

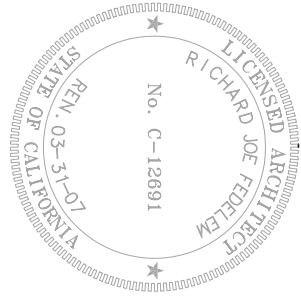


IF THIS SHEET IS NOT 24" X 36", IT IS A
REDUCED PRINT. SCALE ACCORDINGLY



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Agency Approvals:

Revisions	No.	Description	Date



MOSS LANDING FACILITIES
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MOSS LANDING CA. 95039

MARS SHORE STATION

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C. PIPELINES: PIPELINES SHOWN PARALLEL ON THE PLAN MAY BE INSTALLED IN A COMMON TRENCH, WHERE PIPELINES ARE SHOWN PARALLEL TO OR ADJACENT TO SHUB OR GROUND COVER AREAS. THEY SHALL BE INSTALLED IN THESE AREAS, WHERE SHOWN PARALLEL TO OR ADJACENT TO LAWN AREAS VERSUS PAVEMENT, THEY SHALL BE INSTALLED IN THE LAWN AREA. ALL CHANGES IN DEPTH OF PIPE SHALL BE ACCOMPLISHED USING 45 DEGREE FITTINGS.

C. SLEEVING: CONTRACTOR SHALL ADEQUATELY SIZE SLEEVING FOR ALL WIRING AND IRRIGATION LINES TO BE PLACED (WITH ENDS CLEARLY MARKED ABOVE GRADE) UNDER DRIVEWAYS AND WALKS PRIOR TO THEIR CONSTRUCTION.

1. SLEEVING SHALL CONTINUE A MINIMUM OF 1 FOOT INTO PLANTING AREAS.

2. ALL WIRING SHALL BE IN A SEPARATE SLEEVE.

E. FABRICATION: ALL MANIFOLDS SHALL BE NEXT ORDERLY AND CONSTRUCTED FOR EASE IN MAINTENANCE OPERATIONS. INSTALL MANIFOLDS TO ALLOW VALVE BOXES TO BE PARALLEL TO EACH OTHER AND TO ADJACENT WALLS, WALLS, AND CURBS. CUTS AND JOINTS SHALL BE FREE OF BURRS, SMOOTH AND MINIMUM IN QUANTITY.

F. CONTROL WIRE:

1. INSTALL CONTROL WIRE IN PIPE TRENCHES WHEREVER PRACTICAL. TAPE TO PIPE EVERY 10 FEET. CONDUITS OR SLEEVE REQUIRED. SHALL BE SIZED BASED ON #14 WIRES. ALL SPLICES SHALL BE SEALED WITH 3M CONNECTORS OR EQUAL. ALL WIRE SHALL BE INSTALLED BELOW OR LEVEL WITH THE BOTTOM OF ADJACENT PIPES. ALL WIRING ABOVE FINISH GRADE SHALL BE ENCLOSED IN STEEL CONDUIT. ALL INTERMITTENT WIRE SPLICES BETWEEN VALVES OR BETWEEN CONTROLLER VALVES SHALL BE INSTALLED IN A VALVE BOX. LOCATIONS AS APPROVED BY THE ENGINEER.

2. INSTALL ONE ADDITIONAL WIRE TO EACH VALVE. COLOR SHALL BE DIFFERENT THAN PILOT WIRE. VALVE WIRE FOR UNUSED STATIONS SHALL BE PULLED AS NOTED ON THE PLANS. PROVIDE 24" EXCESS WIRING IN EACH VALVE BOX OR PULL BOX. NEATLY COIL IN VALVE BOX OR PULL BOX. ALL WIRING SHALL BE TESTED FOR CONTINUITY, OPEN CIRCUITS AND UNINTENTIONAL GROUNDING PRIOR TO CONNECTING.

G. LEEMCO FITTINGS AND JOINT RESTRAINTS: INSTALL ON MAIN LINES 2-1/2" AND LARGER AT ALL CHANGES IN DIRECTION, REDUCTION, ISOLATION VALVES (BALL VALVES) AND SUBROUTS, CLAMP TO FITTINGS AND PIPE PER MANUFACTURER'S INSTRUCTIONS. SEE DETAIL IN PLANS.

H. BOOSTER PUMP: INSTALL AS SHOWN IN THE DETAIL. ON THE PLANS, IF SPECIFIED, COORDINATE ELECTRICAL CONNECTIONS WITH ELECTRICAL CONTRACTOR. BOLT TO CONCRETE PAD FOLLOWING MANUFACTURER INSTRUCTIONS. INCLUDE TRAINING SEMINAR WITH MANUFACTURER'S REPRESENTATIVE AND MAINTENANCE PERSONNEL.

I. BACKFILLING:

1. COVER NO JOINTS UNTIL SYSTEM HAS BEEN PRESSURE TESTED AND APPROVED BY THE ENGINEER. LEVEL BOTTOM TRENCHES FOR A SMOOTH FLAT GRADE. AND EXCAVATE BELL HOLES WHERE NECESSARY TO ENSURE THAT PIPE RESISTS FOR ENTIRE LENGTH ON SOLID GROUND. SHOULD ROCK OR OTHER UNSUITABLE MATERIAL BE ENCOUNTERED, EXCAVATE TO 6" BELOW BOTTOM OF PIPE AND REPLACE WITH WELL JAMPED AND COMPACTED APPROVED BACKFILL MATERIAL OR SAND BEFORE LAYING PIPE. WHEN PIPING HAS BEEN INSTALLED, TESTED, INSPECTED, AND APPROVED, BACKFILL EXCAVATIONS WITH CLEAN EARTH FROM EXCAVATION, OR WITH IMPORTED SANDY SOIL IN LAYERS NOT EXCEEDING 8". THE TOP 6" OF THE TRENCHES SHALL CONTAIN ON-SITE NEAR SURFACE SOILS. BACKFILL WITH POTENTIALLY DAMAGING ROCKS AND DEBRIS SHALL NOT BE PERMITTED. MOISTEN AND MACHINE TAMP, AND RESTORE THE GROUND OR PAVING TO ORIGINAL CONDITION. JET TRENCHES IN PLANTING AREAS.

2. BACKFILL SHALL BE COMPACTED PER SPECIFICATION IN EARTHWORK AND GRADING SECTION UNDER PAVED AREAS, AS DETERMINED BY THE LABORATORY TEST PROCEDURE, ASTM D1557, AFTER BACKFILLING. REMOVE FROM THE PREMISES ALL SURPLUS EARTH RESULTING FROM THIS WORK AND DISPOSE OF SAME, TO THE SATISFACTION OF THE ENGINEER.

J. FLUSHING OF SYSTEM: AFTER INSTALLATION OF PIPE LINES AND SPRINKLER RISERS, BUT BEFORE INSTALLATION OF SPRINKLER HEADS, THOROUGHLY FLUSH THE SYSTEM UNDER FULL WATER MAIN PRESSURE TO REMOVE ANY FOREIGN MATERIAL IN THE PIPES.

1. FLUSHING SHALL INCLUDE FLUSHING OUT THE EXISTING MAINLINE BY OPERATING ONE OF THE EXISTING QUICK COUPLERS DOWN STREAM OF THE NEW VALVE INSTALLATION, PRIOR TO OPERATING ANY PORTION OF THE SYSTEM AGAIN.

K. HEADING UP:

1. PRIOR TO IRRIGATION HEAD INSTALLATION IN THE SPORTS FIELDS, CAP THE SWING JOINTS AND BURY THE CAPPED SWING JOINTS WITH A 1/8 INCH DIAMETER HOLE DRILLED INTO THE CAP, SO THAT WHEN BURIED, THE HOLE WILL POINT UP. BURY AT A DEPTH TO AVOID FILLING DEPTH SPECIFIED IN SOIL PREPARATION SPORTS FIELDS SECTION 02921.

2. AFTER SOIL PREPARATION AND FINISH GRADING, TURN SYSTEM ON TO LOCATE HEADS. FIELD MEASUREMENTS SHALL ALSO BE MADE TO ASSIST IN LOCATION. INSTALL HEADS AND BACKFILL WITH DRY SOIL.

L. COVERAGE ADJUSTMENTS: ADJUST ALL HEADS FOR ARC, RADIUS, RISER HEIGHT, AND DISTRIBUTION FOR UNIFORM AND OPTIMUM COVERAGE. SUCH ADJUSTMENTS SHALL INCLUDE NOZZLE CHANGES WITHOUT ADDITIONAL COST TO THE OWNER.

M. CLEAN-UP: KEEP PROJECT AREA CLEAN ON A DAILY BASIS, REMOVING DEBRIS FROM THE SITE.

3.03 CONTROLLER

A. INSTALLATION: INSTALL POWER TO CONTROLLER FOLLOWING ALL APPLICABLE ELECTRICAL CODES. CONTRACTOR SHALL CLEARLY LABEL AND SEQUENCE STATIONS FOR EASE IN MAINTENANCE OPERATIONS. STATION VALVES TO OPERATE AS THEY ARE LOCATED AROUND THE SITE. MOUNT CONTROLLER ONTO CONCRETE BASE PER THE PLANS. VERIFY STATION SEQUENCE WITH MAINTENANCE PERSONNEL. INSTALL 9-VOLT BATTERY.

B. GROUNDING: THE CONTROLLER SHALL BE GROUNDED INDIVIDUALLY PER MANUFACTURER'S INSTRUCTIONS. A WIRING GANG BOX OR TRANSIENT PROTECTION BOARDS AND SURGE ARRESTORS SHALL BE INCLUDED FOR VALVE WIRE INSTALLATION FROM FIELD TO CONTROLLER AND FOR SURGE PROTECTION.

3.04 PRESSURE TEST

A. PRESSURE TEST:

1. NOTIFY THE OWNER A MINIMUM OF TWO WORKING DAYS PRIOR TO PRESSURE TEST.

2. EXERCISE CAUTION IN FILLING THE SYSTEM TO PREVENT EXCESSIVE SURGE PRESSURE AND WATER HAMMER.

3. PIPE SUBJECT TO CONTINUOUS WATER PRESSURE (PRESSURE LINES) SHALL BE TESTED AT 125 LBS. OF STATIC PRESSURE FOR TWO HOURS WITH A MAXIMUM 5 PSI DROP. REPAIR ANY LEAKS, IF NECESSARY, AND RE-TEST.

4. THE CONTRACTOR MUST FURNISH ALL EQUIPMENT AND TEMPORARY CONNECTIONS REQUIRED FOR TESTS.

B. CLOSING IN UNINSPECTED WORK: THE CONTRACTOR SHALL PAY ALL COSTS NECESSITATED BY REQUIRING OPENING, RESTORATION AND CORRECTION OF ALL WORK CLOSED IN OR CONCEALED BEFORE INSPECTION. TESTING AS REQUIRED AND APPROVAL BY ENGINEER. NOTIFY ENGINEER 48 HOURS IN ADVANCE OF REQUIRED TESTING.

3.05 INSPECTION

A. INSTALLATION INSPECTION:

1. WHEN THE INSTALLATION OF THE IRRIGATION SPRINKLER SYSTEM HAS BEEN COMPLETED, THE CONTRACTOR, IN THE PRESENCE OF THE ENGINEER, SHALL PERFORM A COVERAGE AND OPERATION TEST TO DETERMINE IF THE SYSTEM IS COMPLETE AND FULLY OPERATIONAL.

2. IF IT IS DETERMINED THAT ADJUSTMENTS IN THE IRRIGATION EQUIPMENT AND THE RES-PACING OF HEADS WILL PROVIDE MORE COMPLETE COVERAGE, THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS PRIOR TO PLANTING. ADJUSTMENTS MAY ALSO INCLUDE CHANGES IN NOZZLE SIZES AND DEGREES OF ARC AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING COMPLETE AND ADEQUATE COVERAGE IN ALL IRRIGATED AREAS.

3.03 MEASUREMENT AND PAYMENT

A. THE LUMP SUM PRICE FOR PAID FOR IRRIGATION SHALL BE CONSIDERED FULL COMPENSATION FOR FURNISHING ALL LABOR, INCIDENTALS, AND FOR ALL WORK INVOLVED, INCLUDING ELECTRICAL CONNECTION TO THE CONTROLLERS, AS SPECIFIED IN THIS SECTION AND AS SHOWN ON THE DRAWINGS. AND NO SEPARATE PAYMENT SHALL BE MADE.

B. REMOVAL AND RELOCATION OF EXISTING IRRIGATION EQUIPMENT AS SHOWN ON THE PLANS SHALL BE CONSIDERED PART OF THIS WORK.

END OF SECTION

LANDSCAPE PLANTING - SECTION 02930

PART I - GENERAL

1.01 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION-1 SPECIFICATION SECTIONS, APPLY TO THE WORK OF THIS SECTION.

1.02 DESCRIPTION OF WORK

A. EXTENT: WORK IN THIS SECTION INCLUDES ALL PLANTING, STAKING AND RELATED INCIDENTAL WORK.

B. RELATED WORK:

1. SOIL PREPARATION
2. LANDSCAPE MAINTENANCE

1.03 REVIEWS

A. THE CONTRACTOR SHALL SPECIFICALLY REQUEST THE FOLLOWING REVIEWS PRIOR TO PROGRESSING WITH THE WORK:

1. PLANT MATERIAL APPROVAL AND LAYOUT
2. SUBSTANTIAL COMPLETION TO INITIATE MAINTENANCE
3. FINAL, AT END OF MAINTENANCE PERIOD

1.04 SUBMITTALS

A. WITHIN TEN DAYS AFTER AWARD OF THE CONTRACT, CONTRACTOR SHALL SUBMIT NOTICE TO THE ENGINEER CERTIFYING QUANTITY AND SPECIES OF PLANT MATERIAL ORDERED, THE NURSERY SUPPLIER(S), ANY PLANT MATERIAL NOT AVAILABLE AT THAT TIME, OR PROPOSED SUBSTITUTIONS TO BE REVIEWED.

B. SEE PARAGRAPH 2.04 - LAWN SOD, FOR SOILS ANALYSIS SUBMITTAL OF SOD SOIL. SOIL LAB SHALL BE AS SPECIFIED IN SOIL PREPARATION - SECTION 02920.

PART II - PRODUCTS

2.01 GENERAL

A. NOMENCLATURE AND LABELS: PLANT BOTANICAL NAMES CONFORM TO "STANDARDIZED PLANT NAMES", SECOND EDITION, AND SECONDLY, "A CHECKLIST OF WOODY ORNAMENTAL PLANTS OF CALIFORNIA, " MANUAL 32, UNIVERSITY OF CALIFORNIA. ALL PLANTS OF EACH CLONE, SPECIES AND CULTIVAR SHALL BE DELIVERED TO THE SITE LABELED WITH THEIR FULL BOTANICAL NAME. EVERY PLANT SPECIES SHALL BE LABELED WITH NO LESS THAN ONE LABEL FOR EVERY TEN PLANTS OF A SPECIES.

B. QUALITY: MINIMUM QUALITY OF ALL PLANT MATERIAL SHALL CONFORM TO PREVAILING PUBLISHED SPECIFICATIONS OF THE CALIFORNIA ASSOCIATION OF NURSERMEN AND THE AMERICAN ASSOCIATION OF NURSERMEN UNLESS OTHERWISE INDICATED. ADDITIONAL SPECIFICATIONS SHALL BE INDICATED ON THE PLANS.

C. QUANTITIES: THE QUANTITIES SHOWN ON THE PLANT LIST AND IN LABELS ARE FOR THE ENGINEER'S USE AND ARE NOT TO BE CONSTRUED AS THE COMPLETE AND ACCURATE LIMITS OF THE CONTRACT. CONTRACTOR SHALL FURNISH AND INSTALL ALL PLANTS SHOWN SCHEMATICALLY ON THE PLANS.

D. ROOT SYSTEMS: ALL CONTAINER-GROWN STOCK, SHALL BE GROWN IN ITS CONTAINER FOR AT LEAST SIX MONTHS PRIOR TO ITS PLANTING. CONTRACTOR SHALL ALLOW ONE PERCENT OF THE QUANTITY OF PLANTS FOR REMOVAL AND INSPECTION. ANY PLANT MATERIAL, WITHIN TWO YEARS FOLLOWING THE FINAL ACCEPTANCE OF THE PROJECT, DETERMINED BY THE ENGINEER TO BE DEFECTIVE, RESTRICTED, DECLINING OR OTHERWISE DEFICIENT DUE TO ABNORMAL ROOT GROWTH, SHALL BE REPLACED BY THE CONTRACTOR, TO THE EQUAL CONDITION OF THE ADJACENT PLANTS, AT THE TIME OF REPLACEMENT.

E. HEALTH: FOLIAGE, ROOTS AND STEMS OF ALL PLANTS SHALL BE OF VIGOROUS HEALTH AND NORMAL HABIT OF GROWTH FOR ITS SPECIES. ALL PLANTS SHALL BE FREE OF ALL DISEASE, INSECT STAGES, BURNS OR DISFIGURING CHARACTERISTICS.

F. UNTRUE SPECIES: ALL PLANT MATERIAL, WITHIN TWO YEARS FOLLOWING THE FINAL ACCEPTANCE OF THE PROJECT, DETERMINED BY THE OWNER TO BE UNTRUE TO THE SPECIES, CLONE, AND/OR VARIETY SPECIFIED, SHALL BE REPLACED BY THE CONTRACTOR, TO THE EQUAL CONDITION OF ADJACENT PLANTS AT THE TIME OF REPLACEMENT.

2.02 TREES

A. ALL TREES SHALL HAVE STRAIGHT TRUNKS OF UNIFORM TAPER, LARGER AT THE BOTTOM, TRUNKS SHALL BE FREE OF DAMAGED BARK, WITH ALL MINOR ABRASIONS AND CUTS SHOWING HEALING TISSUE. SLICKER BASAL GROWTH AND LATERAL GROWTH SHALL BE REMOVED AND TREATED TO ELIMINATE RE-SPROUTING. NORMAL LOWER SIDE BRANCHING SHALL REMAIN. TREES UNABLE TO STAND UPRIGHT WITHOUT SUPPORT SHALL BE REJECTED.

2.03 SEED

A. SHALL BE AS SPECIFIED BELOW AND SHALL BE MINIMUM 95% PURITY AND 85% GERMINATION AND SHALL BE CERTIFIED BY THE CALIFORNIA CROP IMPROVEMENT ASSOCIATION. INERT MATTER SHALL NOT EXCEED 5.0% NOR WEED CONTENT 0.2% WITH NO NOXIOUS WEEDS. ALL SEED SHALL BE PRETREATED WITH "THIRAM" OR A SIMILAR PRE-EMERGENT FUNGUS PREVENTIVE. SEE MIX SHALL BE AS FOLLOWS:

1. BLUE GRASS
BARON KENTUCKY 34%
GNOME KENTUCKY 33%
NASSAU KENTUCKY 33%

2. RYE GRASS
PALMER 33%
PRELUDE 33%
MANHATTAN II 34%

OR

2.03 LAWN SOD

A. SOD SHALL BE GROWN FROM HIGH QUALITY SEED IN SOIL TREATED WITH APPROPRIATE STATE AND FEDERAL AGENCY APPROVED PESTICIDES, FUNGICIDES, AND HERBICIDES AND REGULARLY INSPECTED BY THE STATE IN ACCORDANCE WITH "STATE OF CALIFORNIA REGULATIONS FOR NURSERY INSPECTION ". SOD SHALL HAVE A WELL-DEVELOPED ROOT STRUCTURE SUFFICIENTLY MATURE SO THAT IT WILL HOLD TOGETHER WHEN HELD BY ONE END OF THE ROLL. YELLOWING, BROWN, DISEASED, DRIED, OR PEST INFESTED SOD SHALL BE REJECTED. SOIL THICKNESS OF THE SOD SHALL BE 1/4 INCH TO 5/8 INCH THICK EXCLUDING TOP GROWTH AND THATCH. SIZE OF ROLLS OR SLABS SHALL BE CONSISTENT TO THE SUPPLIERS STANDARD LENGTH AND WIDTH AND IS NOT TO VARY BY MORE THAN 2% IN EITHER DIMENSION.

B. SOD SHALL BE GROWN IN FIELDS WITH A SANDY OR SANDY LOAM SOIL, CLAY OR CLAY LOAM SOILS SHALL NOT BE ACCEPTABLE. CONTRACTOR SHALL SUBMIT A SOILS ANALYSIS OF THE SOD SOIL FOR REVIEW AND APPROVAL PRIOR TO DELIVERING SOD TO THE SITE. ANALYSIS SHALL INDICATE AT A MINIMUM, PERCENT OF SAND, SILT AND CLAY AND THE CARBON TO NITROGEN RATIO. A SEPARATE SAMPLE SHALL BE TAKEN BY THE ENGINEER ON SITE AND SENT TO AN INDEPENDENT LABORATORY FOR ANALYSIS. SOD NOT MATCHING THE APPROVED SOILS ANALYSIS SUBMITTED BY THE CONTRACTOR SHALL BE REMOVED FROM THE SITE AND REPLACED WITH APPROVED SOD AT THE CONTRACTOR'S EXPENSE.