE: 1/16" = 1' - 0"

CONSTRUCTION KEY:

PA	PLANTING AREA
	EXPANSION JOINT
	SCORE JOINT
DETAIL CALLOUT (A / LC-3)	DETAIL / SHEET NUMBER
	ALIGNMENT SYMBOL
℄	CENTERLINE
	90° ANGLE
EQ	EQUAL DISTANCE
ALN	ALIGN

MINIMUM STREET TREE SEPARATION DISTANCES:

INTERSECTIONS	25 FEET
DRIVEWAYS	10 FEET
SEWER LATERALS	10 FEET
FRONT OF TRAFFIC SIGNAL, STOP SIGN	20 FEET
BACK OF TRAFFIC SIGNAL, STOP SIGN	10 FEET
UNDERGROUND UTILITY LINES	5 FEET
ABOVE GROUND UTILITY STRUCTURES	10 FEET
STREET LIGHTS	15 FEET

GENERAL NOTE:

REFER TO CIVIL ENGINEERING PLANS FOR DIMENSIONS, LOCATIONS AND ELEVATIONS OF ALL WALLS, CURBS PAVING AND STEPS.

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619.370.1080

GRAPHIC SCALE
(IN FEET)
16 8 0 8 16 32
1/16 INCH = 1 FT

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PLANS REVIEWED BY:

RCE# XXXXX DATE
DEPUTY CITY ENGINEER

ENGINEERING DEPARTMENT DATE

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(KYLE SIMON, LLA 6290) DATE

LICENSED LANDSCAPE ARCHITECT — KYLE J. SIMON — NO. 6290 — 8/22/22 — STATE OF CALIFORNIA
LIC.EXP. 7/30/2023

CALIFORNIA NATIONAL CITY 1887 INCORPORATED

PLANS FOR THE IMPROVEMENTS OF:

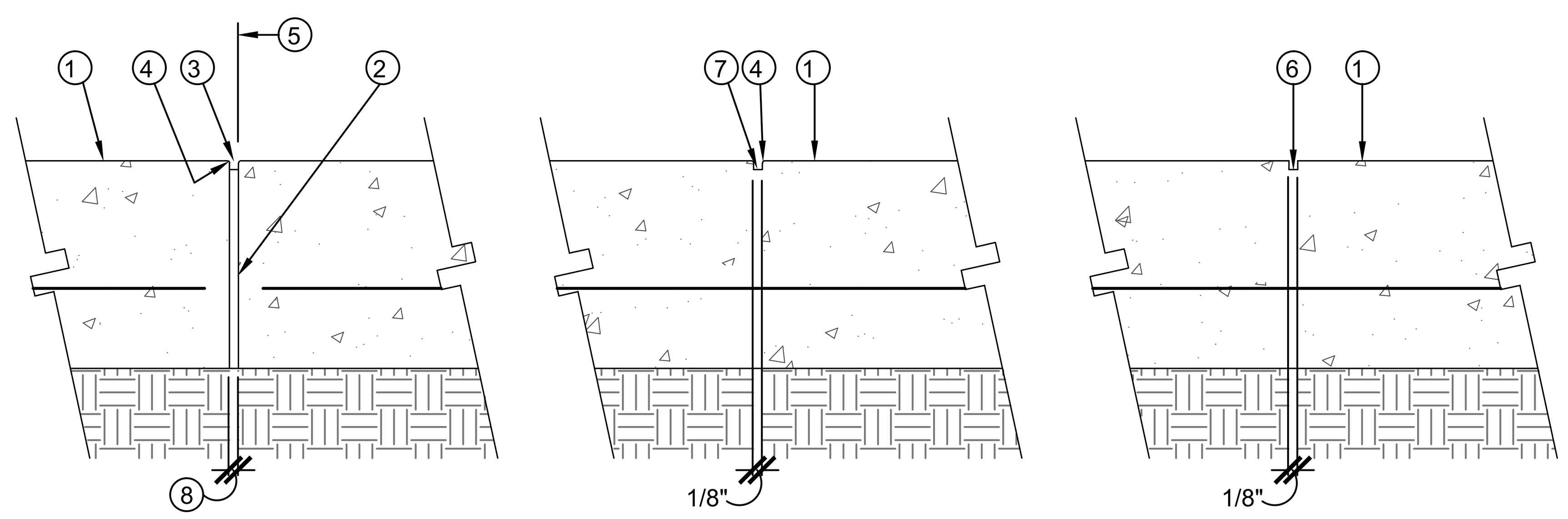
1628 ORANGE STREET
LANDSCAPE CONSTRUCTION PLAN

CITY OF NATIONAL CITY

RCE# XXXXX DATE
DIRECTOR PUBLIC WORKS/CITY ENGINEER

PROJ. #XXXX-XXXX	NAD 83 HORIZ. DATUM
SHEET 2 OF 12 SHEETS	XXXXX-2 -D

PRECISE GRADING PLANS - CITY OF NATIONAL CITY - ORANGE STREET RESIDENCES



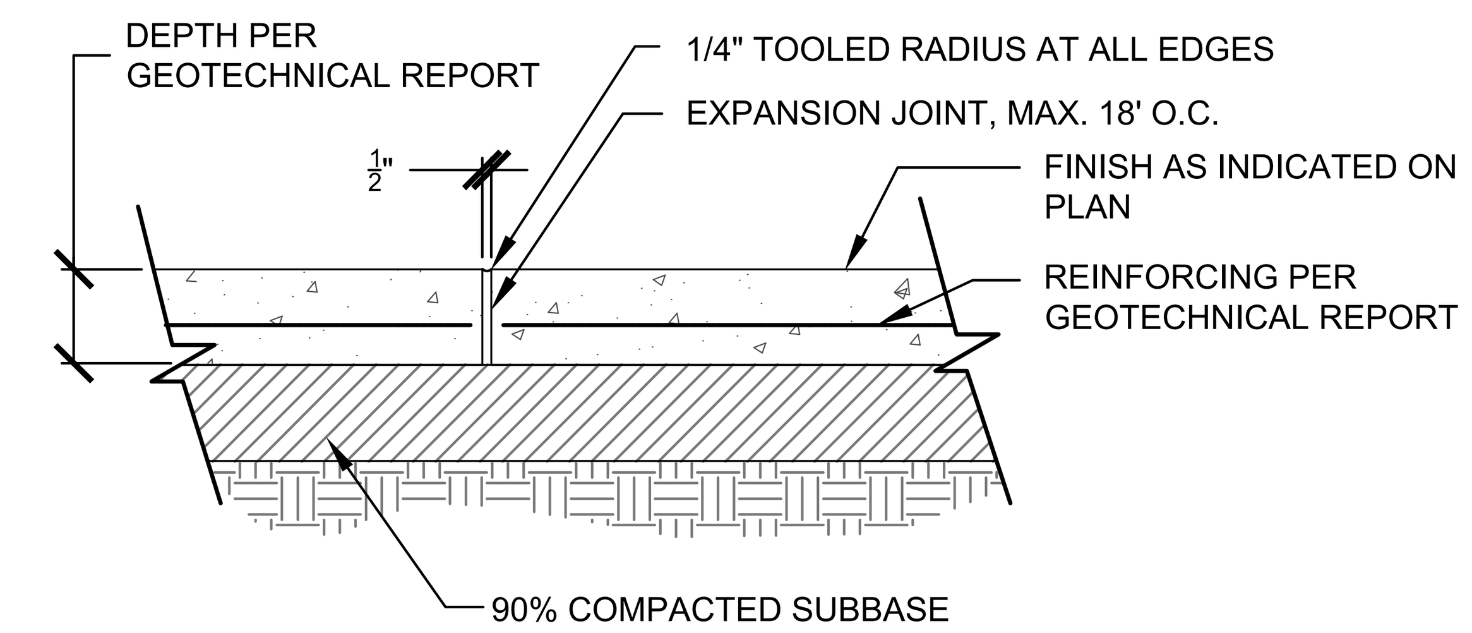
EXPANSION JOINT | TOOLED SCORELINE | SAWCUT SCORELINE

1. PAVING PER PLAN - TYPE AND FINISH PER PLAN
2. FIBER EXPANSION JOINT MATERIAL
3. SEALANT-VULCAN OR EQUIVALENT (COLOR SHALL MATCH CONCRETE)
4. 1/4" RADIUS, TYPICAL
5. FACE OF WALL OR CURB - WHERE OCCURS
6. 1/2" DEEP SAWCUT
7. 1/2" DEEP TOOLED SCORELINE
8. 3/8" (PEDESTRIAN ACCENT PAVING) 1/2" (DRIVEWAY PAVING)

NOTES:
1. REFER TO PLAN FOR LOCATIONS
2. EXPANSION JOINTS TO BE AS SHOWN PER PLAN, BETWEEN BACK OF CURB AND PAVING, ADJACENT TO BUILDING AND COLUMNS.
3. TOOLED SCORELINES TO BE AT 5' INTERVALS UNLESS OTHERWISE NOTED.

A TYPICAL CONCRETE JOINTS

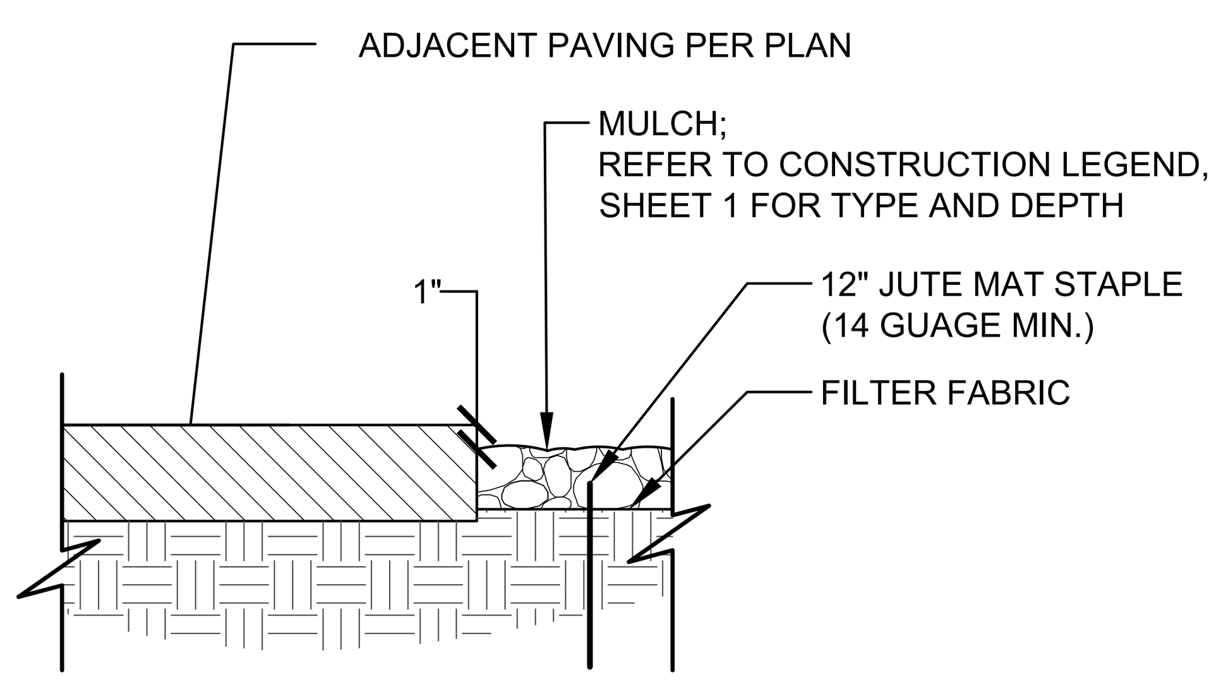
NOT TO SCALE



NOTES:
1. REFER TO LANDSCAPE CONSTRUCTION LEGEND FOR CONCRETE COLOR AND FINISH.
2. REFER TO LANDSCAPE CONSTRUCTION PLANS FOR LOCATIONS OF EXPANSION AND SAWCUT SCORE JOINTS.
3. REFER TO DETAIL A, ON SHEET L1.3 FOR CONTROL AND SCORE JOINTS.
4. SUBGRADE PREPARATION SHALL BE DONE AS RECOMMENDED BY TEST LAB AND IN ACCORDANCE WITH SECTION 301-1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).

B CONCRETE PAVING DETAIL

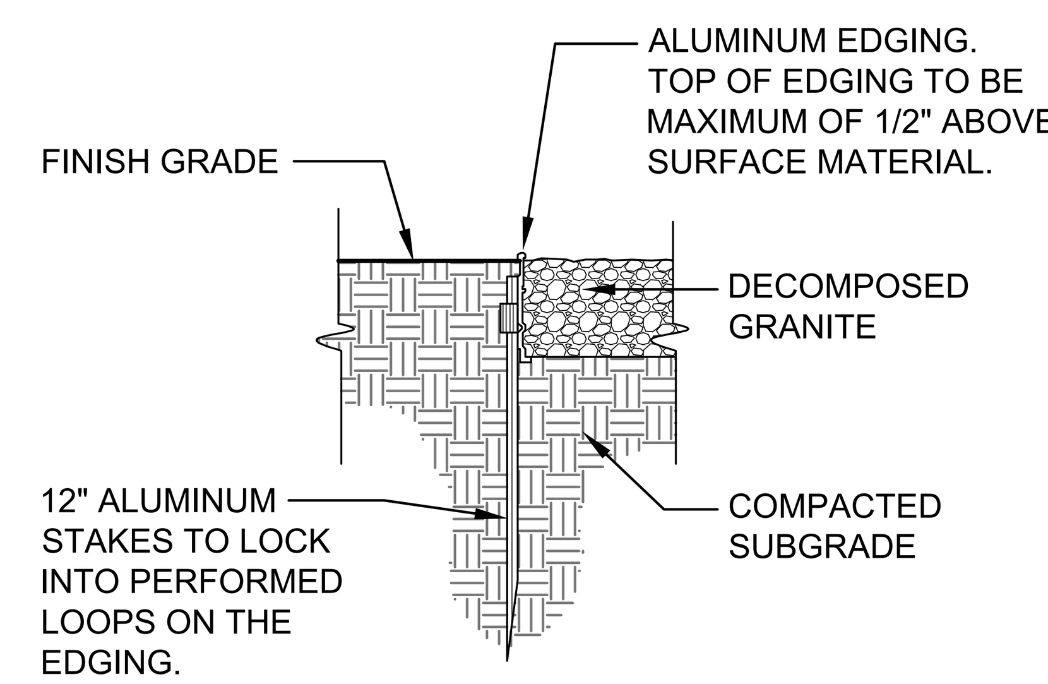
SCALE: 1-1/2" = 1'-0"



NOTES:
1. PLACE FILTER FABRIC UNDER ALL INORGANIC MULCH AREAS. SECURE EDGES WITH JUTE MAT STAPLES AT CORNERS AND A MINIMUM OF 3' ALONG EDGES. ALLOW 2 INCH CLEARANCE FROM EDGE OF FILTER FABRIC TO PREVENT TEARING AND COVER EDGE OF FABRIC WITH MULCH.
2. PLANTING AREAS INCLUDING AREAS WITH COBBLE SHALL BE ROTOTILLED PER SPEC.
3. FINISH GRADE SHALL BE 4" BELOW TOP OF ADJACENT CONCRETE IMPROVEMENTS.

C MULCH AT HARDSCAPE

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



NOTE:
1. ALUMINUM EDGING SHALL BE FROM 'PERMALOC' AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS

D ALUMINUM PATHWAY EDGING

SCALE: 2" = 1'-0"

SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80

HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE CA COORDINATE SYSTEM, CCS83, ZONE 6, 2011.00 EPOCH, AS DETERMINED LOCALLY BY THE CENTERLINE OF ORANGE STREET AS SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS
DATE STARTED:
INSPECTOR:
DATE COMPLETED:

GEOTECHNICAL OF RECORD
PAUL J. DERISI — AGS
NAME — COMPANY
SIGNATURE

CONSTRUCTION SURVEYOR
NAME — COMPANY
SIGNATURE

ENGINEERING DEPARTMENT
AS-BUILT | BY | APPROVED | DATE
REVISIONS

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PLANS REVIEWED BY:
RCE# XXXXX DEPUTY CITY ENGINEER — DATE
ENGINEERING DEPARTMENT — DATE

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(KYLE SIMON, LLA 6290) — DATE
LICENSED LANDSCAPE ARCHITECT KYLE J. SIMON NO. 6290 8/22/22 STATE OF CALIFORNIA
LIC.EXP. 7/30/2023

simon. landscape architecture
619.370.1080

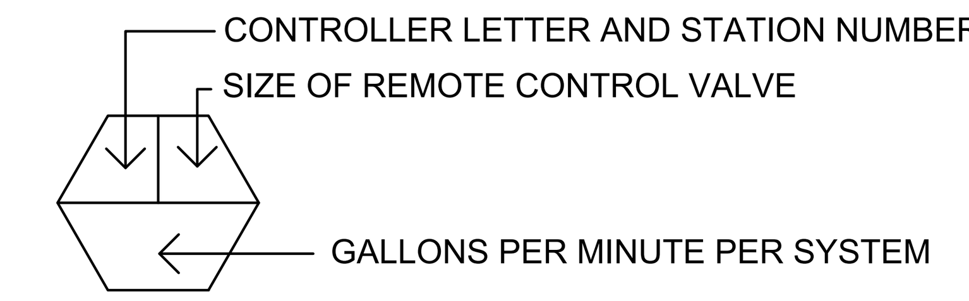
NATIONAL CITY CALIFORNIA INCORPORATED 1887

PLANS FOR THE IMPROVEMENTS OF:
1628 ORANGE STREET
LANDSCAPE CONSTRUCTION PLAN
CITY OF NATIONAL CITY
RCE# XXXXX DIRECTOR PUBLIC WORKS/CITY ENGINEER — DATE
PROJ. #XXXX-XXXX | NAD 83 HORIZ. DATUM
SHEET 3 OF 12 SHEETS | XXXXX- 3 -D

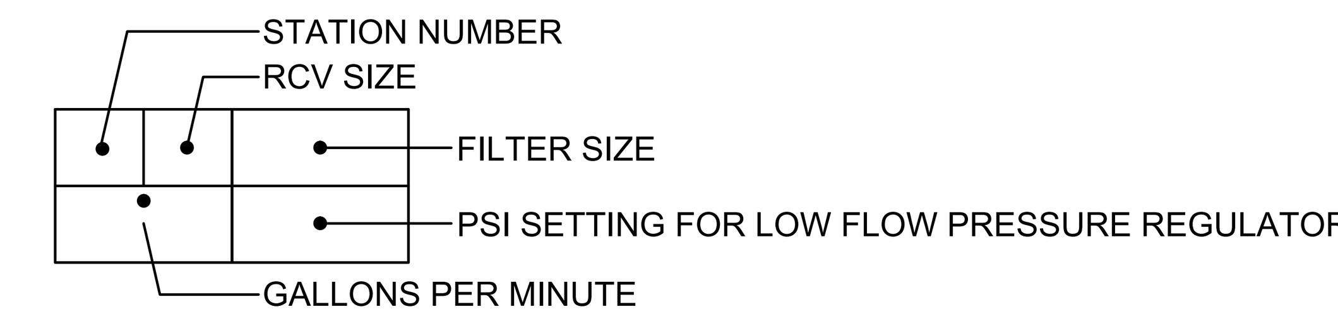
SYMBOL	DESCRIPTION	PSI	RADIUS	GALLONS PER MINUTE 360°	270°	210°	180°	120°	90°	MANUFACTURER	MODEL	DETAIL	DRAWING NO.
	4" POP-UP PRESSURE COMPENSATING MULTI-STREAM BUBBLER (2 PER PLANT)	40	1.5'	_	_	_	_	_	.5	HUNTER	PROS-04-CV-R MSBN-50Q	B	8
	POLYETHYLENE DRIP LINE .6 GPH EMITTERS 12" ON CENTER, INSTALL TUBING ROWS A MAXIMUM OF 18" APART IN PLANTING STRIP AREAS. SPACING SHALL BE ADJUSTED ACCORDING TO TO SOIL TYPE. REFER TO MANUFACTURERS RECOMENDATIONS. ALL TUBING TO BE INSTALLED ON COMPACTED FINISH SOIL GRADE. TUBING SHALL BE SECURED WITH JUTE MATT STAPLES. SEE DETAIL AND NOTES .							25 PSI .6 GPH		HUNTER	HDL-06-12-R	C/E	8
	AUTOMATIC CONTROLLER - EXTERIOR WALL MOUNT - SIZE AS INDICATED ON PLAN RAIN SHUT-OFF DEVICE									HUNTER HUNTER	PC-1200 WSS-SEN	C	6
	GLOBE VALVE - SIZE AS INDICATED ON PLAN									NIBCO	#T-211-B	E	6
M	IRRIGATION SUBMETER - SIZE AS INDICATED ON PLAN - SUBMETER TO BE PAINTED PURPLE									NEPTUNE	T-10	E	7
	MASTER CONTROL VALVE (NORMALLY CLOSED) (MINIMUM OPERATING RATE OF 1 GPM) - SIZE AS INDICATED ON PLAN - INSTALL IN BOX									SUPERIOR	#3200 - RW	B	7
F	FLOW METER - SIZE AS INDICATED ON PLAN - INSTALL IN BOX ONLY 14 AWG IN CONDUIT BETWEEN THE FLOW METER AND THE CONTROLLER									HUNTER	HC-100-FLOW	C	7
	QUICK COUPLING VALVE - 3/4" DOUBLE LUG - 10" ROUND PLASTIC VALVE BOX AS REQUIRED BY AGENCY									RAINBIRD	#33DNP	A	7
	BALL VALVE - SIZE AS INDICATED ON PLAN - INSTALL IN BOX									NIBCO	TS580-A	F	6
	REMOTE CONTROL VALVE -PLASTIC - SIZE AS INDICATED ON PLAN - INSTALL ONE PER BOX									RAINBIRD	#PESB-R	A	8
	DRIP VALVE ASSEMBLY WITH CONTROL VALVE AND 40 PSI PRESSURE REGULATOR: 2 TO 20 GPM (1") / 20 TO 40 GPM (1.5") WITH RECLAIMED WATER ID HANDLE									HUNTER HUNTER	ICZ-(101/151)-R-40 P/N 561205	F	7
	AIR RELEASE VALVE - 1/2" AIR/VACUUM RELIEF VENT									HUNTER	PLD-AVR	D	8
	MANUAL FLUSH VALVE - IN 6" DIAMETER BOX									HUNTER	PLD-BV	D	7
	MAIN PRESSURE LINE (COPPER) INSTALLED BETWEEN P.O.C. AND BACKFLOW (MINIMUM DEPTH 18")									SEAMLESS TYPE K HARD DRAWN TUBING		A	6
	MAIN PRESSURE LINE PIPE (CLASS 315 PVC FOR 2" & LARGER) (SCHEDULE 40 PVC FOR PIPE 1-1/2" & SMALLER) (MINIMUM DEPTH 18")									PACIFIC PLASTICS ALERTLINE PURPLE RECYCLED WATER PIPE OR APPROVED EQUAL W/ CHRISTY'S 6" PURPLE RECYCLED/RECLAIMED WATER MARKING TAPE OR APPROVED EQUAL.		A	6
	NON PRESSURE LATERAL PIPE - SCHEDULE 40 (MINIMUM SIZE 3/4 INCH)									PACIFIC PLASTICS ALERTLINE PURPLE RECYCLED WATER PIPE OR APPROVED EQUAL		A	6
	PIPE SLEEVES SCHEDULE 40 PVC (2 SIZES LARGER THAN MAIN OR LATERAL LINE)									PW EAGLE OR APPROVED EQUAL		A	6
	PULL BOX - BRANDED "PB"									BROOKS, CARSON OR APPROVED EQUAL		-	-
	DIRECT BURIAL CONTROL WIRE (SOLID COPPER - COLOR CODED)									PEN-TITE OR APPROVED EQUAL		B	6
	WIRE CONNECTION											D	6

GPM ADJUSTED FOR 12 INCH SPRAY POP-UPS (+.05 GPM)
GPM ADJUSTED FOR 12 INCH ROTOR POP-UPS (+.75 GPM)

CONVENTIONAL RCV



DRIP RCV



MINIMUM DEPTH OF COVER OVER PIPE AND WIRE:

PIPE UNDER TRAFFIC LOADS:	36" MINIMUM DEPTH
MAIN PRESSURE LINES:	18" MINIMUM DEPTH
LATERAL NON-PRESSURE LINES:	12" MINIMUM DEPTH
CONTROL WIRING:	18" MINIMUM DEPTH
CONTROL WIRING PIPE UNDER TRAFFIC LOADS:	30" MINIMUM

DRIP IRRIGATION

1. POLYETHYLENE TUBING SHALL BE LAID OUT IN AS STRAIGHT A LINE AS POSSIBLE FOR ONE HOUR PRIOR TO INSTALLATION TO INCREASE FLEXIBILITY OF PIPE AND EASE OF INSTALLATION.
2. TURN RADIUS NO TIGHTER THAN 18 INCHES WITH POLYETHYLENE TUBING. USE ELBOWS IN SHARP CORNERS TO AVOID BENDING OF PIPE.
3. POLYETHYLENE PIPE SHALL BE INSTALLED 4 TO 6 INCHES BELOW GRADE AT A UNIFORM DEPTH WITH EMITTER PORTS FACING UP. STAKE LINE SECURELY IN PLACE WITH JUTE MAT STAPLES AT A MAXIMUM SPACING OF 6 FEET ON CENTER. STAKE END OF LINE SECURELY.
4. POSITION POLYETHYLENE TUBING IN PARALLEL ROWS WITH SPACING AS SHOWN ON PLAN. PLANT MATERIAL SHALL BE PLACED ADJACENT TO IRRIGATION EMITTERS. COORDINATE PLACEMENT OF SHRUBS WITH EMITTER INSTALLATION.
5. CONTRACTOR SHALL INSTALL METAL 4" X 6" WARNING SIGN STATING "CAUTION: BURIED IRRIGATION LINES" AT PROPERTY LINE AND NEAR TURF AREA.

GENERAL IRRIGATION NOTES

1. LOCATION OF IRRIGATION EQUIPMENT IS SHOWN DIAGRAMMATIC ALLY ONLY. PIPING, VALVES, AND OTHER IRRIGATION FIXTURES SHALL BE LOCATED IN PLANTING AREAS WHENEVER POSSIBLE.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE HIM OR HERSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS AND OTHER OBSTRUCTIONS. CONTRACTOR SHALL COORDINATE WORK WITH THE WORK OF OTHER TRADES FOR THE LOCATION AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, PAVING, STRUCTURES AND OTHER OBSTRUCTIONS.
3. CONTROL WIRES UNDER PAVING SHALL BE INSTALLED IN PVC SLEEVES. COORDINATE SLEEVE INSTALLATION WITH OTHER TRADES TO ENSURE PROPER AND TIMELY INSTALLATION IN LOCATIONS REQUIRED.
4. CONTRACTOR SHALL NOT WILLFULLY INSTALL THE SYSTEM AS DESIGNED WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT WERE NOT KNOWN DURING DESIGN PHASE. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING CONDITIONS ON SITE AND CONTACTING THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS TO ENSURE THAT IRRIGATION COVERAGE IS 100% IN ALL PLANTING AREAS AS ACCEPTED BY THE LANDSCAPE ARCHITECT.
5. SPECIMEN PLANT LOCATIONS TAKE PRECEDENCE OVER IRRIGATION PIPING. STAKE SPECIMEN PLANT LOCATIONS PRIOR TO TRENCHING FOR PIPE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING, RELOCATING AND READJUSTING IRRIGATION EQUIPMENT, CUTTING AND CAPPING OF EXISTING IRRIGATION PIPE.
7. PRIOR TO BIDDING THE PROJECT THE CONTRACTOR BIDDING SHALL VERIFY ON-SITE THE WORK TO BE DONE AND THE LIMIT OF WORK LINE FOR THOSE AREAS. CONTACT LANDSCAPE ARCHITECT.

IRRIGATION NOTES

1. DESIGN PRESSURE IS 64 PSI.
2. CONTRACTOR SHALL VERIFY EXISTING WATER PRESSURE BEFORE INSTALLING IRRIGATION SYSTEM.
3. INSTALL ALL VALVES IN PLANTING AREAS AND ADJACENT TO PAVING WHERE POSSIBLE. PLACE NO MORE THAN THREE RCV'S TOGETHER AS INDICATED ON PLAN.
4. CONTROLLER SHALL BE PROGRAMMED SO THAT WATER APPLICATION SHALL NOT EXCEED SOIL INFILTRATION RATE OR CAUSE RUN-OFF. APPLICATION RATE SHALL BE SUFFICIENT TO PREVENT ROOT STRESS.
5. INSTALL RAIN CUP FOR RAIN SHUTOFF DEVICE IN AN OPEN AREA AS APPROVED BY THE LANDSCAPE ARCHITECT. DO NOT INSTALL BELOW BUILDING EAVES OR WHERE INACCESSIBLE TO RAINFALL.

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TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

SURVEYOR: METROPOLITAN MAPPING
BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL
BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80
HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE CA COORDINATE SYSTEM, CCS83, ZONE 6, 2011.00 EPOCH, AS DETERMINED LOCALLY BY THE CENTERLINE OF ORANGE STREET AS SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS
DATE STARTED:
INSPECTOR:
DATE COMPLETED:

GEOTECHNICAL OF RECORD
PAUL J. DERISI — NAME
AGS — COMPANY
SIGNATURE

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ENGINEERING DEPARTMENT
AS-BUILT
REVISIONS
BY | APPROVED | DATE

PLANS REVIEWED BY:
RCE# XXXXX DEPUTY CITY ENGINEER — DATE
ENGINEERING DEPARTMENT — DATE

simon. landscape architecture
619.370.1080

DECLARATION OF RESPONSIBLE CHARGE

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(KYLE SIMON, LLA 6290) — DATE

LICENSED LANDSCAPE ARCHITECT KYLE J. SIMON NO. 6290 SIGNATURE 8/22/22 DATE STATE OF CALIFORNIA
LIC.EXP. 7/30/2023

CALIFORNIA NATIONAL CITY 1887 INCORPORATED

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET
LANDSCAPE CONSTRUCTION PLAN

CITY OF NATIONAL CITY

RCE# XXXXX DIRECTOR PUBLIC WORKS/CITY ENGINEER — DATE

PROJ. #XXXX-XXXX | NAD 83 HORIZ. DATUM
SHEET 4 OF 12 SHEETS | XXXXX- 4 -D

PRECISE GRADING PLANS - CITY OF NATIONAL CITY - ORANGE STREET RESIDENCES

ENGINEERING DEPARTMENT			
AS-BUILT	BY	APPROVED	DATE
REVISIONS			

CONSTRUCTION SURVEYOR
NAME ______ COMPANY ______
SIGNATURE ______

GEOTECHNICAL OF RECORD
PAUL J. DERISI — NAME; AGS — COMPANY
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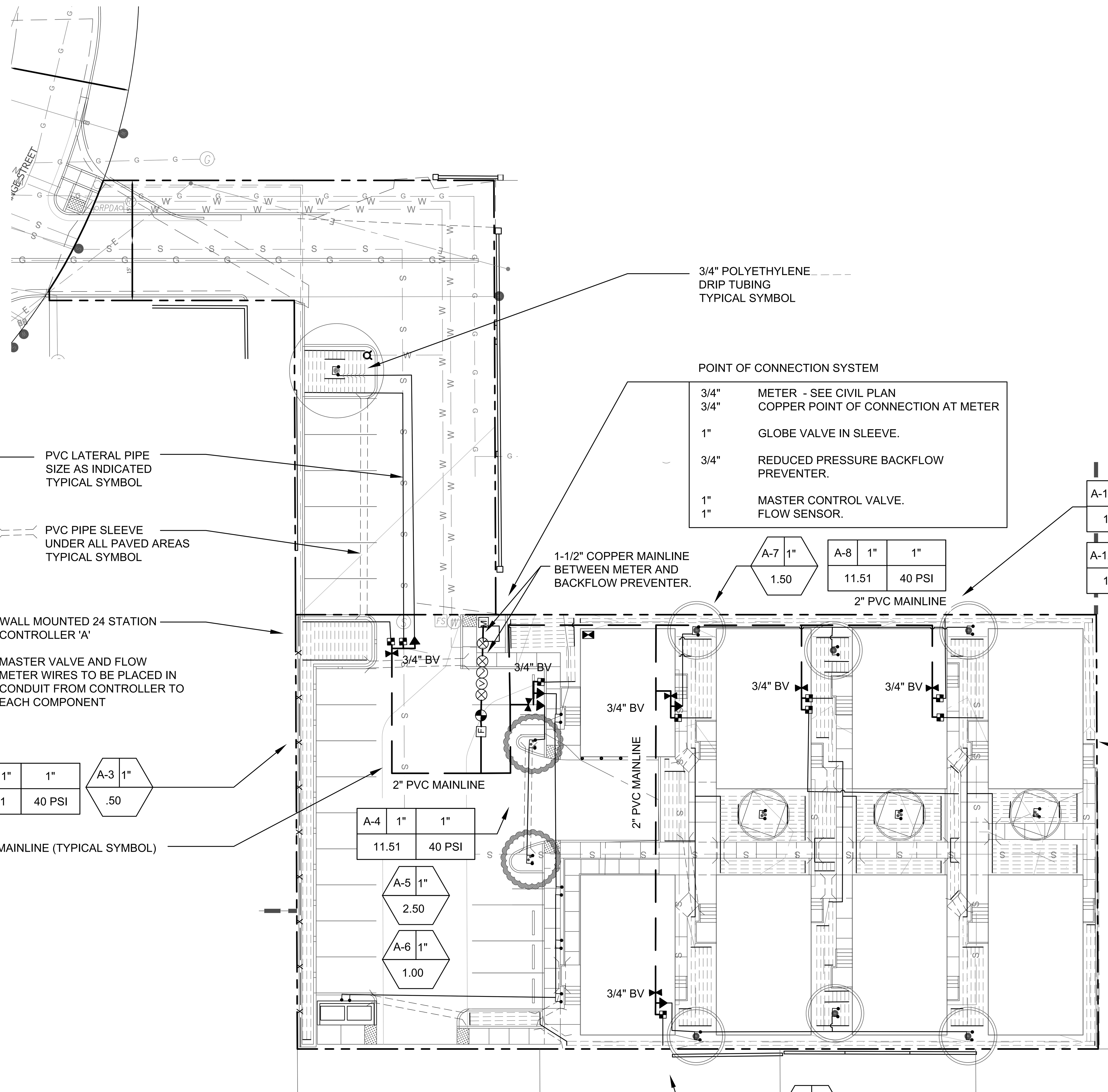
NOTES:

WATER METER LOCATION PER CIVIL DRAWINGS. CONTRACTOR TO VERIFY LOCATION OF WATER METER BEFORE CONSTRUCTION.

LOCATION OF IRRIGATION EQUIPMENT IS SHOWN DIAGRAMMATICALLY FOR CLARITY. LOCATE EQUIPMENT WITHIN PLANTING AREAS WHEREVER POSSIBLE.



POINT OF CONNECTION SYSTEM

3/4"	METER - SEE CIVIL PLAN
3/4"	COPPER POINT OF CONNECTION AT METER
1"	GLOBE VALVE IN SLEEVE.
3/4"	REDUCED PRESSURE BACKFLOW PREVENTER.
1"	MASTER CONTROL VALVE.
1"	FLOW SENSOR.

LANDSCAPE IRRIGATION PLAN

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

GRAPHIC SCALE
(IN FEET)
16 8 0 8 16 32
1/16 INCH = 1 FT

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LIC.EXP. 7/30/2023

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NATIONAL CITY — CALIFORNIA — INCORPORATED 1887

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CITY OF NATIONAL CITY

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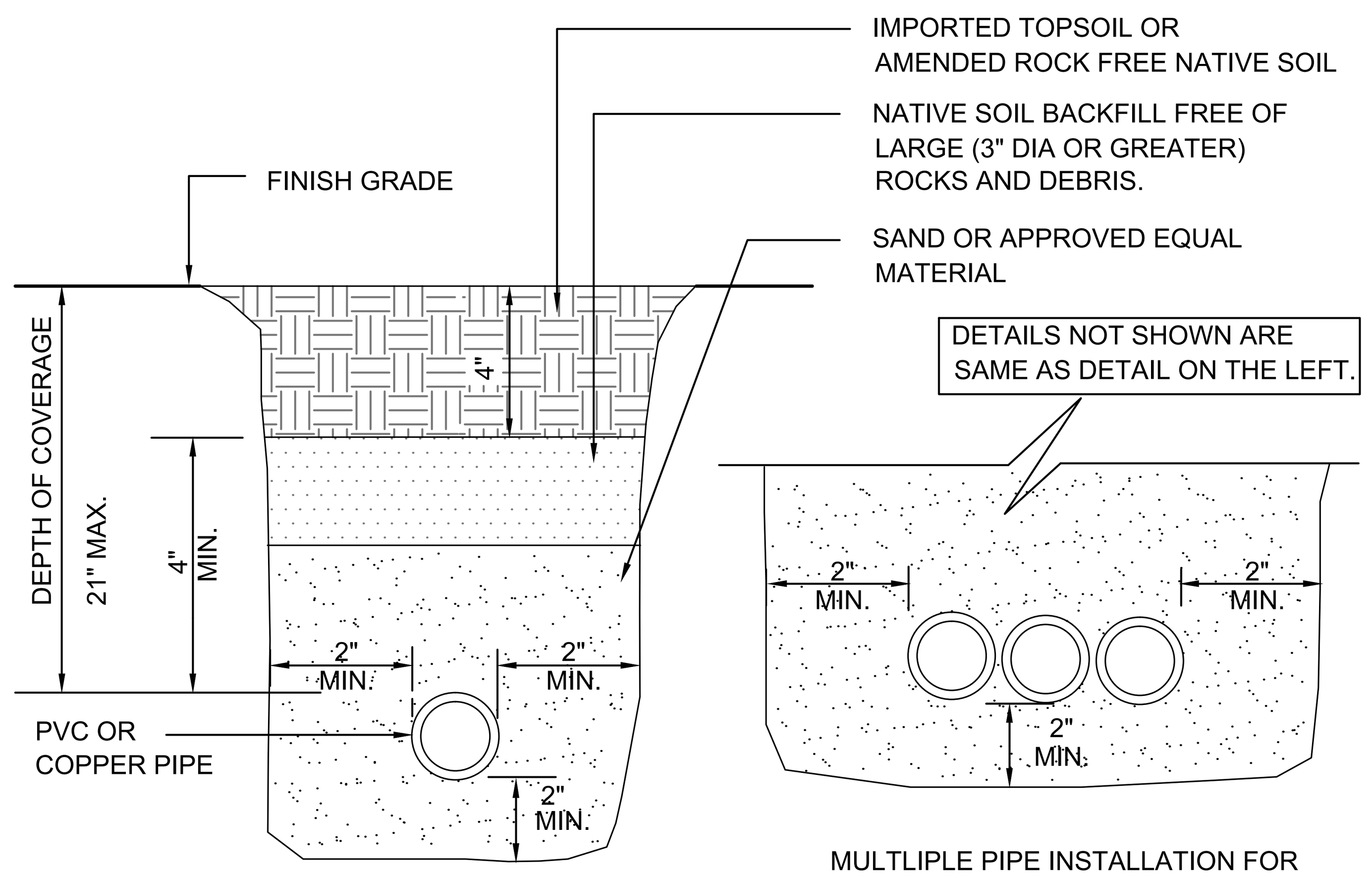


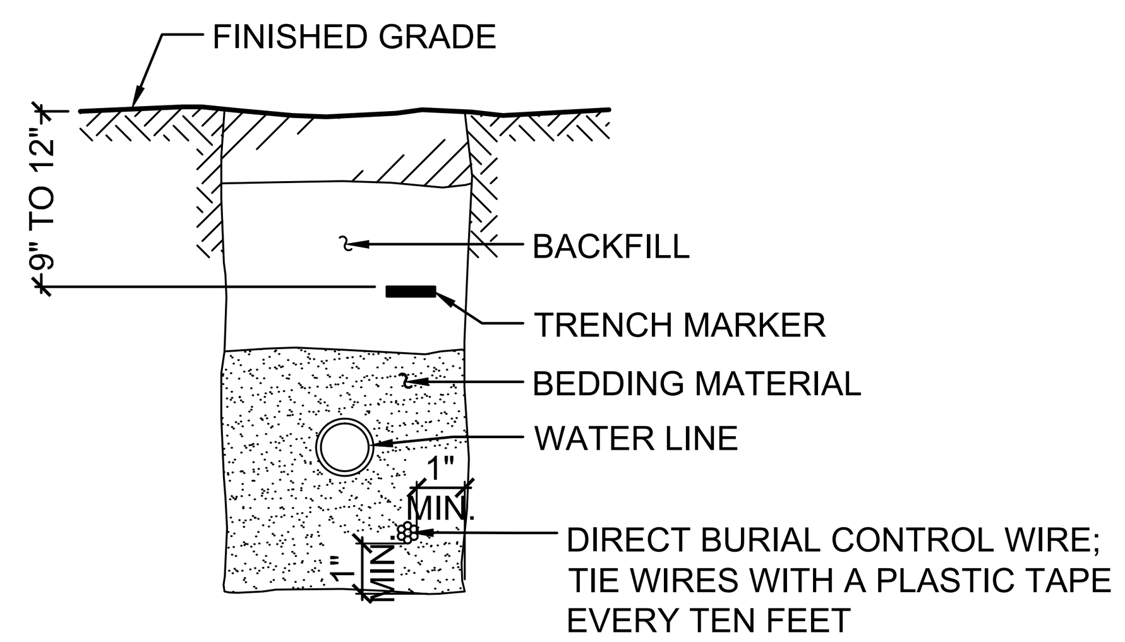
MULTIPLE PIPE INSTALLATION FOR LATERAL PIPE ONLY. SEE NOTE 6 FOR PRESSURE PIPE.

NOTES
1. BACKFILL MATERIAL MUST BE COMPACTED TO A RELATIVE COMPACTION OF 90%.
2. P.V.C. PIPE MUST LAY FREE IN THE TRENCH WITH NO INDUCED STRAIN AND WITH SUFFICIENT ALLOWANCE FOR EXPANSION AND CONTRACTION AS RECOMMENDED BY THE MANUFACTURER.
3. TEFLON TAPE, 3/4" WIDE MUST BE USED ON ALL THREADED CONNECTIONS.
4. THE LETTER W MUST BE STAMPED OR CHISELED ON THE IMPROVEMENT (CURB-SIDEWALK) DIRECTLYI ABOVE THE PRESSURE PIPELINE.
5. PLASTIC PRESSURE PIPE UNDER PAVEMENT MUST BE INSTALLED IN A P.V.C. SLEEVE.
6. MINIMUM CLEARANCE BETWEEN PRESSURE PIPES SHALL BE 2 INCHES.
7. MINIMUM DEPTH OF COVER OVER PIPE AND WIRE ARE:

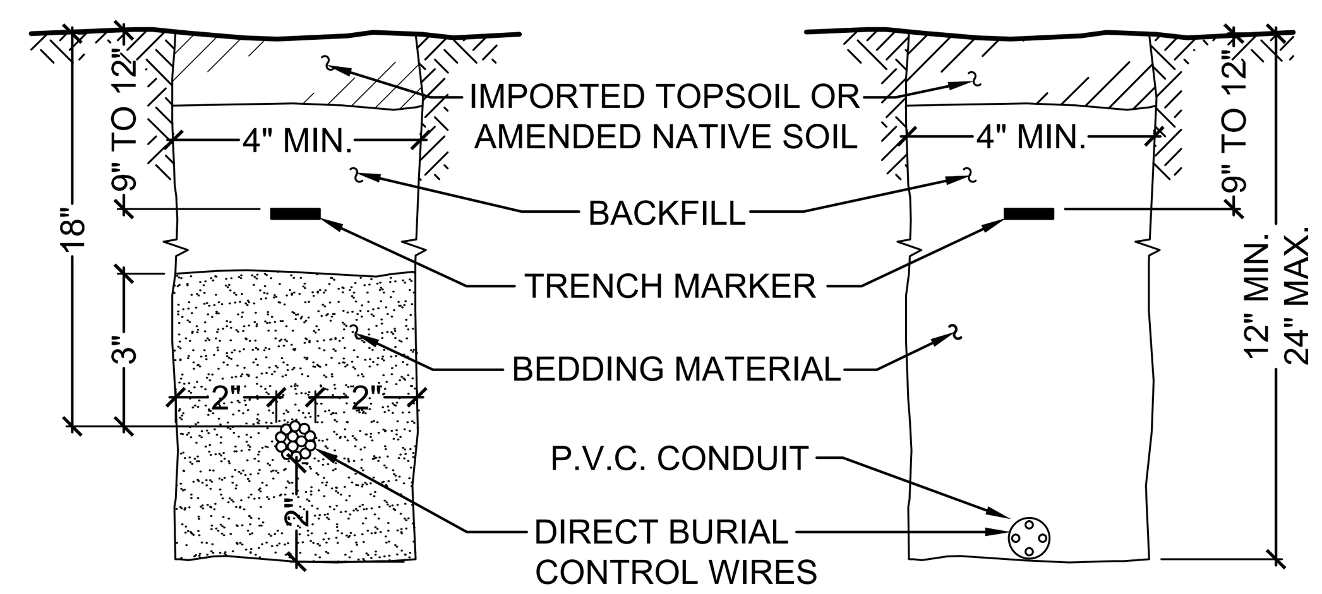
PIPE UNDER TRAFFIC LOADS:	36" MINIMUM DEPTH
MAIN PRESSURE LINES:	18" MINIMUM DEPTH
LATERAL NON-PRESSURE LINES:	12" MINIMUM DEPTH
CONTROL WIRING:	18" MINIMUM DEPTH
CONTROL WIRING PIPE UNDER TRAFFIC LOADS:	30" MINIMUM

TRENCH FOR PIPE DETAIL (A)

SCALE: NONE



NORMAL LOCATIONS OF CONTROL WIRES

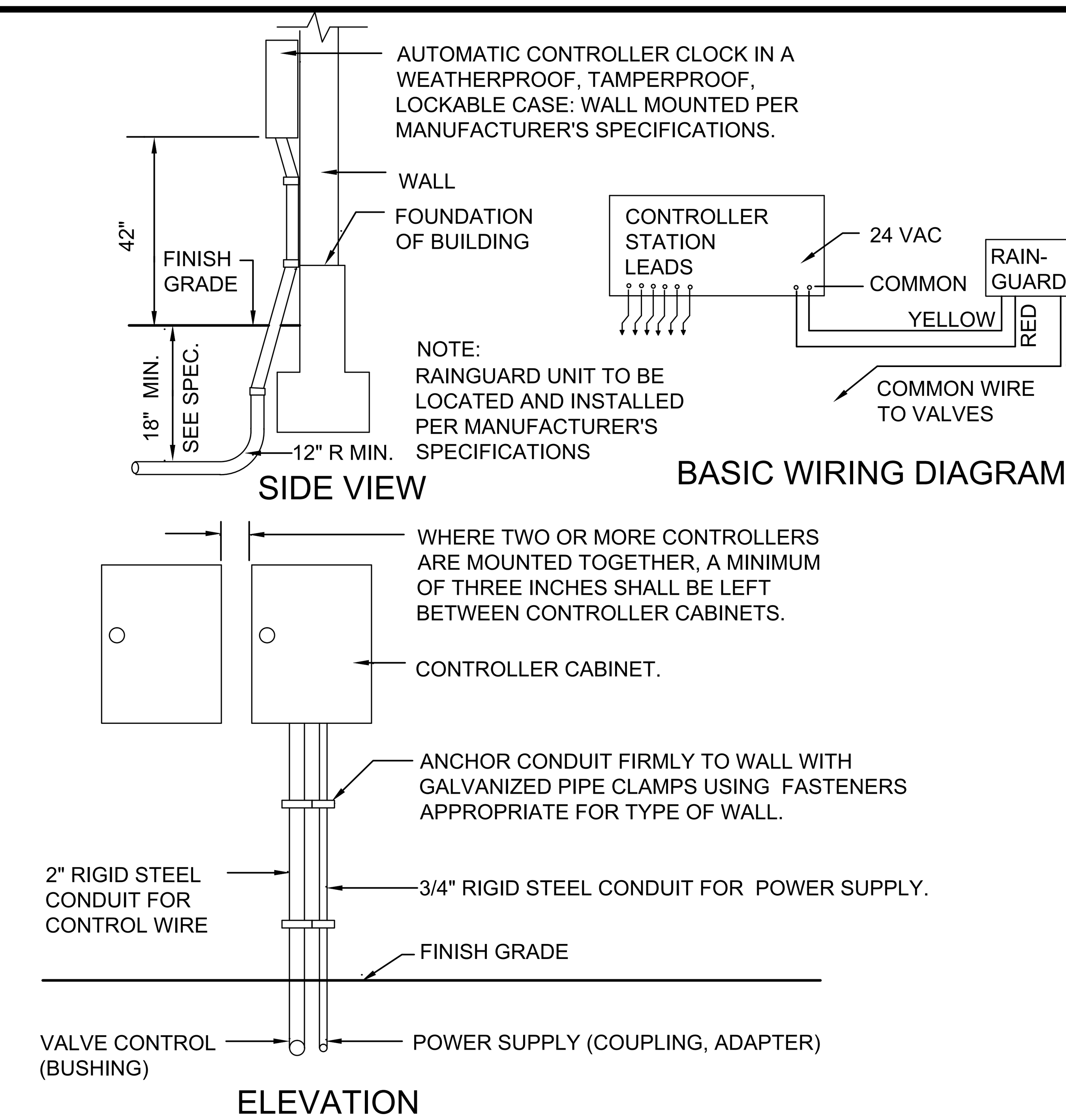


ALTERNATE LOCATION OF CONTROL WIRES

NOTES:
1. BEDDING MATERIAL SHALL HAVE A SAND EQUIVALENT OF 50, MINIMUM.
2. PLACE A 3" WIDE RED CONTINUOUS PLASTIC TAPE TRENCH MARKER, 9" TO 12" BELOW FINISH GRADE, DIRECTLY ABOVE THE DIRECT BURIAL CONTROL WIRES.

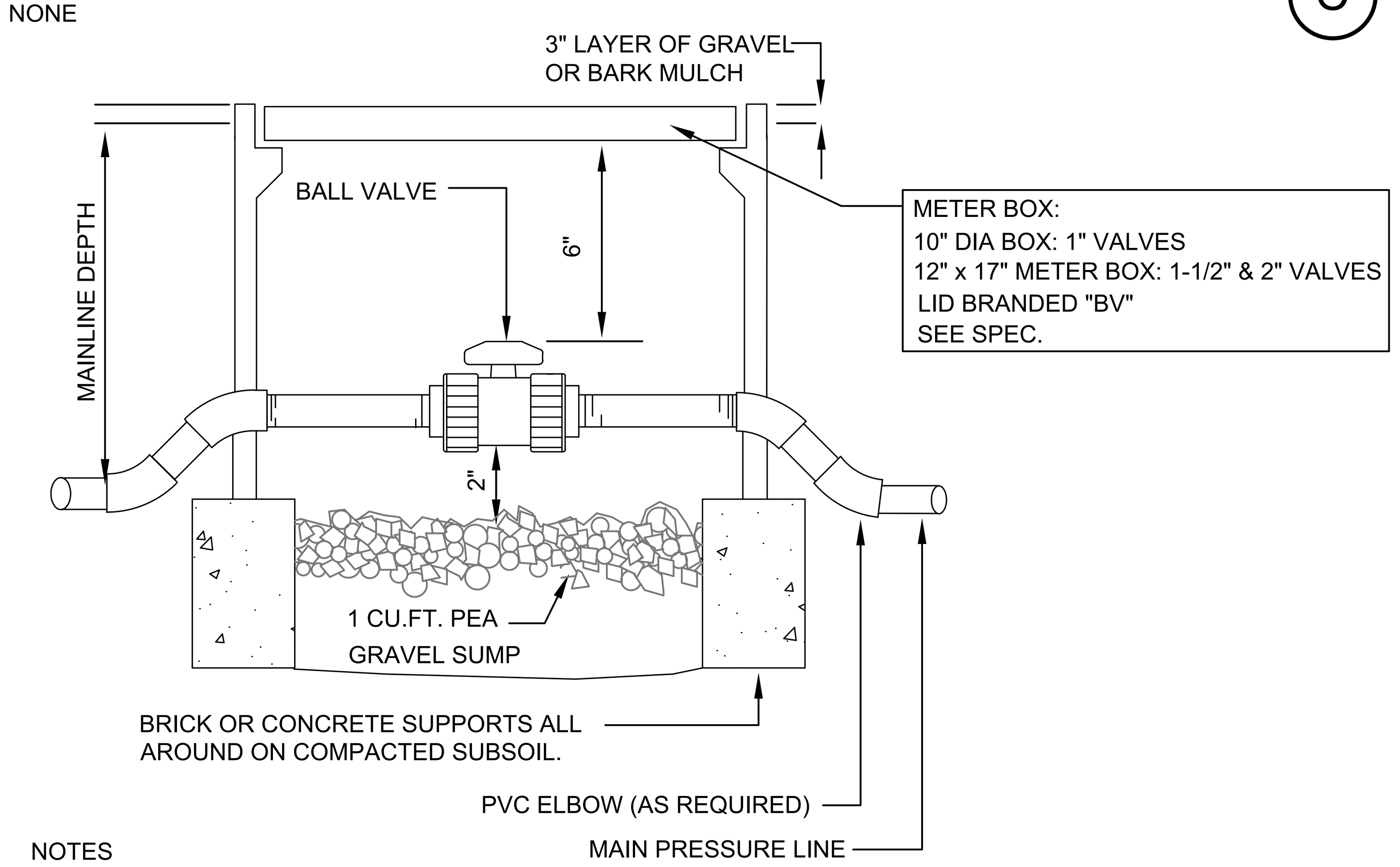
DIRECT BURIAL CONTROL WIRE (B)

SCALE: NONE



AUTOMATIC CONTROLLER EXTERIOR WALL MOUNT (C)

SCALE: NONE



NOTES
1. ALL NIPPLES MUST BE PVC SCHEDULE 80 .
2. CLOSE NIPPLES MUST NOT BE USED.
3. ALL FITTINGS MUST BE PVC SCHEDULE 40.

BALL VALVE (F)

SCALE: NONE

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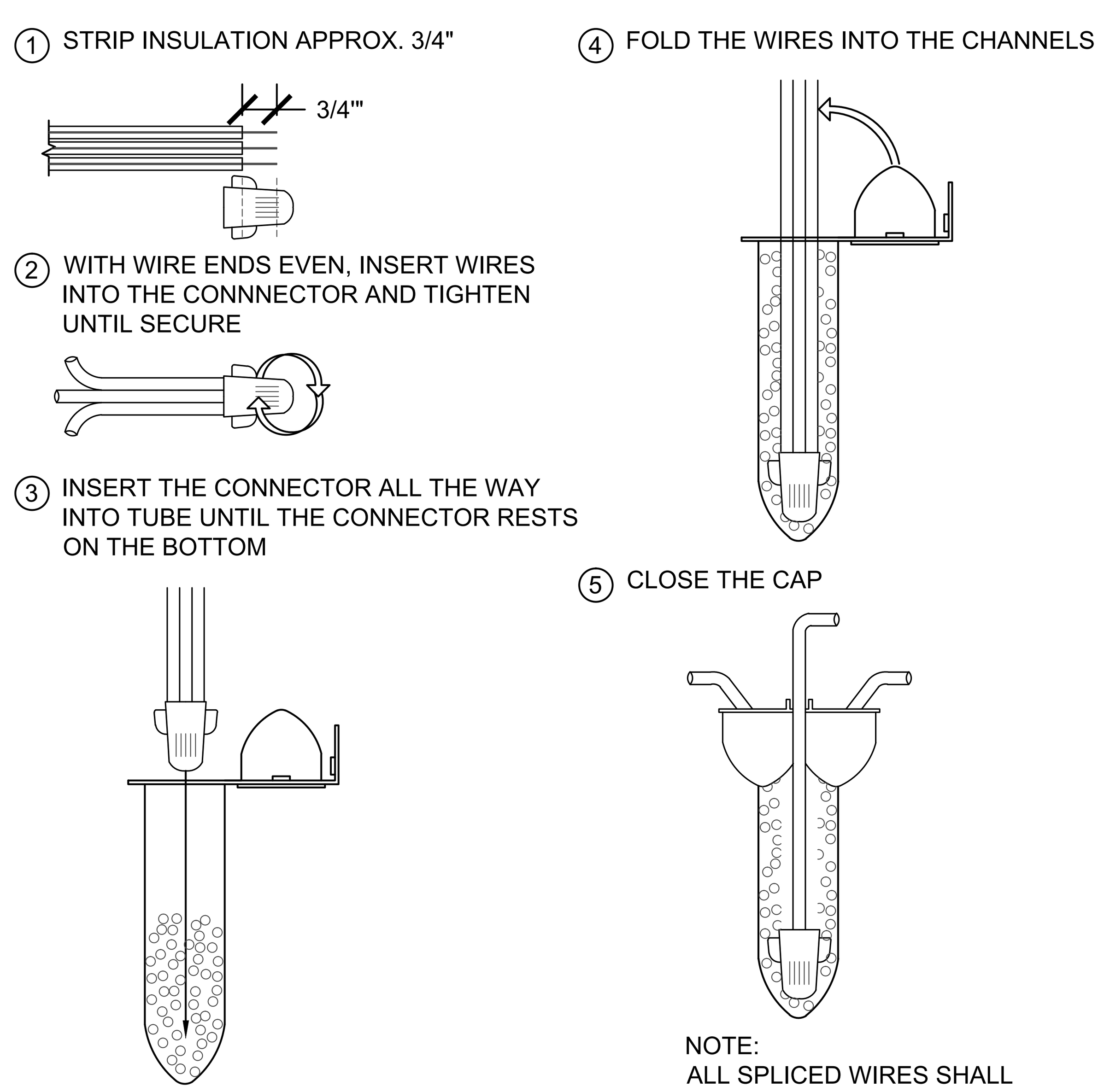
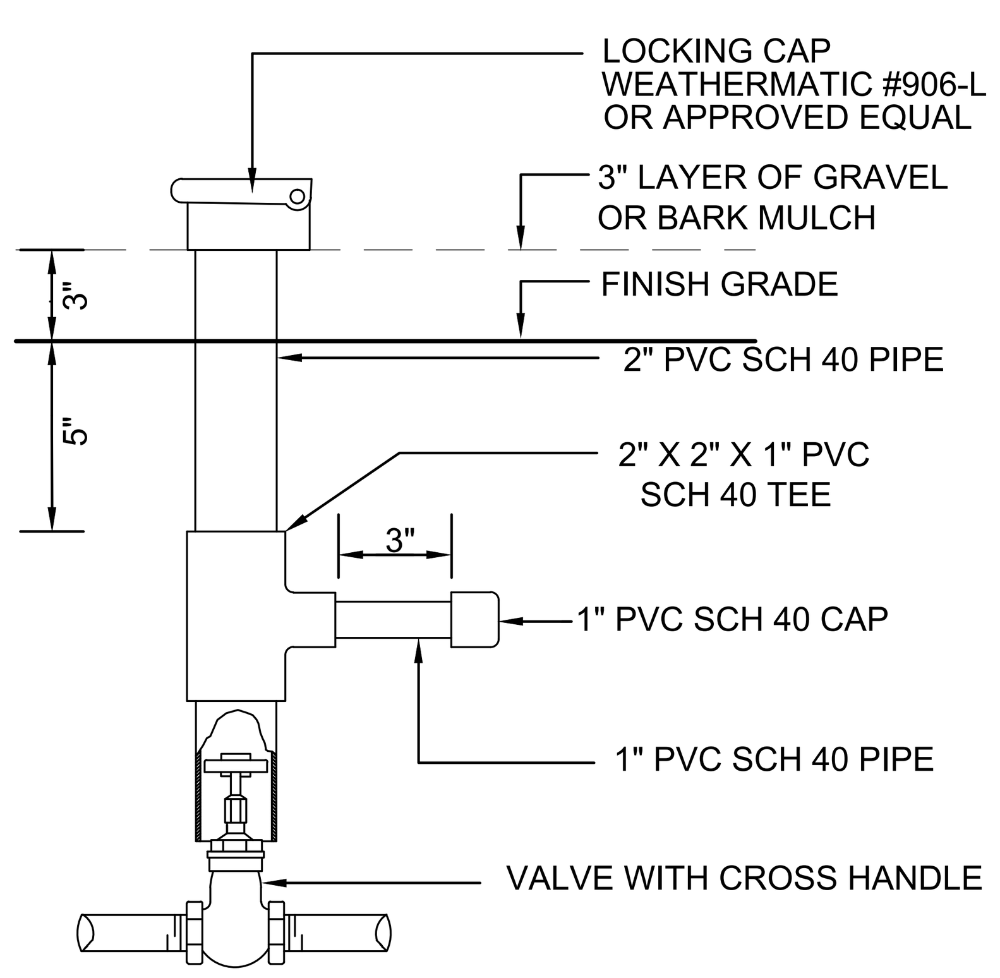


NOTE:
ALL SPLICED WIRES SHALL BE IN BOXES.

WIRE CONNECTORS (D)

SCALE: NONE



NOTES:
1. MANUAL VALVES MUST BE FURNISHED WITH A STANDARD MANUAL CONTROL VALVE BRONZE CROSS HANDLE.
2. VALVES MUST BE PROVIDED WITHIN 12" OF THE WATER MAIN UNLESS OTHERWISE SHOWN ON PLAN.
3. MANUAL VALVES MUST BE FURNISHED WITH A REMOVABLE BONNET AND PACKING GLAND NUT.
4. CLOSE NIPPLES MUST NOT BE USED.
5. LOCKING CAP MUST BE MOUNTED 1 INCH ABOVE FINISH GRADE IN SHRUB AREAS.

GLOBE VALVE IN PIPE SLEEVE (E)

SCALE: NONE

SURVEYOR: METROPOLITAN MAPPING

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(KYLE SIMON, LLA 6290) DATE

LICENSED LANDSCAPE ARCHITECT — KYLE J. SIMON — NO. 6290 — 8/22/22 — STATE OF CALIFORNIA
LIC.EXP. 7/30/2023

CALIFORNIA NATIONAL CITY INCORPORATED

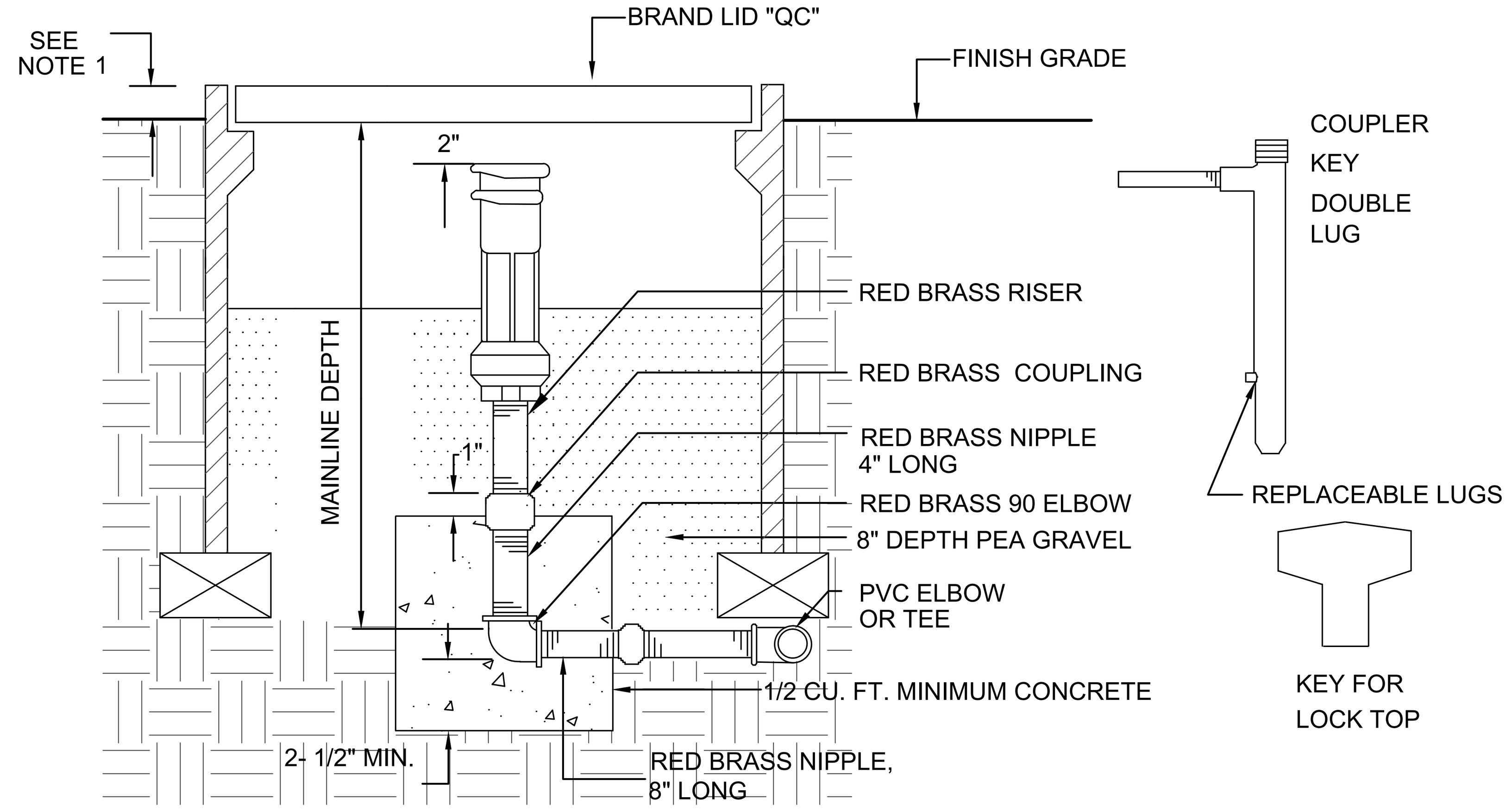
PLANS FOR THE IMPROVEMENTS OF:
1628 ORANGE STREET
LANDSCAPE CONSTRUCTION PLAN
CITY OF NATIONAL CITY

RCE# XXXXX DATE
DIRECTOR PUBLIC WORKS/CITY ENGINEER

PROJ. #XXXX-XXXX | NAD 83 HORIZ. DATUM
SHEET 6 OF 12 SHEETS | XXXXX- 6 -D

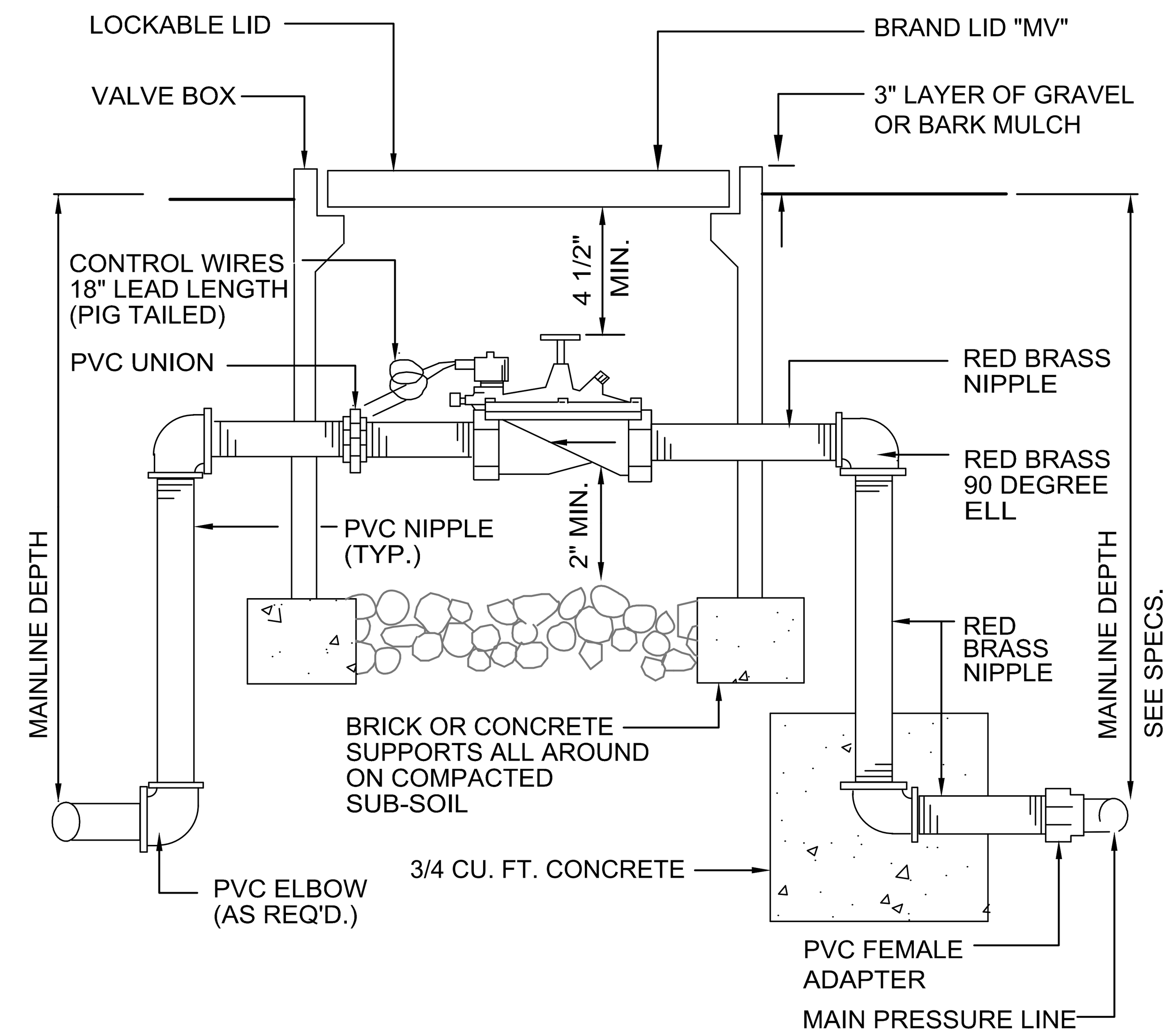
PRECISE GRADING PLANS - CITY OF NATIONAL CITY - ORANGE STREET RESIDENCES

PRECISE GRADING PLANS - CITY OF NATIONAL CITY - ORANGE STREET RESIDENCES

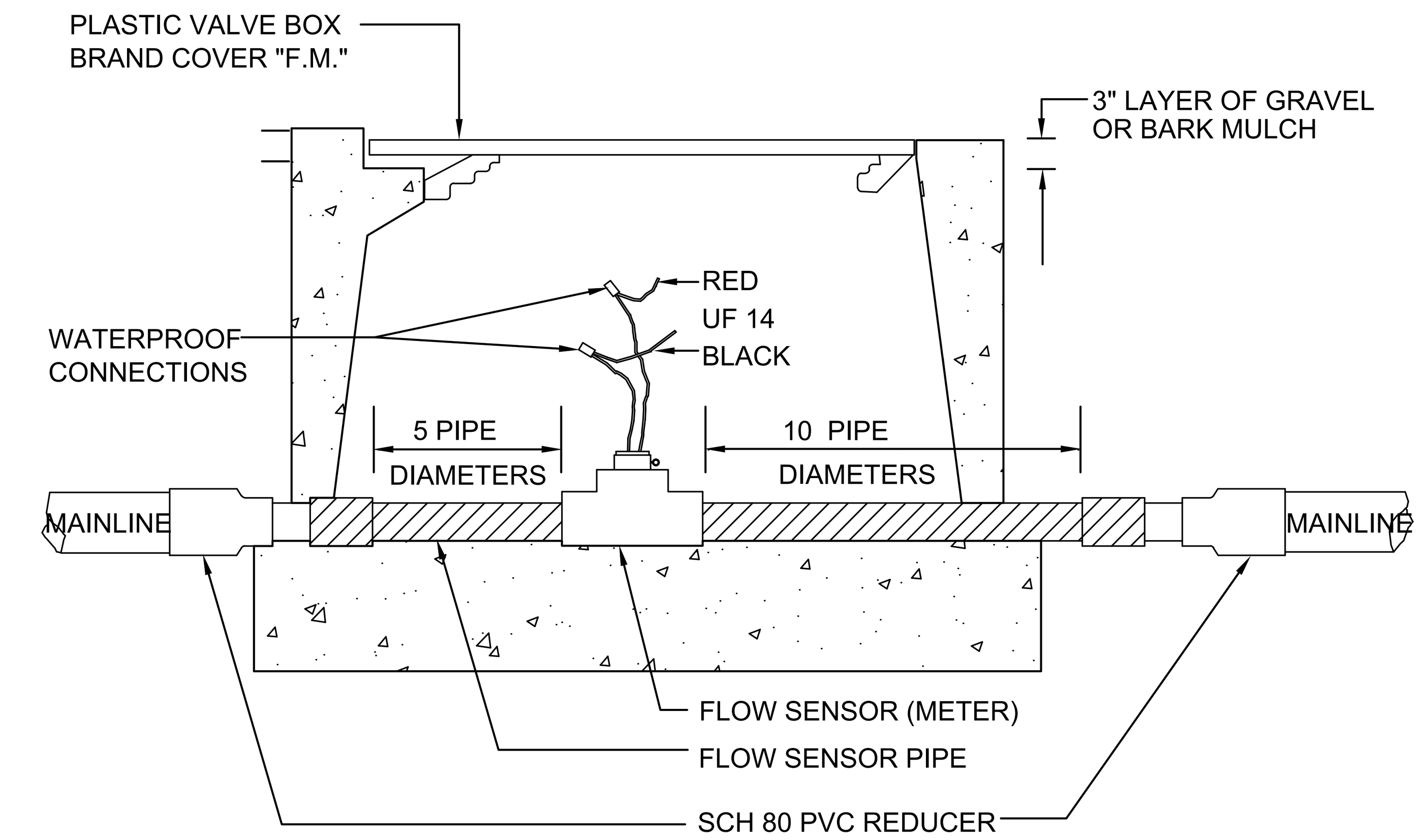


NOTES:
1) PLASTIC VALVE BOX MUST BE INSTALLED 3" ABOVE GRADE IN PLANTING AREAS.
2) DIMENSIONS OF CONCRETE ARE MINIMUMS.
3) CLOSE NIPPLES MUST NOT BE USED.
4) QUICK COUPLER TYPE APPROVED FOR RECYCLED WATER USE.

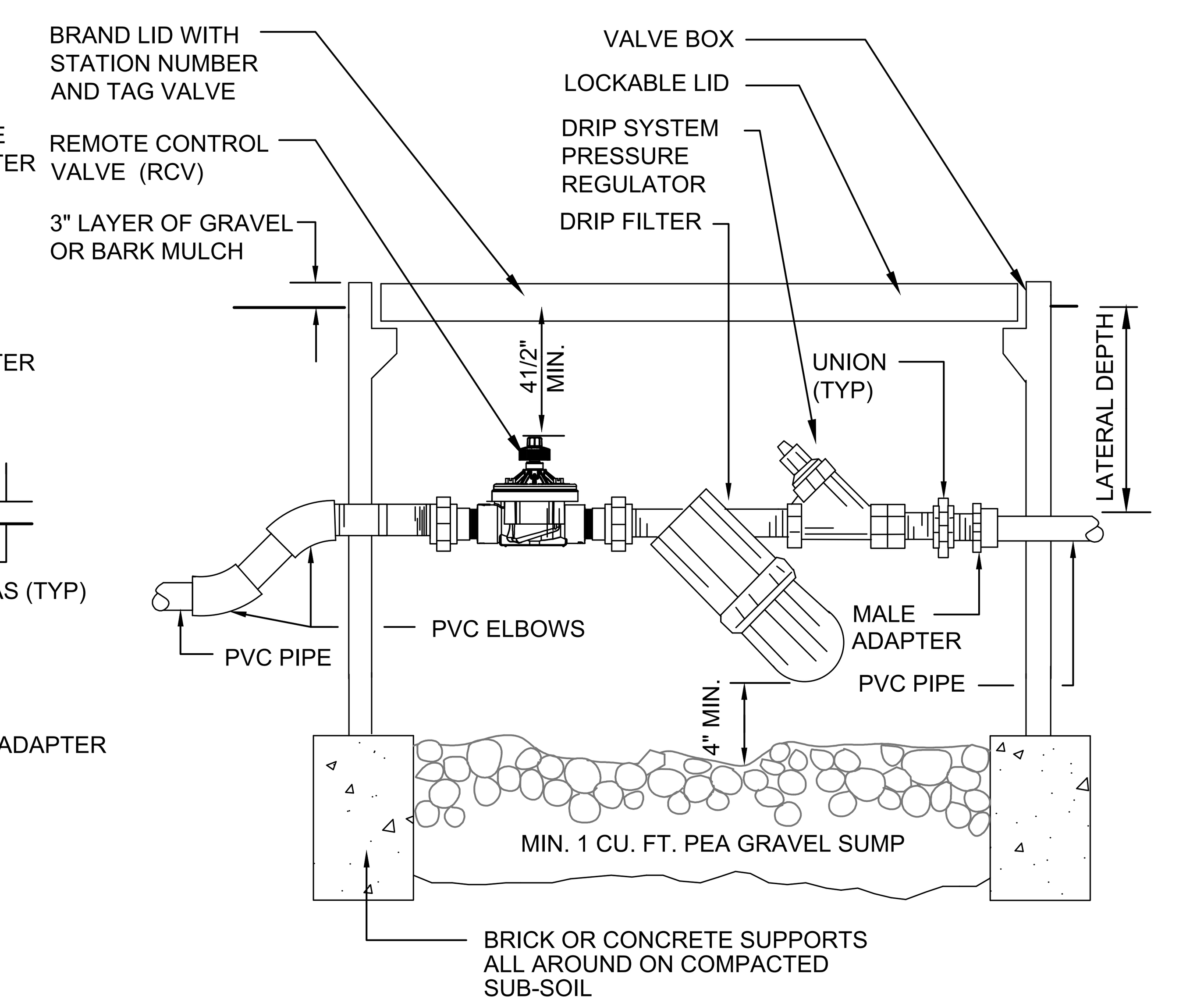
QUICK COUPLING VALVE (A)
SCALE: NONE



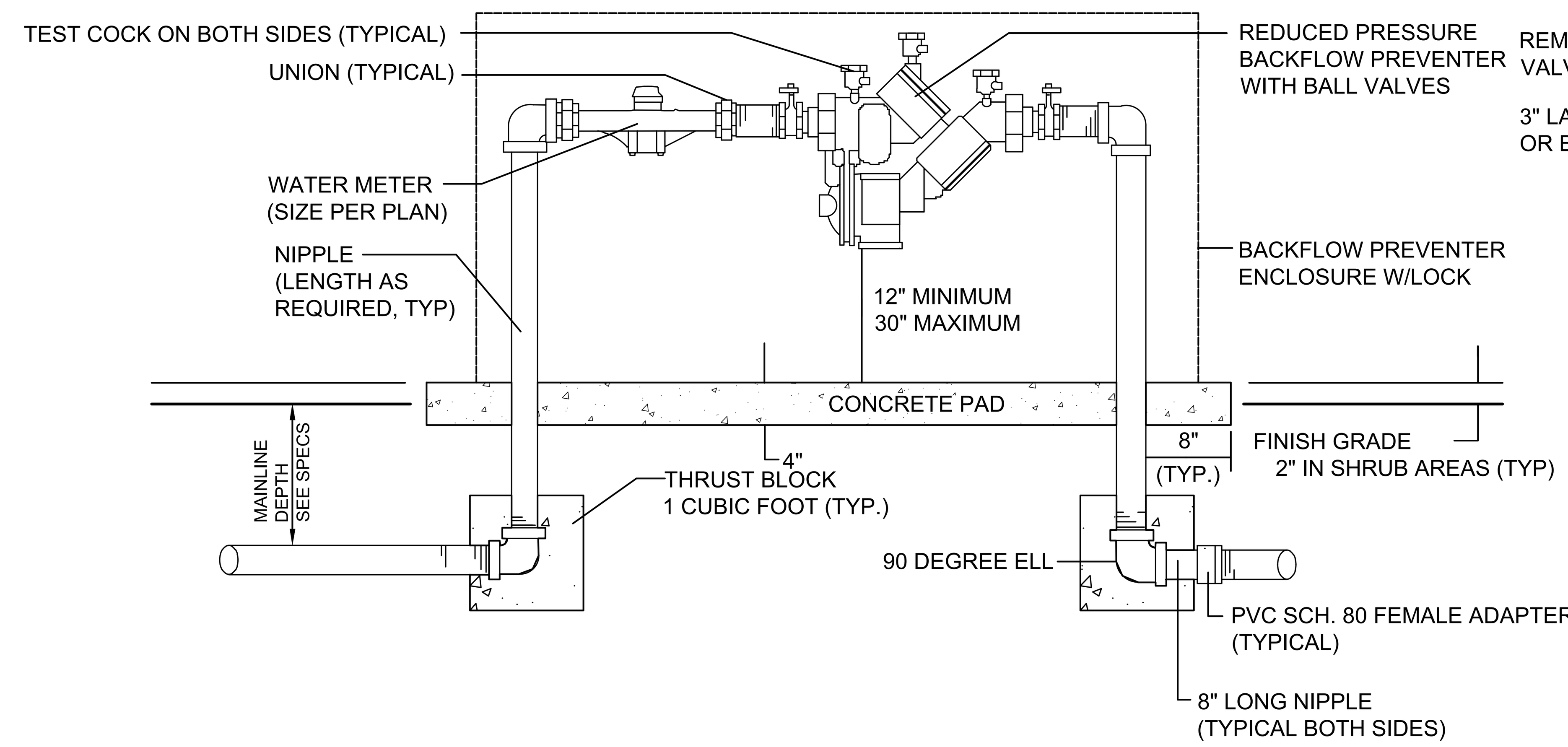
MASTER CONTROL VALVE (B)
SCALE: NONE

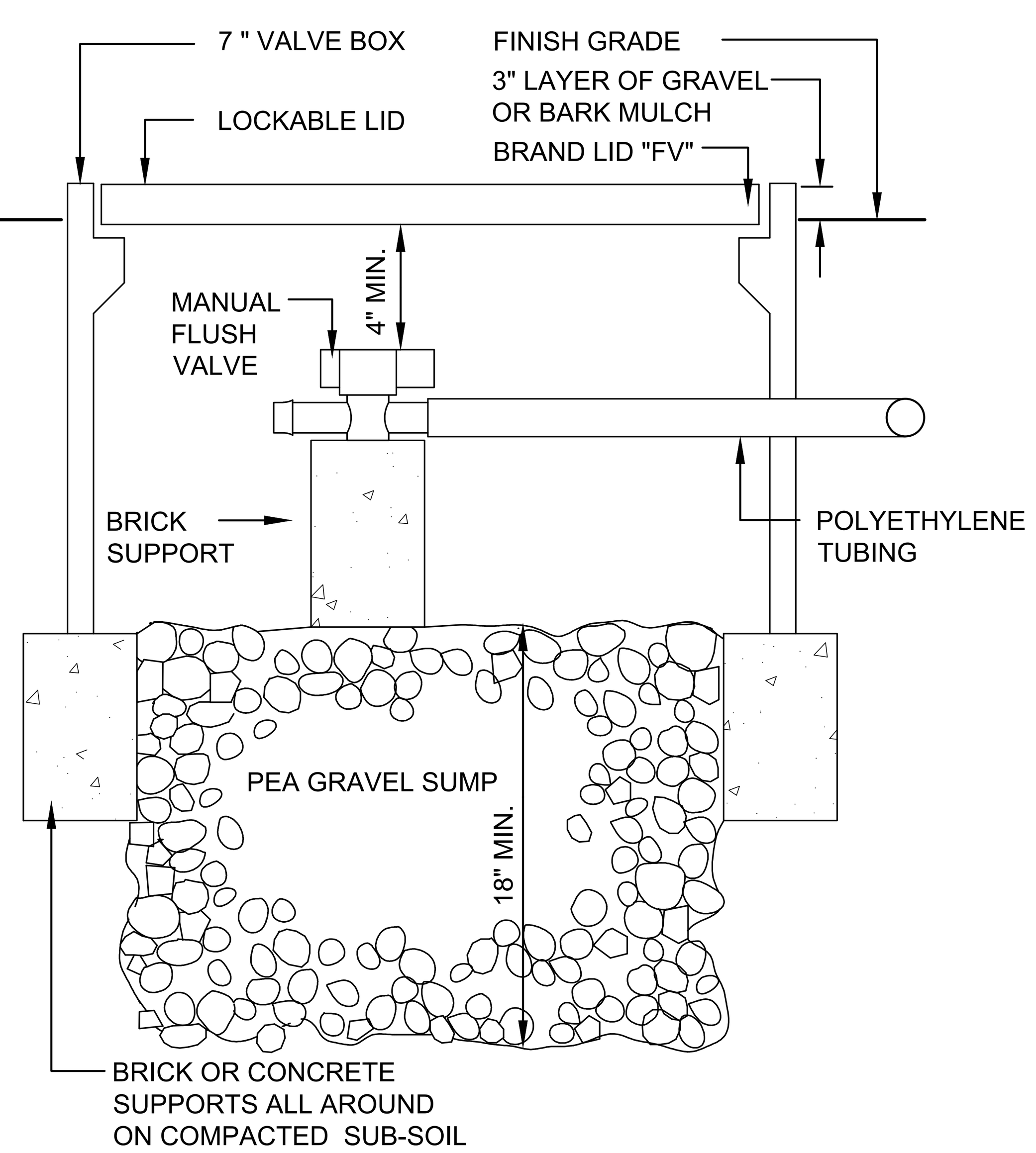


FLOW SENSOR (C)
SCALE: NONE



DRIP REMOTE CONTROL VALVE (F)
SCALE: NONE





NOTES:
1. ADJUST SHRUB PLANTING TO SCREEN BACKFLOW PREVENTER ASSEMBLY.
2. ALL EQUIPMENT INCLUDING UNIONS, ELBOWS AND NIPPLES SHALL BE BRASS.
3. CLOSE NIPPLES SHALL NOT BE USED.
4. TEFLON TAPE 3/4" WIDE SHALL BE USED ON ALL THREADED CONNECTIONS.
5. CONCRETE PAD SHALL BE 18" WIDE AND SHALL BE SET 1" ABOVE FINISH GRADE IN LAWN AREAS AND 2" ABOVE FINISH GRADE IN SHRUB AREAS.
6. BACKFLOW PREVENTER ASSEMBLY SHALL BE TESTED UPON INSTALLATION BY A CERTIFIED BACKFLOW DEVICE TESTER. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH WRITTEN TEST RESULTS COMPLETED BY CERTIFIED BACKFLOW TESTER PRIOR TO THE BACKFLOW PREVENTER ASSEMBLY'S ACCEPTANCE BY THE LANDSCAPE ARCHITECT.
7. INSTALL ALL COMPONENTS PER MANUFACTURER'S INSTRUCTIONS.

MANUAL FLUSH / SHUTOFF VALVE (D)
SCALE: NONE

METER AND BACKFLOW PREVENTER (E)
SCALE: NONE

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SURVEYOR: METROPOLITAN MAPPING
BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80
HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE CA COORDINATE SYSTEM, CCS83, ZONE 6, 2011.00 EPOCH, AS DETERMINED LOCALLY BY THE CENTERLINE OF ORANGE STREET AS SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS
DATE STARTED:
INSPECTOR:
DATE COMPLETED:

GEOTECHNICAL OF RECORD
PAUL J. DERISI — NAME
AGS — COMPANY
SIGNATURE

CONSTRUCTION SURVEYOR
NAME
COMPANY
SIGNATURE

ENGINEERING DEPARTMENT
AS-BUILT
REVISIONS

BY	APPROVED	DATE

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TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

PLANS REVIEWED BY:
RCE# XXXXX DATE
DEPUTY CITY ENGINEER
ENGINEERING DEPARTMENT DATE

DECLARATION OF RESPONSIBLE CHARGE
I HEREBY DECLARE THAT I AM THE LANDSCAPE ARCHITECT OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONAL CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.
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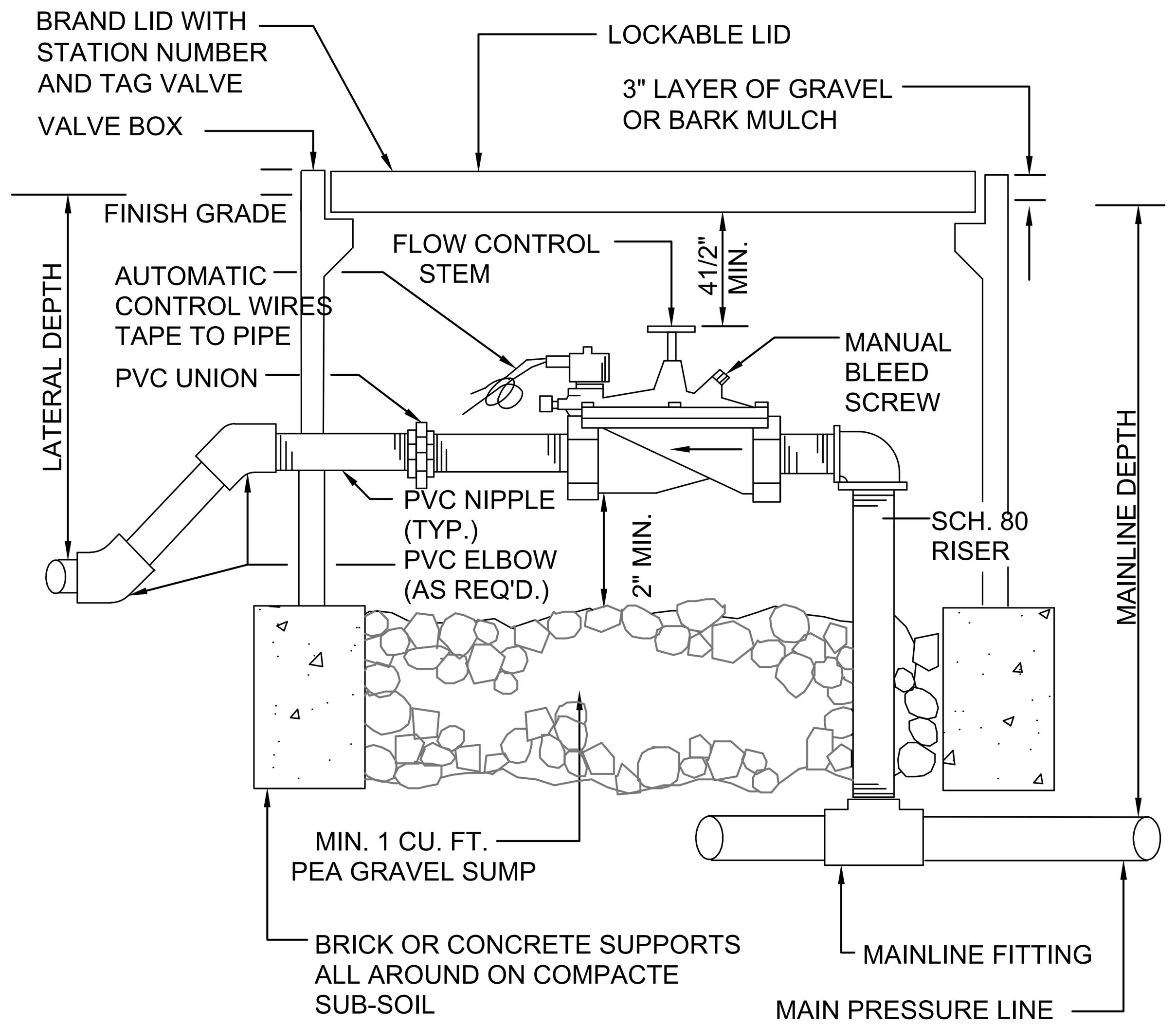
(KYLE SIMON, LLA 6290) DATE
LICENSED LANDSCAPE ARCHITECT KYLE J. SIMON NO. 6290 8/22/22 STATE OF CALIFORNIA
LIC.EXP. 7/30/2023

CALIFORNIA NATIONAL CITY INCORPORATED 1887

PLANS FOR THE IMPROVEMENTS OF:
1628 ORANGE STREET
LANDSCAPE CONSTRUCTION PLAN
CITY OF NATIONAL CITY
RCE# XXXXX DATE
DIRECTOR PUBLIC WORKS/CITY ENGINEER

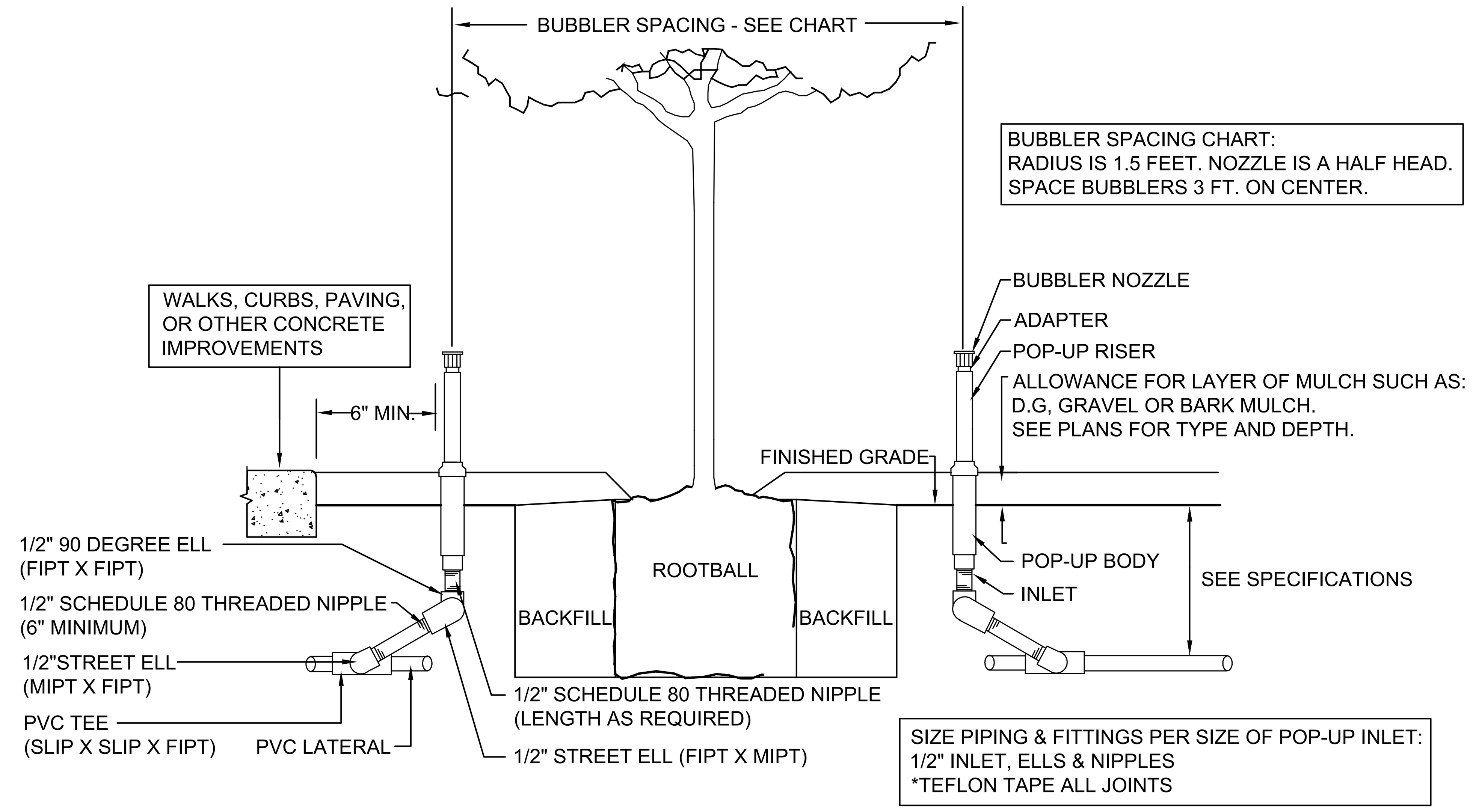
PROJ. #XXXX-XXXX	NAD 83 HORIZ. DATUM
SHEET 7 OF 12 SHEETS	XXXXX-7 -D

C:\Users\ksimon\Dropbox\SIMON dESIGN\2115 Orange Ave\2115 Design Drawings\2115 Working Drawings\2115 Construction Drawings\2115_irr.dwg, 8/22/2022 10:07:59 AM, Kyle Simon



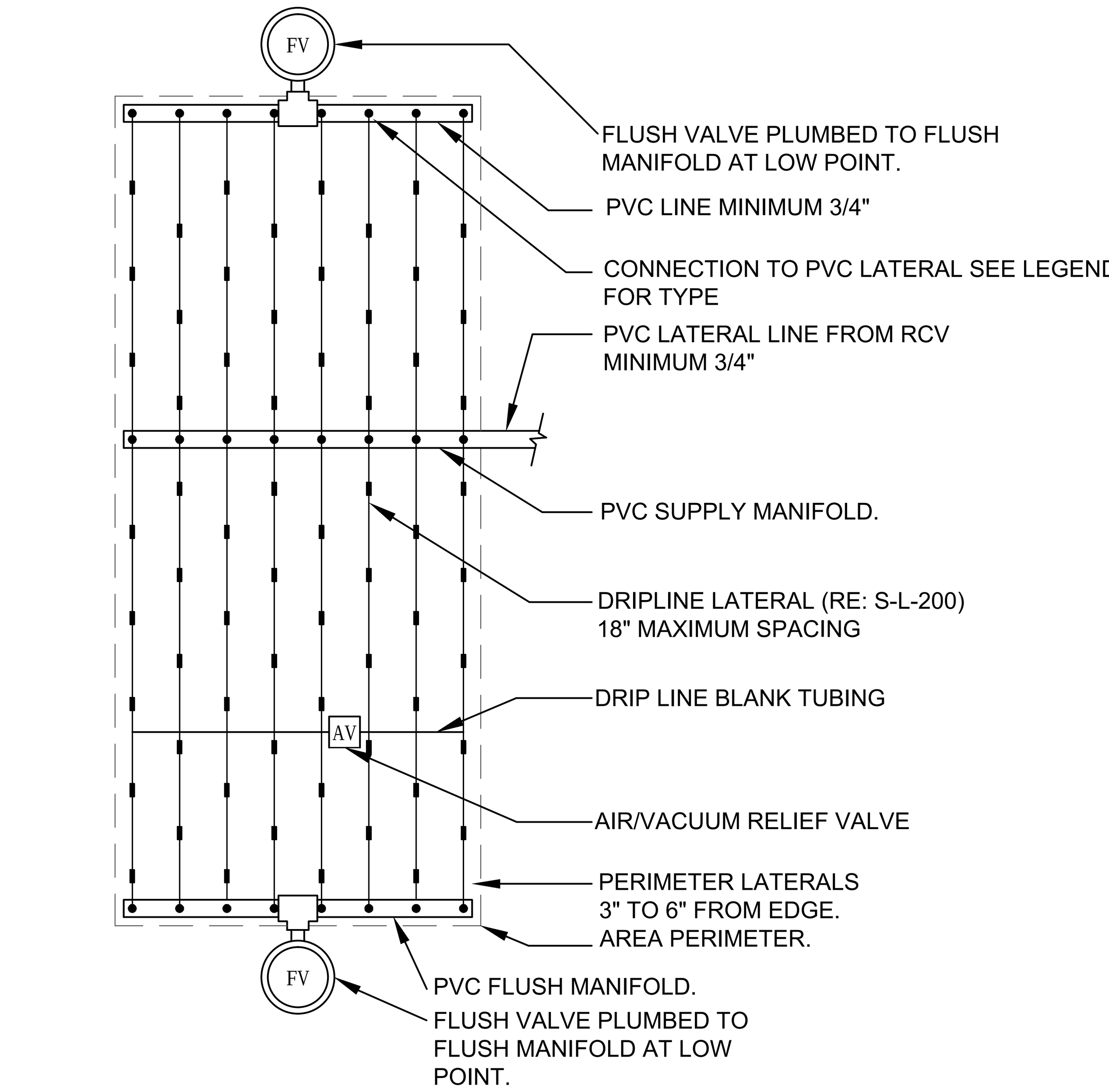
REMOTE CONTROL VALVE (A)

SCALE: NONE



STREAM BUBBLER NOZZLE ON 4" POP-UP DETAIL (B)

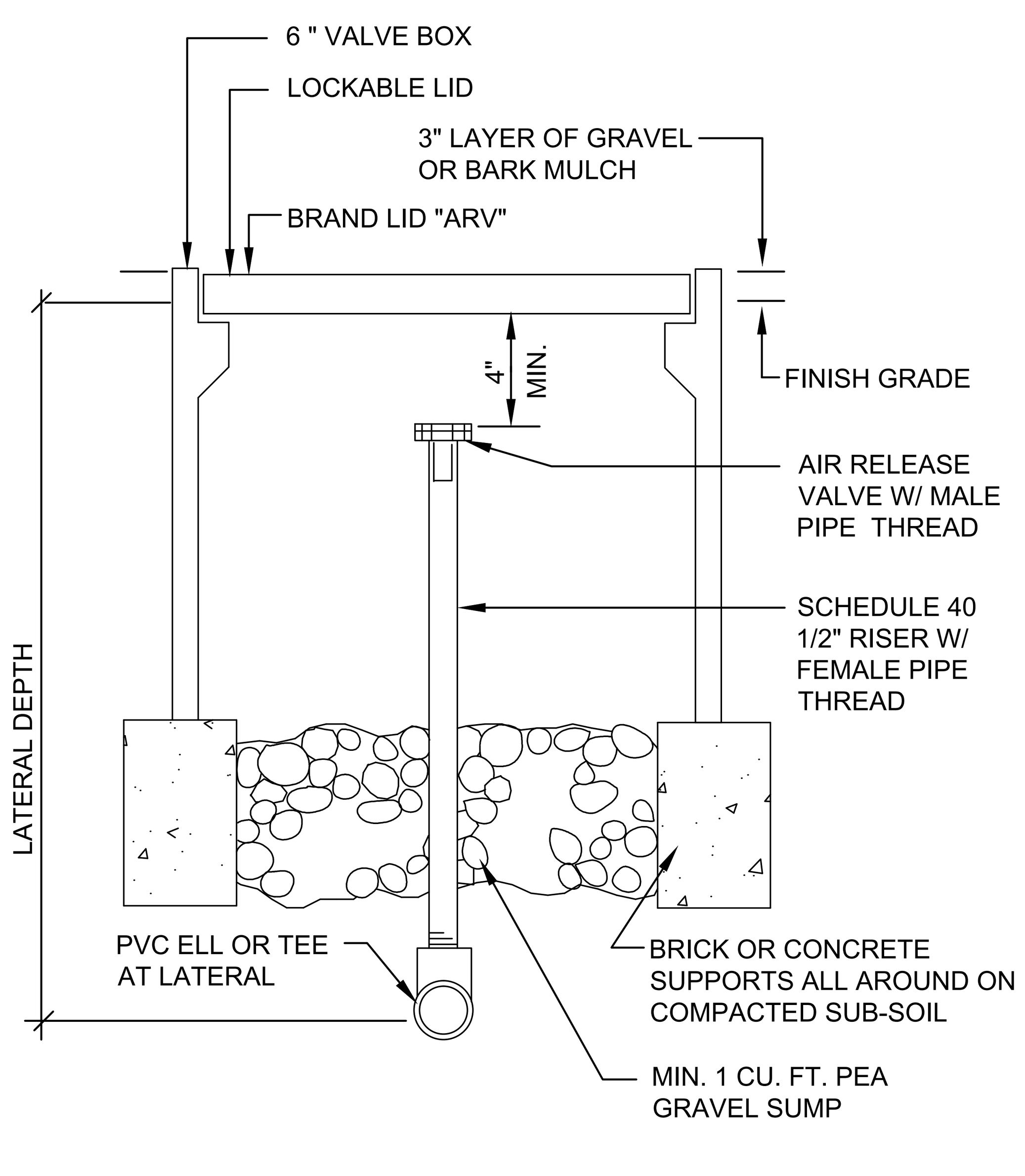
SCALE: NONE



NOTE:
RUN AIR/VACUUM RELIEF VALVE BLANK TUBING LATERAL ALONG HIGHPOINT OF MOUND OR BERM

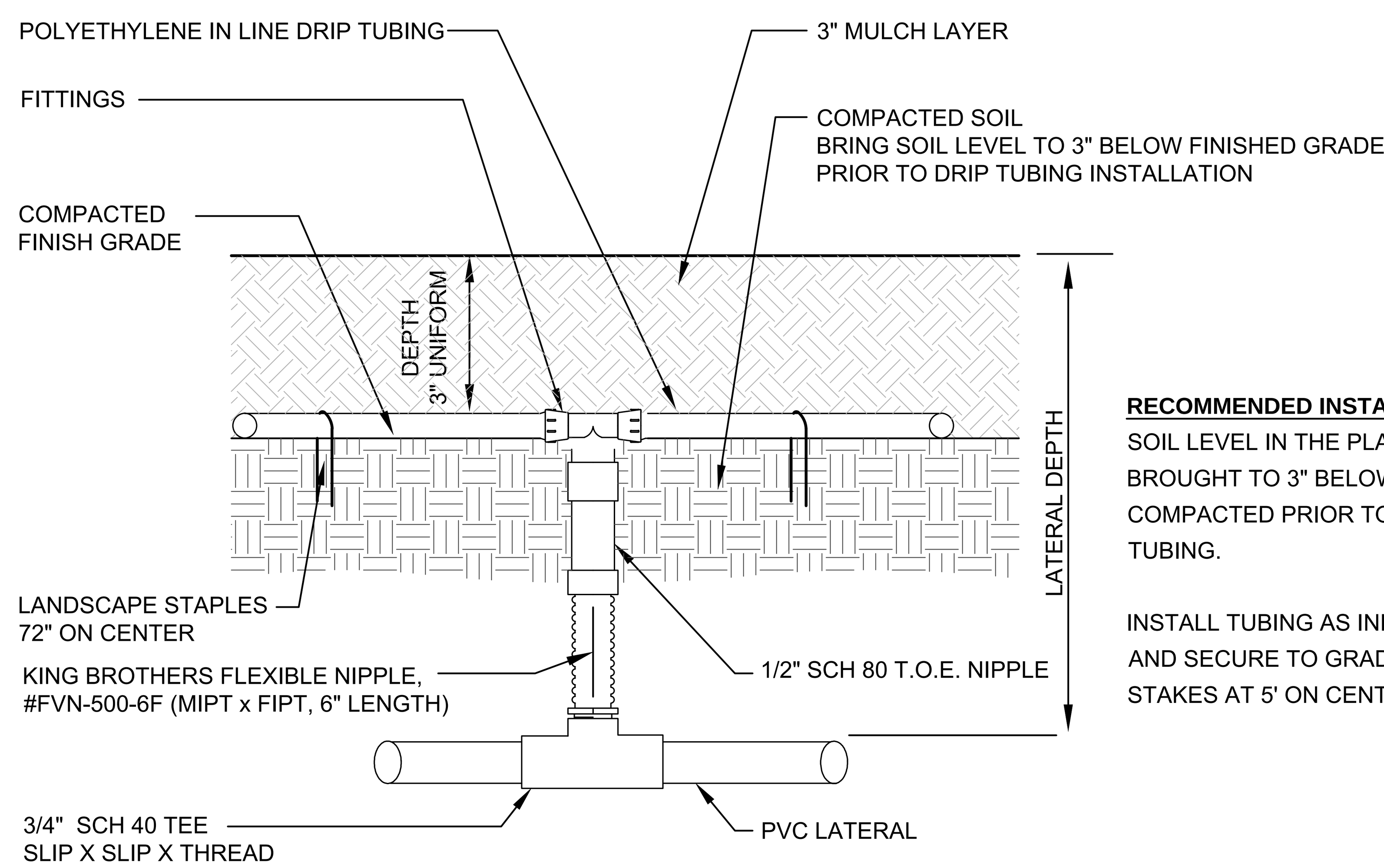
DRIP INSTALLATION (C)

SCALE: NONE



AIR RELEASE VALVE (D)

SCALE: NONE



RECOMMENDED INSTALLATION:

SOIL LEVEL IN THE PLANTING AREAS MUST BE BROUGHT TO 3" BELOW FINISHED GRADE, AND COMPACTED PRIOR TO INSTALLATION OF THE TUBING.

INSTALL TUBING AS INDICATED ON DRAWINGS AND SECURE TO GRADE USING WIRE HOOP STAKES AT 5' ON CENTER SPACING.

POLYETHYLENE DRIPLINE CONNECTION WITH FLEXIBLE RISER (E)

SCALE: NONE

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SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
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ENGINEERING DEPARTMENT

	BY	APPROVED	DATE
AS-BUILT			
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(KYLE SIMON, LLA 6290) — DATE

LICENSED LANDSCAPE ARCHITECT — KYLE J. SIMON — NO. 6290 — 8/22/22 — STATE OF CALIFORNIA
LIC.EXP. 7/30/2023

CALIFORNIA NATIONAL CITY INCORPORATED 1887

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET

LANDSCAPE CONSTRUCTION PLAN

CITY OF NATIONAL CITY

RCE# XXXXX — DATE
DIRECTOR PUBLIC WORKS/CITY ENGINEER

PROJ. #XXXX-XXXX	NAD 83 HORIZ. DATUM
SHEET 8 OF 12 SHEETS	XXXXX- 8 -D

PRECISE GRADING PLANS - CITY OF NATIONAL CITY - ORANGE STREET RESIDENCES

PLANT MATERIAL LEGEND

	CALLOUT SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	MINIMUM HEIGHT AND SPREAD	IRRIGATION DEMANDS H - HIGH M - MODERATE L - LOW N - RAINFALL ONLY	REMARKS	DETAIL	SHEET
TREES									
	ARB. UNE.	ARBUTUS UNEDO 'MARINA'	MARINA STRAWBERRY TREE	24" BOX.	8' X 4'	L	STANDARD & STRAIGHT TRUNK; GOOD CALIPER, STAKE	A	11
	CIT. SPP.	CITRUS 'MYERS LEMON'	DWARF LEMON TREE	24" BOX.	8' X 4'	REGULAR	STANDARD & STRAIGHT TRUNK; GOOD CALIPER, STAKE	A	11
	PLA. RAC.	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	24" BOX.	8' X 4'	REGULAR	STANDARD & STRAIGHT TRUNK; GOOD CALIPER, STAKE	A	11
	WAS. FIL.	WASHINGTONIA FILIBUSTA	HYBRID FAN PALM	8' BTH	8' X 6'	M	STRAIGHT TRUNK; FULL HEAD, GOOD FORM	B	11
SHRUBS & SUCCULENTS									
	AGA. ATT.	AGAVE ATTENUATA	FOXTAIL AGAVE	1 GAL.	10" X 8"	L	FULL CLUMPS, GOOD COLOR, VIGOROUS	C	11
	ALO. VER.	ALOE VERA	MEDICINAL ALOE	1 GAL.	10" X 8"	L	FULL CLUMPS, GOOD COLOR, VIGOROUS	C	11
	BOU. GRA.	BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLOND AMBITION BLUE GAMA GRASS	1 GAL.	8" X 7"	L	FULL CLUMPS, GOOD COLOR, VIGOROUS	C	11
	FUR. GIG.	FURCREA GIGANTICA VARIEGATA	VARIEGATED FALSE YUCCA	5 GAL.	12" x 12"	L	FULL SWORDS, GOOD COLOR, VIGOROUS	C	11
	HES. PAR.	HESPERALOE PARVIFOLIA	RED YUCCA	5 GAL.	12" x 12"	L	FULL CLUMPS, GOOD COLOR, VIGOROUS	C	11
	LOM. LON.	LOMANDRA LONGIFOLIA 'PLATINUM BEAUTY'	VARIEGATED DWARF MAT RUSH	1 GAL	10" X 8"	L	FULL CLUMPS, GOOD COLOR, VIGOROUS	C	11
	MUH. RIG.	MUHLENBERGIA RIGENS	DEER GRASS	1 GAL	10" X 8"	L	FULL CLUMPS, FULL FORM, GOOD COLOR, VIGOROUS	C	11
	ROS. ICE.	ROSA ICEBERG	ICEBERG ROSE	1 GAL	10" X 8"	M	FULL & BUSHY TO GROUND, GOOD COLOR.	C	11
	SAL. POZ.	SALVIA 'POZO BLUE'	POZO BLUE SAGE	1 GAL	10" X 8"	L	FULL & BUSHY TO GROUND, GOOD COLOR.	C	11
	VER. LIL.	VERBENA LILACINA 'DE LA MINA'	PURPLE CEDROS ISLAND VERBENA	1 GAL	10" X 8"	L	FULL & BUSHY TO GROUND, GOOD COLOR.	C	11
GROUNDCOVERS / VINES									
	BAC. PIL.	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BUSH	1 GAL.	6" X 8"	L	FULL & BUSHY TO GROUND, GOOD COLOR.	C	11
	FIC. PUM.	FICUS PUMILA	CREEPING FIG	1 GAL.	SPREADING	M	STAKED; FULL FORM AND COLOR, VIGOROUS	D	11
	KUR. GC.	KURAPIA GROUND COVER	KURAPIA	FLATS	-	L	FULL FLATS, GOOD COLOR. PLANT 12" O.C.	E	11
	LAN. NG.	LANTANA 'NEW GOLD'	NEW GOLD LANTANA	1 GAL.	6" X 8"	L	FULL & BUSHY TO GROUND, GOOD COLOR.	C	11
	SAL. SPA.	SALVIA SPATHACEA	HUMMINGBIRD SAGE	1 GAL.	6" X 8"	L	FULL & BUSHY TO GROUND, GOOD COLOR.	C	11
	SEN. SER.	SENECIO SERPENS	BLUE CHALKSTICKS	4" POT	4" x 4"	L	FULL CLUMPS, GOOD COLOR,	E	11

PLANTING NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES.
2. THE LANDSCAPE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES. LANDSCAPE AREAS SHALL BE FINISH GRADED AT A MINIMUM OF 2%.
3. LANDSCAPE AREAS SHALL BE FINISH GRADED TO REMOVE ROCKS ONE INCH AND LARGER AND EXCESS SOIL. CONTRACTOR SHALL STOCKPILE EXCESS SOIL AND HAUL AWAY AT END OF PROJECT.
4. FINISH SOIL SHALL BE 4 INCHES BELOW TOP OF PAVING IN SHRUB AND GROUNDCOVER AREAS AND 1 INCH BELOW TOP OF PAVING IN LAWN AREAS.
5. THE RECOMMENDATIONS OF THE SOILS REPORT FOR AMENDING SOIL SHALL SUPERSEDE THE RECOMMENDATIONS LISTED IN THE SPECIFICATIONS. CONTRACTOR SHALL SUBMIT AN AGRICULTURAL SUITABILITY AND FERTILITY ANALYSIS OF REPRESENTATIVE SOIL SAMPLES TO THE LANDSCAPE ARCHITECT AND/OR OWNER, OR OWNER'S REPRESENTATIVE PRIOR TO ANY PLANTING WORK.
6. ALL PLANT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND/OR OWNER OR OWNER'S REPRESENTATIVE PRIOR TO PLANTING. ALL PLANT MATERIAL NOT APPROVED SHALL BE REMOVED FROM THE SITE.
7. PLACEMENT OF PLANT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND/OR OWNER OR OWNER'S REPRESENTATIVE PRIOR TO EXCAVATION FOR HOLES.
8. TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM STRUCTURES. CENTER OF SHRUBS SHALL BE LOCATED A MINIMUM AND UNIFORM DISTANCE OF 36 INCHES FROM WALLS AND CONCRETE IMPROVEMENTS. GROUNDCOVER SHALL BE LOCATED A MINIMUM AND UNIFORM DISTANCE OF 24 INCHES FROM WALLS AND CONCRETE IMPROVEMENTS. LOCATION TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
9. LOCATE AND ALIGN DOUBLE STAKES FOR TREES PERPENDICULAR TO PREVAILING WINDS.
10. PLACEA 3 INCH LAYER OF BARK MULCH IN SHRUB AND GROUNDCOVER AREAS UNLESS OTHERWISE NOTED ON LANDSCAPE CONSTRUCTION PLAN. BARK SHALL BE PER SHEET L1.1. DO NOT PLACE BARK MULCH ON SLOPES GREATER THAN THREE TO ONE (3:1).
11. THE MAINTENANCE PERIOD WILL BEGIN ONLY UPON ACCEPTANCE IN WRITING BY THE LANDSCAPE ARCHITECT AND THE OWNER.
12. QUANTITIES SHOWN ON PLANTING PLAN ARE FOR THE CONVENIENCE OF THE CONTRACTOR. PLANT SYMBOLS INDICATED SUPERSEDE QUANTITIES SHOWN.
13. CONTRACTOR SHALL INSTALL ROOT BARRIERS FOR ALL TREES WHICH ARE LOCATED WITHIN 5 FEET OF ANY HARDSCAPE, PAVEMENT OR CURB. EXTEND 8 FEET FROM CENTERLINE OF TREE IN BOTH DIRECTIONS ALONG CONCRETE IMPROVEMENT (A SINGLE LENGTH OF ROOTGUARD FOR A SINGLE TREE WOULD BE 16 FEET). ROOT BARRIERS SHALL NOT BE WRAPPED ROOTBALL.

MIN. TREE / IMPROVEMENT SEPARATION DISTANCE:

TRAFFIC SIGNAL / STOP SIGN - 20 FEET
UNDERGROUND UTILITY LINES - 5 FEET
ABOVE GROUND UTILITY STRUCTURES - 10 FEET
SEWERS - 10 FEET
DRIVEWAYS - 10 FEET
INTERSECTIONS (INTERSECTING CURB LINES OF TWO STREETS) - 25 FEET

MAINTENANCE:

ALL REQUIRED LANDSCAPE AREAS SHALL BE MAINTAINED BY THE OWNER. LANDSCAPE AREAS SHALL BE FREE OF DEBRIS AND LITTER AND ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION

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WATER EFFICIENT LANDSCAPE DECLARATION

" I AM FAMILIAR WITH THE REQUIREMENTS FOR LANDSCAPE AND IRRIGATION PLANS CONTAINED IN THE CITY OF NATIONAL CITY'S LANDSCAPE MANUAL AND WATER EFFICIENT LANDSCAPE REGULATIONS. I HAVE PREPARED THIS PLAN IN COMPLIANCE WITH THOSE REGULATIONS TO THE LANDSCAPE MANUAL AND AGREE TO COMPLY WITH ALL REQUIREMENTS WHEN SUBMITTING CONSTRUCTION DOCUMENTS. I CERTIFY THAT THE PLAN IMPLEMENTS THOSE REGULATIONS TO PROVIDE EFFICIENT USE OF WATER."

SIGNATURE__________ DATE 08-20-2022

TOTAL LANDSCAPE AREA	21,389 SQ.FT.
MINUS PAVING: LANDSCAPE AREA:	5,210 SQ.FT. (25%)

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PLANS REVIEWED BY:

________ RCE# XXXXX DEPUTY CITY ENGINEER ____ DATE

ENGINEERING DEPARTMENT ____ DATE

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(KYLE SIMON, LLA 6290) ____ DATE

LICENSED LANDSCAPE ARCHITECT — KYLE J. SIMON — NO. 6290 — 8/22/22 — STATE OF CALIFORNIA
LIC.EXP. 7/30/2023

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET
LANDSCAPE CONSTRUCTION PLAN

CITY OF NATIONAL CITY

________ RCE# XXXXX DIRECTOR PUBLIC WORKS/CITY ENGINEER ____ DATE

PROJ. #XXXX-XXXX | NAD 83 HORIZ. DATUM

SHEET 9 OF 12 SHEETS | XXXXX- 9 -D

PRECISE GRADING PLANS - CITY OF NATIONAL CITY - ORANGE STREET RESIDENCES

SURVEYOR: METROPOLITAN MAPPING
BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80
HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE CA COORDINATE SYSTEM, CCS83, ZONE 6, 2011.00 EPOCH, AS DETERMINED LOCALLY BY THE CENTERLINE OF ORANGE STREET AS SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS — DATE STARTED: — INSPECTOR: — DATE COMPLETED:

GEOTECHNICAL OF RECORD — PAUL J. DERISI, NAME — AGS, COMPANY — SIGNATURE

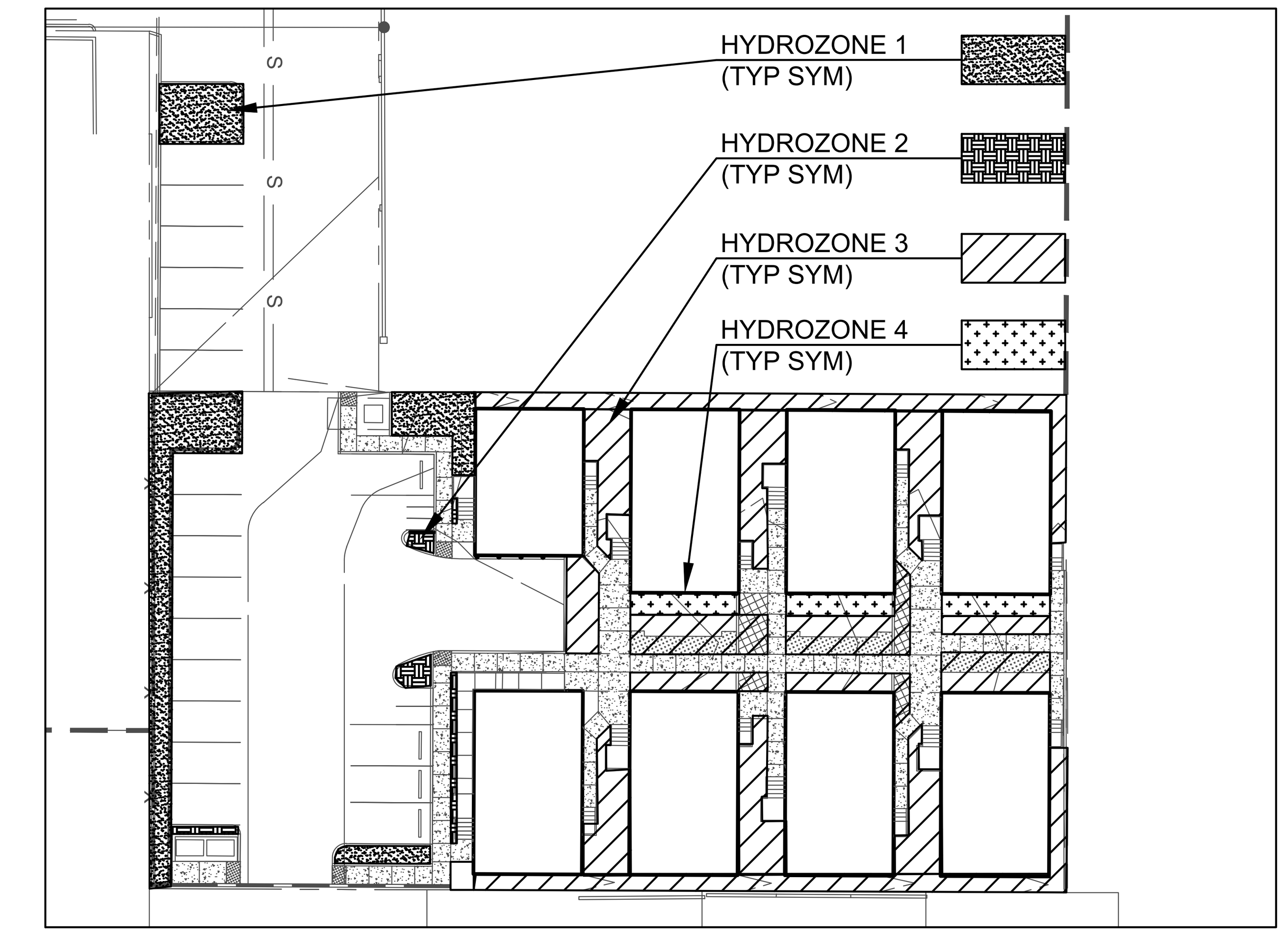
CONSTRUCTION SURVEYOR — NAME — COMPANY — SIGNATURE

ENGINEERING DEPARTMENT — AS-BUILT — REVISIONS — BY — APPROVED — DATE

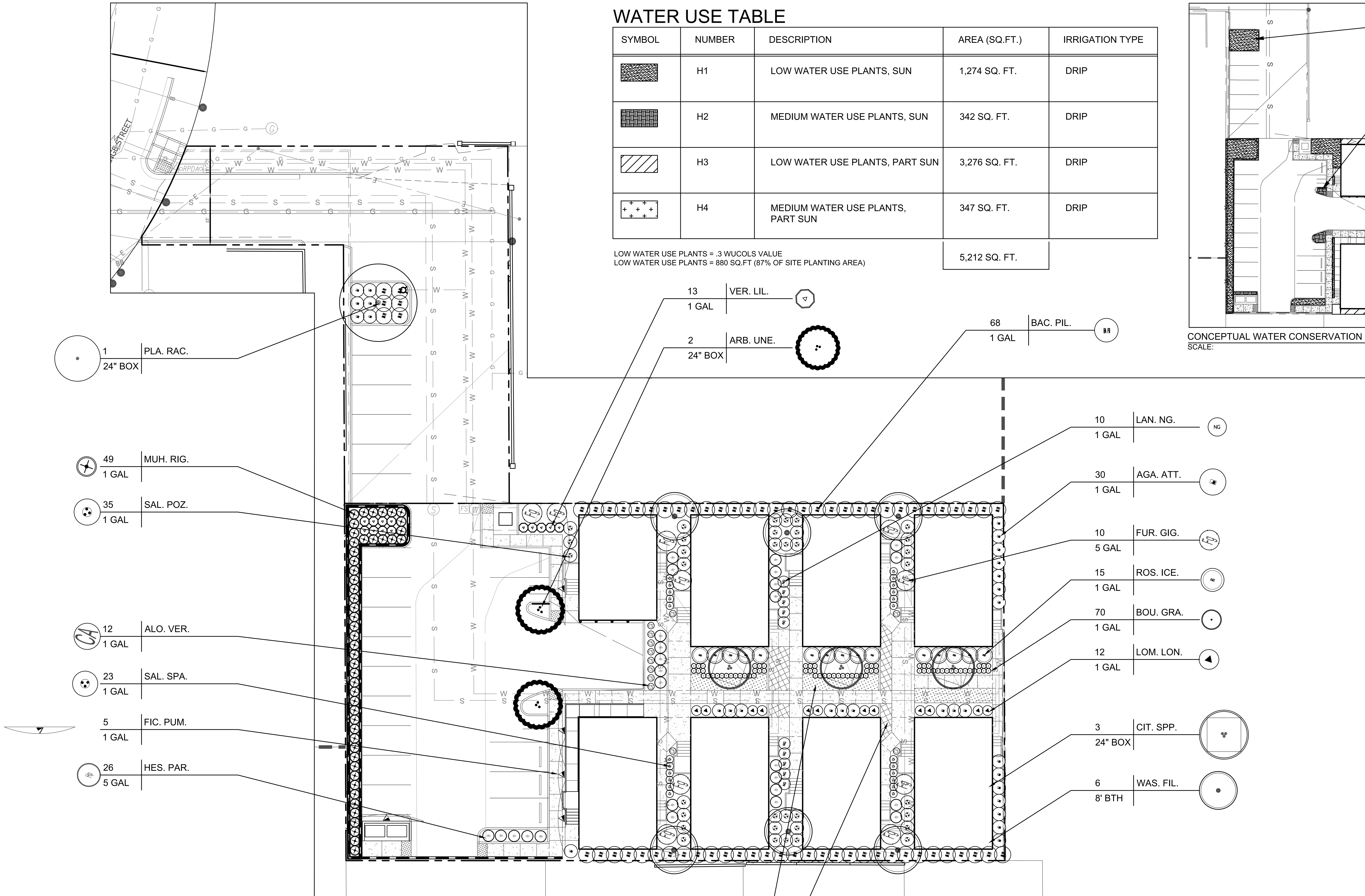
WATER USE TABLE

SYMBOL	NUMBER	DESCRIPTION	AREA (SQ.FT.)	IRRIGATION TYPE
	H1	LOW WATER USE PLANTS, SUN	1,274 SQ. FT.	DRIP
	H2	MEDIUM WATER USE PLANTS, SUN	342 SQ. FT.	DRIP
	H3	LOW WATER USE PLANTS, PART SUN	3,276 SQ. FT.	DRIP
	H4	MEDIUM WATER USE PLANTS, PART SUN	347 SQ. FT.	DRIP
			5,212 SQ. FT.	

LOW WATER USE PLANTS = .3 WUCOLS VALUE
LOW WATER USE PLANTS = 880 SQ.FT (87% OF SITE PLANTING AREA)



CONCEPTUAL WATER CONSERVATION PLAN
SCALE: NO SCALE



LANDSCAPE PLANTING PLAN
SCALE: 1/16" = 1'-0"

- FLATS	SEN. SER.
- FLATS	KUR. GC.

MINIMUM STREET TREE SEPARATION DISTANCES:

INTERSECTIONS.....25 FEET
DRIVEWAYS.....10 FEET
SEWER LATERALS.....10 FEET
FRONT OF TRAFFIC SIGNAL, STOP SIGN.....20 FEET
BACK OF TRAFFIC SIGNAL, STOP SIGN.....10 FEET
UNDERGROUND UTILITY LINES.....5 FEET
ABOVE GROUND UTILITY STRUCTURES.....10 FEET
STREET LIGHTS.....15 FEET

GRAPHIC SCALE (IN FEET)
16 8 0 8 16 32
1/16 INCH = 1 FT

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PRECISE GRADING PLANS - CITY OF NATIONAL CITY - ORANGE STREET RESIDENCES

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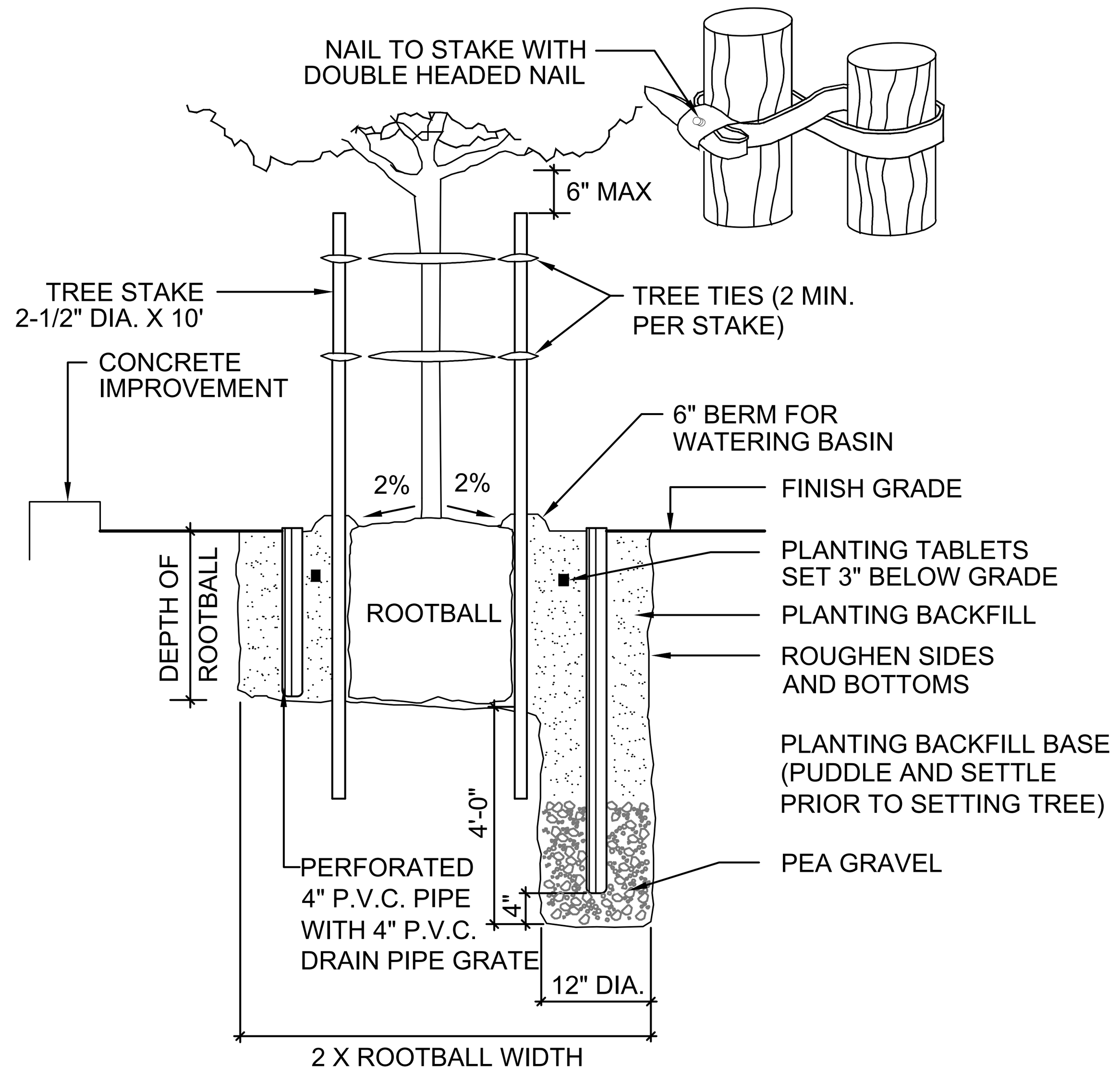
NAME

COMPANY

SIGNATURE

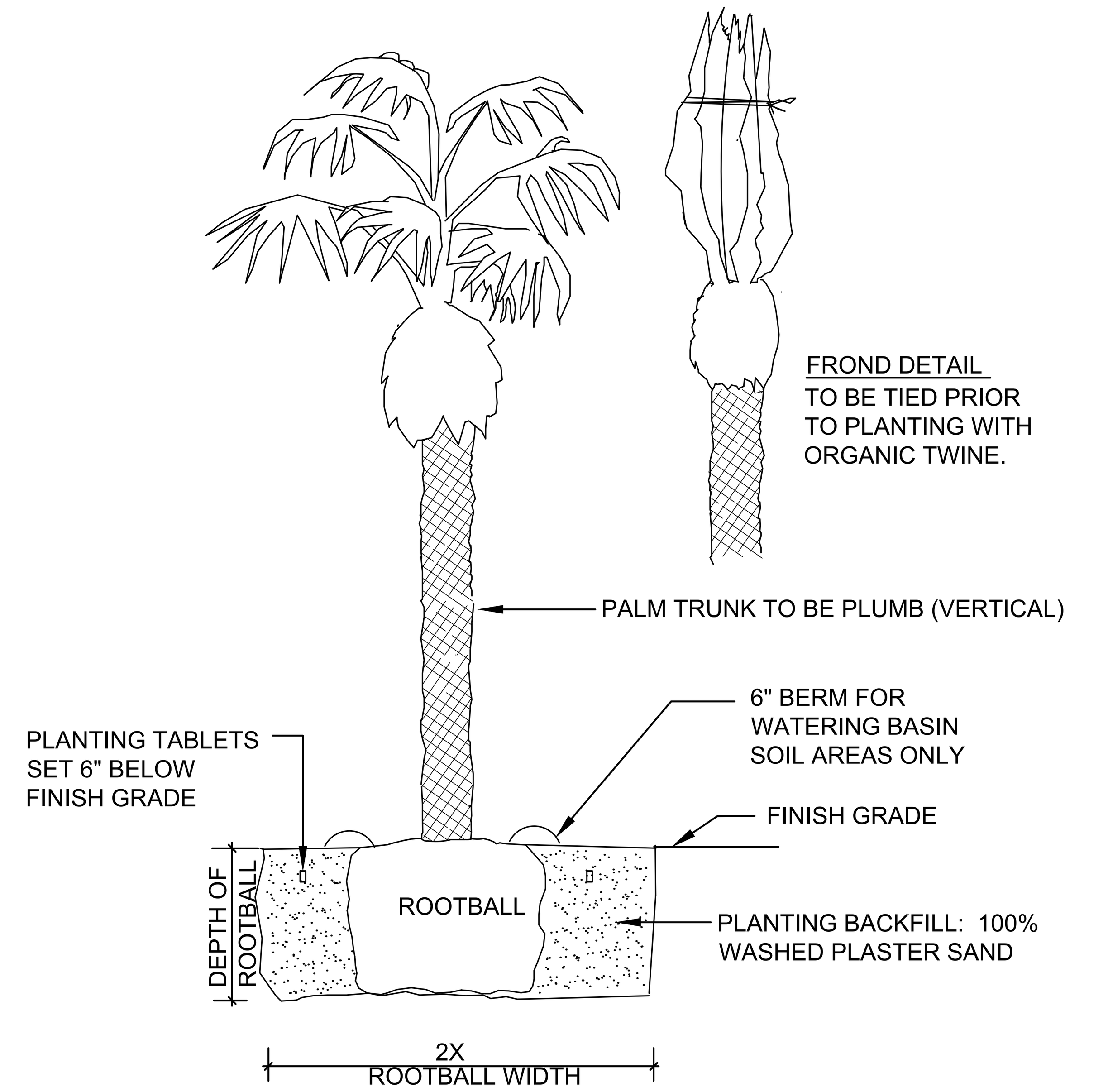
REVISIONS	BY	APPROVED	DATE
AS-BUILT			

ENGINEERING DEPARTMENT



(A) TREE PLANTING AND DOUBLE STAKING DETAIL WITH DRAIN

NO SCALE

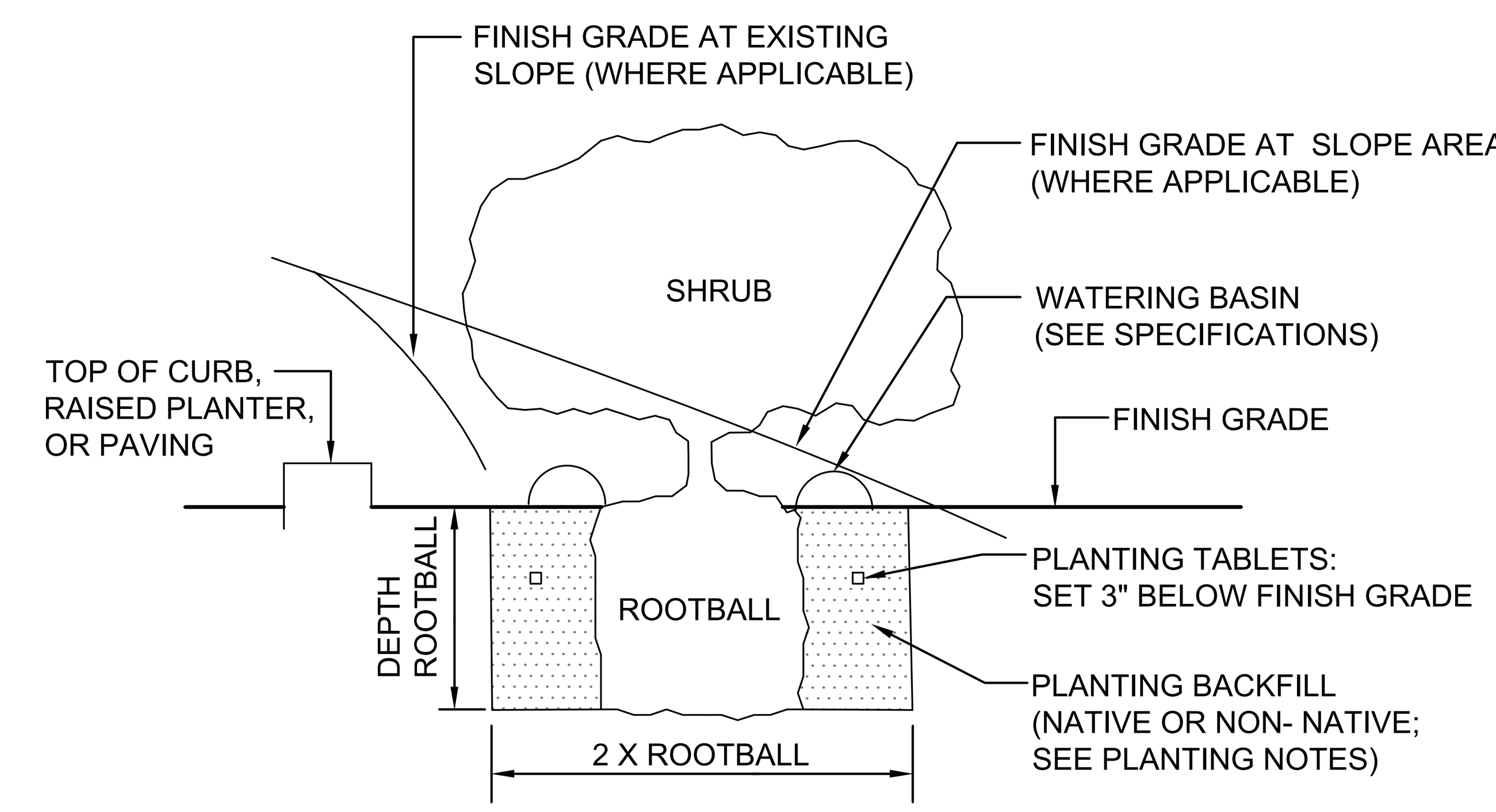


NOTES:

1. ALL BACKFILL TO BE WATER JETTED DURING PLANTING FOR MAXIMUM STABILITY.
2. CONTRACTOR SHALL SET TREES 2" ABOVE SURROUNDING GRADE AND DRAIN A MIN. OF 2% AWAY FROM TREE.

(B) PALM TREE PLANTING DETAIL

NO SCALE



(C) SHRUB PLANTING DETAIL

NO SCALE

ESTIMATED TOTAL WATER USE (ETWU) WORKSHEET

The project's Estimated Total Water Use is calculated using the following formula:

$$ETWU = (ETo)(0.62)\left(\frac{PF \times HA}{IE} + SLA\right)$$

ETWU = Estimated total water use per year (gallons per year)
ETo = Evapotranspiration rate (inches per year)
PF = Plant Factor from WUCOLS (see Definitions)
HA = Hydro-zone Area (square feet): Define hydro-zones by water use: very low, low, moderate and high
SLA = Special Landscape Area (square feet): Edible plants, irrigated with recycled water, & turf used for active play
0.62 = Conversion Factor (to gallons per square foot)
IE = Irrigation Efficiency

ESTIMATED TOTAL WATER USE (ETWU) WORKSHEET

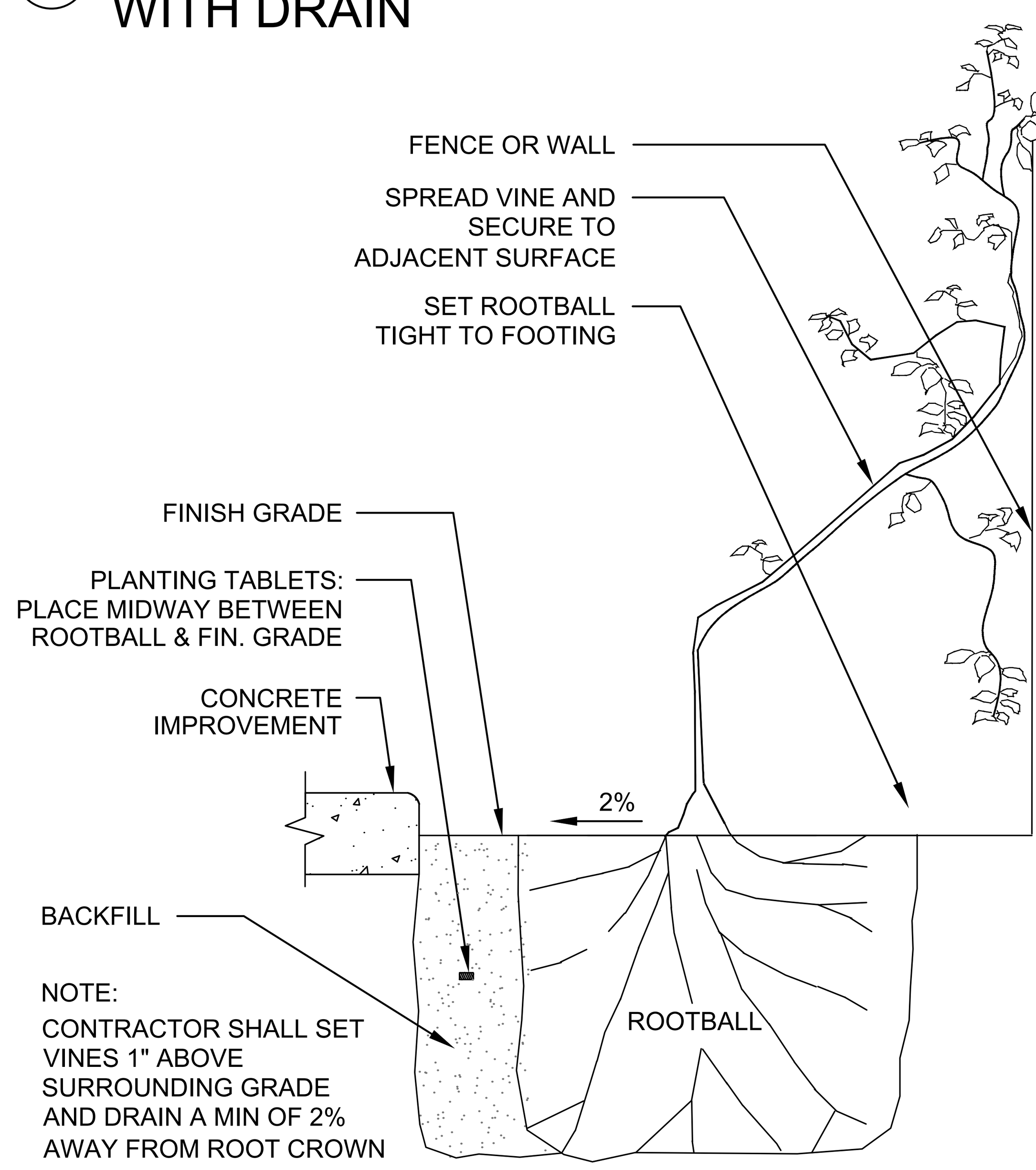
	Line	Hydro-zone Number (1 - 4 Below – use as many tables as necessary to complete all hydrozones)				
		1	2	3	4	SLA
Evapotranspiration Rate (ETo) See "A" below	1	41				
Conversion Factor - .62	2	0.62				
(Line 1 x Line 2)	3	25.42				
Plant Factor (PF) See "B" below	4	0.3	0.6	0.3	0.6	
Hydrozone Area (HA) - in square feet	5	1,274	342	3,276	347	
(Line 4 x Line 5)	6	382.2	205.2	982.8	208.2	
Irrigation Efficiency (IE) See "C" below	7	.81	.81	.81	.81	
(Line 6 ÷ Line 7)	8	471.85	253.3	1,213.3	257.03	
TOTAL of all Line 8 boxes + SLA	9	2,195.48				
Line 3 x Line 9 Estimated Total Water Use - **ETWU** (gallons per year) Total shall not exceed MAWA below	10	55,809.10				

A	B	C
ETo - Evapotranspiration rate = 41 (west of I-5) 47 (east of I-5)	***PF - Plant Factor – Use WUCOLS values to determine the category for each species used. The highest water use PF must be used when more than one PF is shown in a hydro-zone.*** *0.1 = VLW - Very Low Water Use Plants* *0.3 = LW - Low Water Use Plants* *0.6 = MW - Moderate Water Use Plants* *1.0= HW – High Water Use Plants*	***IE – Irrigation Efficiency*** *Spray = .55* *Rotor = .70* *Bubbler = .75* *MP rotator = .75* *Drip & Micro-spray = .81* *A different IE may be used if supported by documentation subject to approval by the City Planner*

MAXIMUM APPLIED WATER APPLICATION (MAWA) calculation:

25.42 (25.42 or 29.14) [(ETAF x 5,212 (Total Landscape Area)) + (1-ETAF x 0 (Total SLA))] = MAWA 72,868.97

Evapotranspiration adjustment factor (ETAF) use .55 residential .45 non- residential

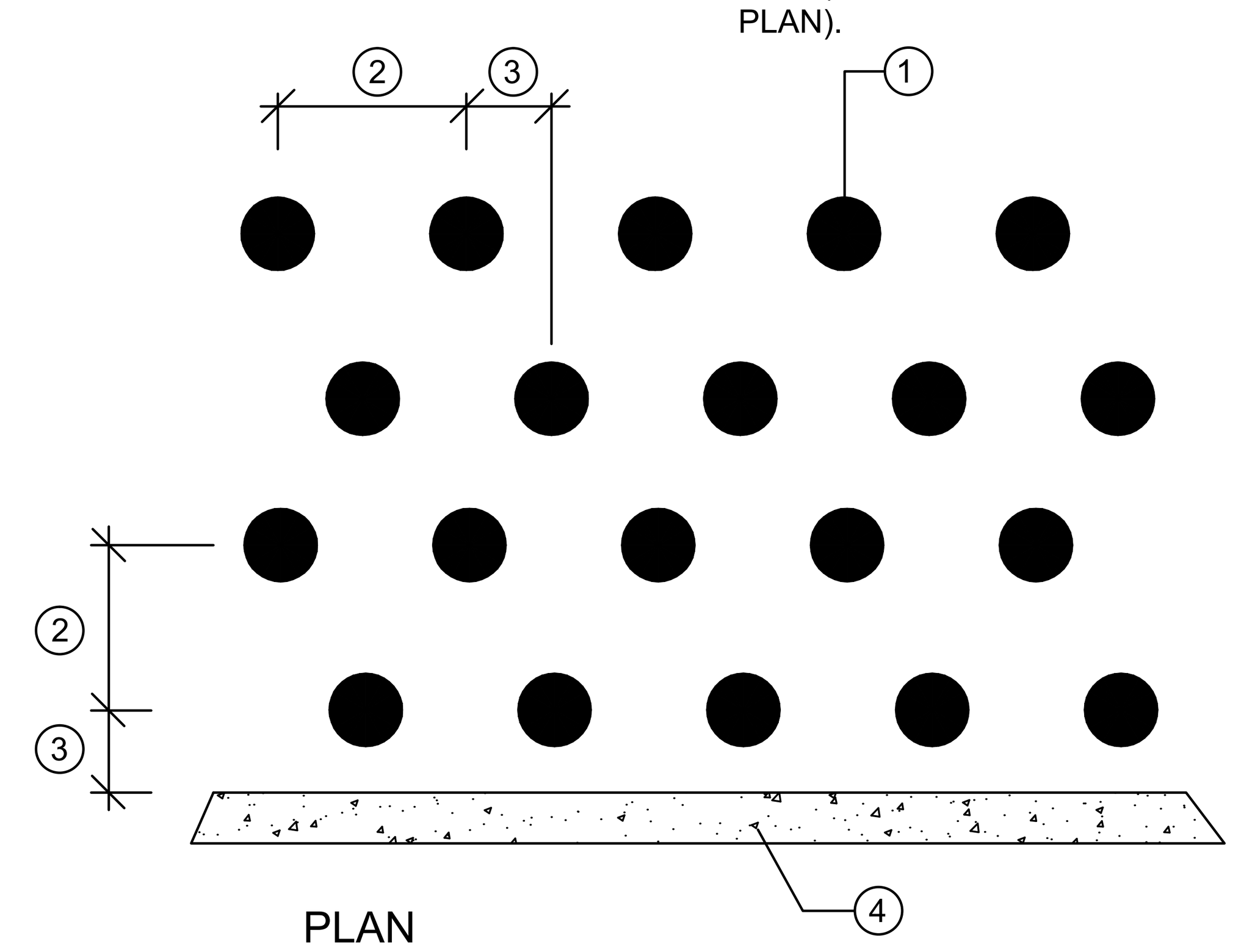


NOTE:
CONTRACTOR SHALL SET VINES 1" ABOVE SURROUNDING GRADE AND DRAIN A MIN OF 2% AWAY FROM ROOT CROWN

(D) VINE PLANTING DETAIL

NO SCALE

1. SHRUB OR GROUNDCOVER PER PLAN.
2. ON-CENTER PLANT SPACING PER PLAN.
3. 1/2 OF THE ON-CENTER PLANT SPACING PER PLAN.
4. EXISTING HARDSCAPE, PLANTER ETC. (WHERE OCCURS PER PLAN).



(E) GROUNDCOVER SPACING DETAIL

NOT TO SCALE

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619.370.1080

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TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

PLANS REVIEWED BY:

RCE# XXXXX — DEPUTY CITY ENGINEER — DATE

ENGINEERING DEPARTMENT — DATE

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE LANDSCAPE ARCHITECT OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONAL CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF THESE PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF NATIONAL CITY IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN.

(KYLE SIMON, LLA 6290) — DATE

LICENSED LANDSCAPE ARCHITECT — KYLE J. SIMON — NO. 6290 — SIGNATURE 8/22/22 — STATE OF CALIFORNIA

LIC.EXP. 7/30/2023

CALIFORNIA — NATIONAL CITY — 1887 — INCORPORATED

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET

LANDSCAPE CONSTRUCTION PLAN

CITY OF NATIONAL CITY

RCE# XXXXX — DIRECTOR PUBLIC WORKS/CITY ENGINEER — DATE

PROJ. #XXXX-XXXX — NAD 83 HORIZ. DATUM

SHEET 11 OF 12 SHEETS — XXXXX- 11 -D

PRECISE GRADING PLANS - CITY OF NATIONAL CITY - ORANGE STREET RESIDENCES

SURVEYOR: METROPOLITAN MAPPING

BENCHMARK: CITY OF NATIONAL CITY VERTICAL CONTROL BENCHMARK BEING A BRASS PLUG ON THE TOP OF CURB LOCATED AT THE NORTHEAST CORNER OF 16TH STREET AND EUCLID AVENUE
DATUM: MSL (NGVD 29) ELEVATION: 100.80

HORIZONTAL CONTROL: BASIS OF BEARINGS FOR THIS SURVEY IS THE CA COORDINATE SYSTEM, CCS83, ZONE 6, 2011.00 EPOCH, AS DETERMINED LOCALLY BY THE CENTERLINE OF ORANGE STREET AS SHOWN ON MAP NO. 8840 HAVING A BEARING N 18°59'30" W

CONSTRUCTION RECORDS
DATE STARTED:
INSPECTOR:
DATE COMPLETED:

GEOTECHNICAL OF RECORD
PAUL J. DERISI — NAME
AGS — COMPANY
SIGNATURE

CONSTRUCTION SURVEYOR
NAME
COMPANY
SIGNATURE

BY	APPROVED	DATE

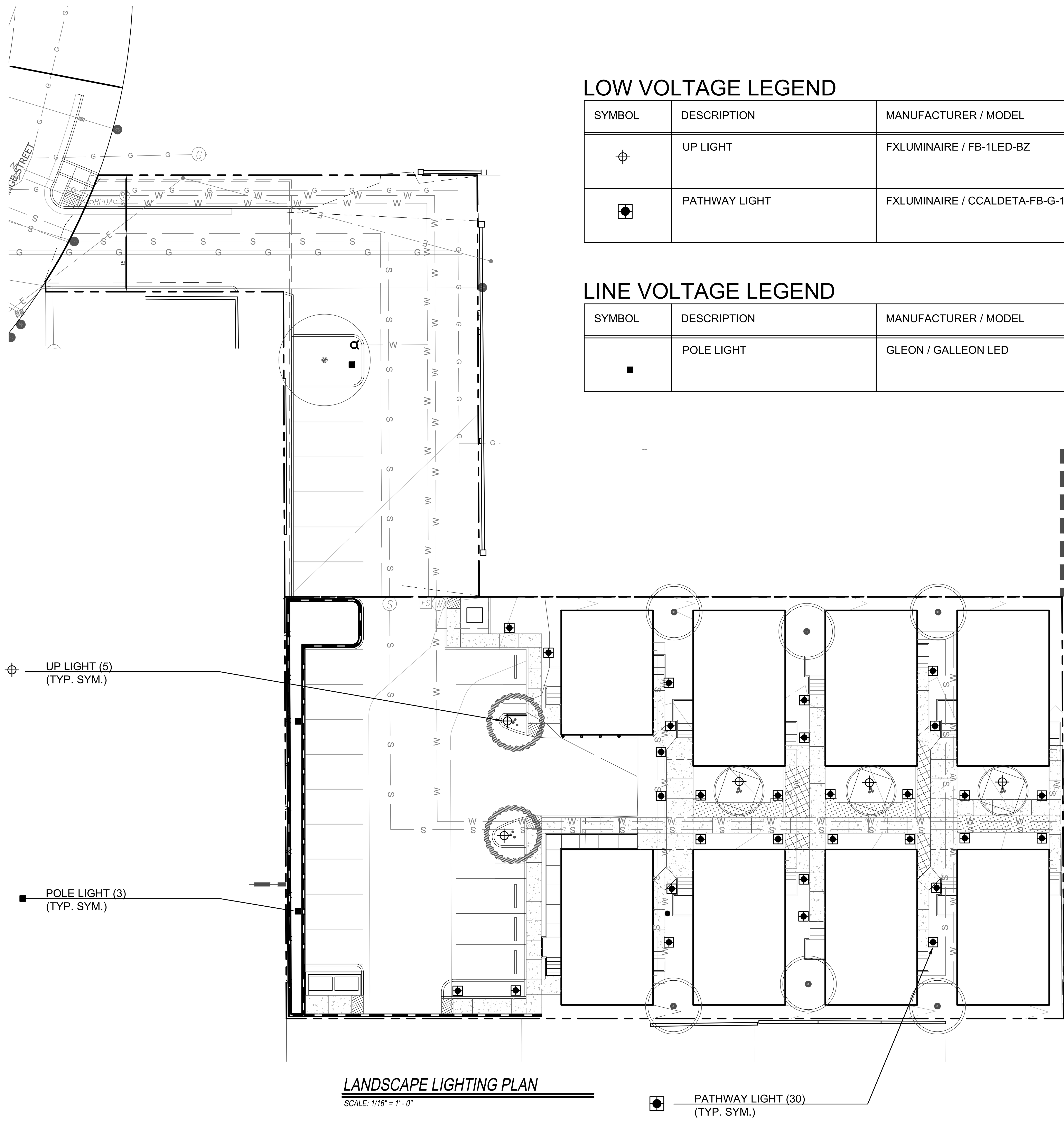
ENGINEERING DEPARTMENT
AS-BUILT
REVISIONS

LOW VOLTAGE LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER / MODEL	COLOR / FINISHES / REMARKS	DETAIL	SHEET
⌖	UP LIGHT	FXLUMINAIRE / FB-1LED-BZ	BRONZE / GRANDE RISER / 1 LED LUMENS: 151 WATTAGE: 4	INSTALL PER MANUFACTURER	
◼	PATHWAY LIGHT	FXLUMINAIRE / CCALDETA-FB-G-1LED-18RA	FLAT BLACK / GRANDE RISER / 1 LED / 18" RISER / WITH LONG SLOT SPIKE LUMENS: 44 WATTAGE: 2	INSTALL PER MANUFACTURER	

LINE VOLTAGE LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER / MODEL	COLOR / FINISHES / REMARKS	DETAIL	SHEET
▪	POLE LIGHT	GLEON / GALLEON LED	GLEON-SA1A-730-1-SL4-EA-BZ CONFIRM VOLTAGE WITH ELECTRICIAN, PROVIDE PHOTOCONTROLS AND DIMMING OPERATION	INSTALL PER MANUFACTURER	



LANDSCAPE LIGHTING PLAN
SCALE: 1/16" = 1' - 0"

GRAPHIC SCALE
(IN FEET)
16 8 0 8 16 32
1/16 INCH = 1 FT

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GENERAL NOTE:

1. LIGHTING IS SHOWN DIAGRAMMATICALLY ONLY. CONTRACTOR TO COORDINATE TRANSFORMER SIZE WITH FINAL LIGHTING DESIGN APPROVED BY OWNER

simon.
landscape architecture
619.370.1080

PLANS REVIEWED BY:
RCE# XXXXX — DATE
DEPUTY CITY ENGINEER
ENGINEERING DEPARTMENT — DATE

DECLARATION OF RESPONSIBLE CHARGE

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(KYLE SIMON, LLA 6290) — DATE

LICENSED LANDSCAPE ARCHITECT — KYLE J. SIMON — NO. 6290 — 11/11/21 — STATE OF CALIFORNIA
LIC.EXP. 7/30/2023

CALIFORNIA — NATIONAL CITY — 1887 — INCORPORATED

PLANS FOR THE IMPROVEMENTS OF:

1628 ORANGE STREET
LANDSCAPE CONSTRUCTION PLAN

CITY OF NATIONAL CITY

RCE# XXXXX — DATE
DIRECTOR PUBLIC WORKS/CITY ENGINEER

PROJ. #XXXX-XXXX | NAD 83 HORIZ. DATUM
SHEET 12 OF 12 SHEETS | XXXXX-12-D

PRECISE GRADING PLANS - CITY OF NATIONAL CITY - ORANGE STREET RESIDENCES