#### **ABBREVIATIONS**

DESCRIPTION

AGGREGATE BASE

BACK OF WALK

CATCH BASIN

EXISTING FLOWLINE

GROUND GRADE BREAK HIGH POINT INSIDE DIAMETER

LINEAL FEET LAMP HOLE

MAXIMUM

NUMBER

NOT TO SCALE OUTSIDE DIAMETER

LIME TREATED SUB-BASE

MAINTENANCE HOLE

POINT OF CURVATURE

POINT OF TANGENCY

POINT OF COMPOUND CURVATURE

POINT OF REVERSE CURVATURE

STORM DRAIN MAINTENANCE HOLE

SANITARY SEWER MAINTENANCE HOLE

PUBLIC UTILITY EASEMENT POLYVINYL CHLORIDE

RADIAL OR RADIUS

RIGHT-OF-WAY

STORM DRAIN

STREET LIGHT

SIDEWALK

SHEET

STATION

STANDARD

TOP OF CURB

TOP OF WALL

TRAFFIC INDEX

WEAKENED PLANE

PLUS OR MINUS

THROUGH

TYPICAL

**VERTICAL** 

WATER

WEST

EAST

SOUTH

NORTH

SANITARY SEWER

FIRE HYDRANT FACE OF CURB

CURB AND GUTTER

CONSTRUCTION JOINT

EXISTING BACK OF WALK END OF CURB RETURN

EDGE OF EXISTING PAVEMENT EDGE OF PAVEMENT, EXISTING PAVEMENT

CITY OF STOCKTON

**BLOWOFF** 

ASPHALT CONCRETE

ACRYLONITRILE-BUTADIENE-STYRENE

BEGINNING OF CURB RETURN

CURB, GUTTER, AND SIDEWALK

**ABBREVIATION** 

C & G

### MATT EQUINOA PARK PHASE II

#### STOCKTON, CALIFORNIA

# HAMMER LANE **VICINITY MAP**

NOT TO SCALE

This will be a Public Works Project Manager

#### PARTIAL LIST OF APPLICABLE CODES:

2010 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.

2010 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R. (2009 INTERNATIONAL BUILDING CODE AND 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. (2008 NATIONAL ELECTRICAL CODE AND 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R. (2009 UNIFORM MECHANICAL CODE AND 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R. (2009 UNIFORM PLUMBING CODE AND 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.

2010 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R. (2009 INTERNATIONAL FIRE CODE AND 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 C.C.R.

2010 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.

TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

#### PROJECT CONTACTS

PROJECT MANAGER CITY OF STOCKTON PUBLIC WORKS DEPARTMENT 22 E. WEBER AVENUE, ROOM 301 STOCKTON, CA 95202 CONTACT: VICTOR MACHADO

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CIVIL ENGINEER

SIEGFRIED 3244 BROOKSIDE RD SUITE 100 STOCKTON, CA 95219 CONTACT: PAUL SCHNEIDER, P.E. PHONE: (209) 943-2021 FAX: (209) 942-0214 EMAIL: pjs@siegfriedeng.com

LANDSCAPE ARCHITECT

SIEGFRIED 3244 BROOKSIDE RD SUITE 100 STOCKTON, CA 95219 ROBERT NORBUTAS, JR. PHONE: (209) 943-2021 FAX: (209) 942-0214 EMAIL: bnorbutas@siegfriedeng.com

**ELECTRICAL ENGINEER** 

HCS ENGINEERING, INC. 4512 FEATHER RIVER DRIVE, SUITE F STOCKTON, CA 95219 CONTACT: RICHARD SMITH, P.E. PHONE: (209) 478-8270 FAX: (209) 478-2169 EMAIL: richard@hcs-eng.com

#### SHEET INDEX:

CS ·	COVER SHEET
C1.0	GENERAL NOTES AND SPECIFICATION
C2.0	TOPOGRAPHY AND DEMOLITION PLAN
C3.0	CONSTRUCTION PLAN
C4.0	PAVING AND DIMENSIONAL PLAN
C4.1	BALLFIELD DIMENSIONAL PLAN
C5.0	GRADING PLAN
C6.0	UTILITY PLAN
C7.0	EROSION CONTROL PLAN
L1.0	IRRIGATION OVERALL PLAN
L1.1	IRRIGATION PLAN
L2.0	TREE PLAN
L3.0	SHRUB AND GROUNDCOVER PLAN
L4.0	LANDSCAPE DETAILS I
L4.1	LANDSCAPE DETAILS II
L4.2	DRIP DETAILS
L4.3	IRRIGATION NOTES AND CALCULATION
E1	OVERALL PARK ELECTRICAL
E2	PARK ELECTRICAL PLAN
E2A	PHOTOMETRIC STUDY
E3	PARK ELECTRICAL PLAN
E4	SPORTS FIELD ELECTRICAL
E5	SPORTS FIELD PHOTOMETRIC
E6	SWITCHBOARD DETAILS
E7	CONTROLS
E8	CONTROLS
E9	ELECTRICAL DETAILS
E10	BASEBALL FIELD DETAILS

#### **DETAIL INDEX:**

SHEET	DTL#	DETAIL
C1.0		PARKING STALL SIGNAGE
		ACCESSIBLE PARKING SYMBOL
		ACCESSIBLE PARKING
C4.0	1	PERVIOUS CONCRETE WALKWAY
		TYPICAL CONCRETE DETAILS
		CONCRETE MOWBAND
C5.0		ADA PARKING STALL DETAIL
C6.0		ROUND CATCH BASIN
		STORM DRAIN MESSAGE LOCATION
C7.0	1.	DROP INLET SEDIMENT PROTECTION
	2	FIBER ROLLS
	3	STABILIZED CONSTRUCTION ENTRANCE
	4	CONCRETE WASH OUT
L4.0	1	BACKSTOP
	2	BACKSTOP CONCRETE FOOTING
	3	DUGOUT FENCING
	4	PLAYER'S DUGOUT BENCH
		INFIELD SURFACING
		OUTDOOR DOG GLOVE DISPENSER
	7	BIKE RACK
	8	BENCH
	9	TRASH RECEPTACLE
L4.1	11	TREE/SHRUB PLANTING & STAKING
*	12	TREE TIE
	13	GROUNDCOVER SPACING
	14	DECOMPOSED GRANITE
	17	REMOTE CONTROL VALVE
	18	QUICK COUPLER
	19	GATE VALVE
	20	PIPE SLEEVE W/90 DEG ELBOW
	21	VALVE BOX
	22	PIPE AND WIRE TRENCHING
L4.2	24	DRIP ZONE KIT
_	25	CENTER-FEED LAYOUT Update signatur
	26	ODD CURVES LAYOUT block for City
	27	TWO RING TREE LAYOUT Engineer "Eric
		A

MANIFOLD CENTER FEED

MANIFOLD TEE CONNECTION

MANIFOLD ELL CONNECTION

FLUSH VALVE POLY ELL

AIR/VACUUM RELIEF VALVE OPERATION INDICATOR

STEEL STAPLE BELOW GRADE

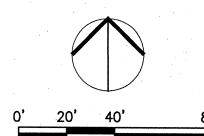
MANIFOLD END FEED

Keep a redlined set of these Permit Center Approved plans if we're going to submit for an updated permit from CDD. These drawings have already been reviewed and updated per Permit Center comments in 2008.



DATE SIGNED: 05/07/12

MATT EQUINOA PARK PHASE



SCALE: 1"=40'

		-
	CIVIL ENGINEERING	ı
	 STRUCTURAL ENGINEERING	1
	SIEGFRIED ARCHITECTUS	₹E
	 SURVEYING	
	3244 Brookside Road, Suite 100 Stockton, California 95219	}
80'	209-943-2021 www.slegfrledeng.com Fx: 209-942-0214	ļ

COVER SHEET DEPARTMENT OF PUBLIC WORKS Revision Date CITY OF STOCKTON, CALIFORNIA AS SHOUN APPROVED BY: 7/12/12 DESIGNED BY RJN CS DRAWN BY RJN OF 28 SHEETS PJS CHECKED BY CITY LANDSCAPE ARCHITECT RECORD DWGS. STOCKTON, CALIFORNIA



SW

SDMH SHT SSMH

STA STD TC

TOW

TYP

VERT

THRU

BENCHMARK: PER ONSITE CONTROL PLAN ON SHEET C1.0

- ALL IMPROVEMENTS SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE CITY OF STOCKTON STANDARD SPECIFICATIONS AND PLANS, LATEST EDITION, AND ALL AMENDMENTS THERE TO TO-DATE.
- 2. ELEVATIONS ARE REFERRED TO NGVD 29.
- 3. PRIOR TO AND DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR BEING FAMILIAR WITH THE CURRENT CITY OF STOCKTON STANDARDS AND ALL UPDATES AND REVISIONS MADE TO ANY OF THE CITY OF STOCKTON STANDARD DETAILS SHOWN ON THESE PLANS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR BEING FAMILIAR WITH THE WRITTEN SPECIFICATIONS AND/OR OTHER STANDARD DETAILS NOT SHOWN BUT WHICH ARE INCLUDED IN THE "CITY OF STOCKTON STANDARD SPECIFICATIONS AND PLANS".
- 4. DRAWING NUMBERS SHOWN ON THE PLANS REFER TO CITY OF STOCKTON STANDARD PLANS, SHOWN THUS: DWG. NO. REMOVE PERIOD
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING FROM DAMAGE ALL EXISTING IMPROVEMENTS THAT ARE TO REMAIN. SUCH IMPROVEMENTS THAT ARE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT HIS EXPENSE TO THE SATISFACTION OF THE CITY LANDSCAPE ARCHITECT. PUBLIC WORKS PROJECT MANAGER
- 6. ALL TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH CITY OF STOCKTON STANDARD SPECIFICATION 7-1.01E.
- 7. EXCAVATION OF 5 FEET OR MORE IN DEPTH WILL REQUIRE (AND CONTRACTOR SHALL BE RESPONSIBLE FOR) AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY.
- 8. THE CONTRACTOR SHALL DEMOLISH, EXCAVATE, REMOVE AND DISPOSE OF ALL EXISTING CONCRETE CURB. GUTTER OR SIDEWALK, ASPHALT CONCRETE PAVING, AND DELETERIOUS MATERIAL AS REQUIRED TO CONSTRUCT THE CONTRACT WORK. ALL SUCH EXCESS MATERIAL GENERATED SHALL BE DISPOSED OF FROM THE SITE BY
- 9. THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FOR ANY WORK DONE WITHIN THE CITY RIGHT-OF-WAY FROM THE CITY OF STOCKTON PUBLIC WORKS DEPARTMENT, AND NOTIFY THE CITY 48 HOURS IN ADVANCE OF STARTING ANY WORK TO BE ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY THE CITY OF
- 10. EXISTING UTILITIES ARE SHOWN AS THEY ARE BELIEVED TO EXIST. THE OWNER AND THE ENGINEER DO NOT ACCEPT RESPONSIBILITY FOR THEIR ACCURACY, PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL HAVE EACH UTILITY COMPANY ACCURATELY LOCATE IN THE FIELD THEIR MAINS AND SERVICE LINES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES.
- 11. ATTENTION IS CALLED TO: SECTION 1540 (A) (1) OF THE CONSTRUCTION SAFETY ORDERS (TITLE 8 CALIFORNIA ADMINISTRATION CODE SECTION 1540), ISSUED BY THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD PURSUANT TO THE CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ACT OF 1973, AS AMENDED, WHICH STATES:

PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND." INSTALLATION I.E., SEWER, WATER, FUEL, ELECTRIC LINES, ETC., WILL BE ENCOUNTERED AND, IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN THE EXCAVATION APPROACHES THE APPROXIMATE LOCATION OF SUCH AN INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING AND WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 48 HOURS PRIOR TO THE START OF ACTUAL EXCAVATION."

- 12. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE IN THE FIELD THEIR MAIN SERVICE LINES. THE CONTRACTOR SHALL NOTIFY MEMBERS OF THE UNDERGROUND SERVICE ALERT (U.S.A.) 48 HOURS IN ADVANCE OF PERFORMING EXCAVATION WORK BY CALLING THE TOLL-FREE NUMBER (800-227-2600).
- 13. THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES AND VERIFY ALL UTILITY LOCATIONS. IT SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF HIS CONTRACT, THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICES TO THE DEVELOPMENT.
- 14. WHENEVER EXISTING PAVEMENT IS BROKEN OR CUT DURING THE INSTALLATION OF THE WORK COVERED BY THESE PLANS AND SPECIFICATIONS, THE PAVEMENT SHALL BE REPLACED WITH PAVEMENT MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL PAVING. THE FINISHED PAVEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER IF LOCATED WITHIN CITY RIGHT-OF-WAY. CONTRACTOR SHALL CREATE A VIDEO RECORD OF THE CONDITIONS OF ALL EXISTING PAVED AREAS PRIOR TO STARTING
- 15. PAYMENT FOR PAVEMENT WILL BE MADE FOR THE AREAS SHOWN ON THE PLANS. REPLACEMENT OF PAVEMENT WHICH IS BROKEN OR CUT IN THE INSTALLATION OF THE IMPROVEMENTS COVERED BY THESE PLANS AND SPECIFICATIONS, AND WHICH LIES OUTSIDE OF SAID AREAS, SHALL BE INCLUDED IN THE CONTRACTOR'S UNIT PRICE FOR PAVEMENT, AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR SUCH WORK.
- 16. THE CONTRACTOR SHALL EXPOSE EXISTING STORM DRAINS, WATER MAINS, AND SANITARY SEWERS WHERE CONNECTIONS AND CROSSINGS ARE TO BE MADE SO EXISTING FLOWLINES AND LOCATIONS CAN BE VERIFIED BEFORE THE START OF CONSTRUCTION. /ERIFY SEI WILL PROVIDE
- 17. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONT CONSTRUCTION STAKING CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING AND REQUEST A NEW PO AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT FOR THIS SERVICE. WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CONTRACTOR SHALL DEFEND SHALL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
- 18. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION STAKING. CONSTRUCTION STAKING IS NORMALLY PERFORMED BY THE ENGINEER WHO PREPARED THE PLAN. THIS PERMITS APPROPRIATE ON-SITE INTERPRETATION AND ADJUSTMENT OF THE PLANS, IF NECESSARY. CONTRACTOR SHALL NOTIFY THE ENGINEER FORTY-EIGHT (48) HOURS PRIOR TO THE ACTUAL NEED FOR STAKING AND CONTROL REQUESTED BY THE CONTRACTOR OR HIS SUBCONTRACTORS WHICH EXTENDS BEYOND THE ORIGINAL SCOPE OF WORK DEFINED IN THESE PLANS SHALL BE SUBJECT TO AN EXTRA WORK CHARGE TO THE CONTRACTOR. THIS NOTE GIVES FORMAL NOTICE THAT THE FIRM OF SIEGFRIED ENGINEERING, INC. CANNOT, AND WILL NOT, TAKE RESPONSIBILITY FOR ERRORS OR OMISSIONS, IF ANY, WHICH MIGHT OCCUR AND WHICH COULD HAVE BEEN AVOIDED OR DETECTED AND/OR CORRECTED OR MITIGATED HAD SIEGFRIED ENGINEERING, INC. PERFORMED THE CONTRACT STAKING WORK.



- 20. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF THE CALIFORNIA GENERAL CONSTRUCTION ACTIVITY STORM WATER PERMIT AND STATE WATER RESOURCES CONTROL BOARD ORDER NUMBER 99-08-DWQ 3" COMPLIANCE IS MANDATORY PER THE CITY OF STOCKTON'S GRADING AND EROSION CONTROL ORDINANCE. TITLE 15, CHAPTERS 15 THROUGH 48 OF THE STOCKTON MUNICIPAL CODE. CONTACT RICCO RAMIREZ (203 993 1449)(CITY STORM WATER POLLUTION PREVENTION INSPECTOR) TWO WEEKS PRIOR TO START DATE.
- 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND LICENSES REQUIRED FOR THE CONSTRUCTION AND COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT AND A GRADING AND EROSION CONTROL PERMIT PRIOR TO STARTING ANY WORK, UNLESS OTHERWISE APPROVED BY THE CITY.
- 22. DUST CONTROL SHALL BE PERFORMED AT ALL TIMES, AT THE CONTRACTORS' EXPENSE, TO MINIMIZE ANY DUST NUISANCE AND SHALL BE IN ACCORDANCE WITH SECTION 10 OF CALTRANS STANDARD SPECIFICATIONS AND THE REQUIREMENTS OF THE CITY OF STOCKTON.
- 23. THE CONTRACTOR SHALL FURNISH, INSTALL OPERATE AND MAINTAIN ALL MACHINERY, APPLIANCES AND EQUIPMENT TO MAINTAIN ALL EXCAVATIONS FREE FROM WATER DURING CONSTRUCTION, AND SHALL DEWATER AND DISPOSE OF THE WATER SO AS TO NOT CAUSE INJURY TO PUBLIC OR PRIVATE PROPERTY, OR TO CAUSE A NUISANCE OR MENACE TO THE PUBLIC. THE DEWATERING SYSTEM SHALL BE INSTALLED AND OPERATED SO THE GROUNDWATER LEVEL OUTSIDE THE EXCAVATION IS NOT REDUCED TO THE EXTENT WHICH WOULD CAUSE DAMAGE OR ENDANGER ADJACENT STRUCTURES OR PROPERTY. ALL COSTS FOR DEWATERING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ALL PIPE CONSTRUCTION. THE STATIC WATER LEVEL SHALL BE DRAWN DOWN A MINIMUM OF 1 FOOT BELOW THE BOTTOM OF EXCAVATION OF ANY FILL TO THE

XISTING PHASE I PARK IMPROVEMENT ELECTRICAL CONDIT STUB OUTS, IRRIGATION MAIN STUB OUTS AND RRIGATION VALVES AND ANY DRAINAGE STUB OUTS SHALL BE LOCATED BY THE CONTRACTOR

SPECIFIED DENSITY DISPOSAL OF WATER SHALL BE IN ACCORDANCE WITH THE APPROVED SWPPP AND SHALL E OR VIOLATE THE LAW. THE CONTRACTOR SHALL HAVE GOOD WORKING CONDITION FOR EMERGENCIES AND N. THE DEWATERING SYSTEM SHALL OPERATE TED TO 1 FOOT ABOVE THE NORMAL STATIC

PUBLIC WORKS

INSPECTOR

- 24. SITE PREPARATION SHALL INCLUDE STRIPPING AND REMOVAL OF ALL VEGETATION AND ANY DEBRIS FROM THE CONSTRUCTION AREAS. SPRAY ALL GRASS AND WEEDS TO BE REMOVED WITH WEED CONTROL CHEMICALS AS RECOMMENDED BY A PEST CONTROL OPERATOR LICENSED IN THE STATE OF CALIFORNIA. STRIP ALL ORGANIC AND VEGETABLE MATTER FROM UNPAVED AREAS TO BE IMPROVED TO A DEPTH SUFFICIENT TO REMOVE SUCH MATERIAL. THE CONTRACTOR SHALL PROTECT SURROUNDING AREAS FROM DAMAGE BY EQUIPMENT OR CONSTRUCTION OPERATIONS. EXISTING PAVING SHALL BE INCORPORATED INTO THE STRUCTURAL FILL AND ALL OTHER STRIPPED VEGETATION AND DEBRIS SHALL NOT BE INCORPORATED IN ANY OF THE STRUCTURAL FILLS.
- 25. ANY VOIDS LEFT BY THE REMOVAL OF UNDERGROUND UTILITIES OR OTHER BURIED OBJECTS SHALL BE CLEANED OF ALL LOOSE SOILS AND SHALL BE PROPERLY BACKFILLED WITH ENGINEERED FILL.
- 26. ANY SOFT OF LOOSE SOIL POCKETS FOUND ONSITE DURING THE STRIPPING OR RECOMPACTION PROCESS, THEY SHALL BE OVER EXCAVATED AND RECOMPACTED.
- 27. ENGINEERED FILL SHALL BE PLACED IN HORIZONTAL LAYERS A MAXIMUM OF 8 INCHES IN LOOSE THICKNESS AND BE COMPACTED TO A MINIMUM OF 90 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY THE OWNER'S SOIL ENGINEER. THE PROJECT WILL NEED A PO
- 28. SUBGRADE SOILS UNDER EXTERIOR CONCRETE SHALL BE MOISTURE CONDITIONED PER CITY OF STOCKTON STANDARD DRAWING 25D, NOTE #4.
- 29. CONTRACTOR SHALL MAINTAIN MOISTURE CONDITION RIGHT UP TO POURING OF CONCRETE.

#### GRADING NOTES

- 1. GRADING AND LAND STABILIZATION SHALL INCLUDE COST OF DEWATERING; REMOVING FROM THE SITE ALL STRIPPED VEGETATION, DEBRIS, STRUCTURES, POWER POLES, EXISTING PAVEMENT, BUILDINGS, TREES, AND OTHER DELETERIOUS MATERIALS.
- 2. IF ANY EXISTING DELETERIOUS MATERIAL IS FOUND, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR PROPER DISPOSAL. "DELETERIOUS MATERIAL" SUBJECT TO
- 3. ALL IMPORTED FILL SHALL BE APPROVED BY THE CITY.

#### SPECIFICATIONS FOR PVC AND ABS PIPE

- 1. PVC STORM PIPE SHALL BE IN ACCORDANCE WITH CITY OF STOCKTON STANDARDS, SECTION 71.
- 2. ALL STORM PIPE BEDDING SHALL BE ACCORDING TO CITY OF STOCKTON STANDARDS SECTION 71-1.04.
- 3. STORM PIPE SHALL BE INSPECTED BY CITY PLUMBING INSPECTOR DURING INSTALLATION AND PRIOR TO BACKFILL.

#### SPECIFICATIONS FOR MAINTENANCE HOLES

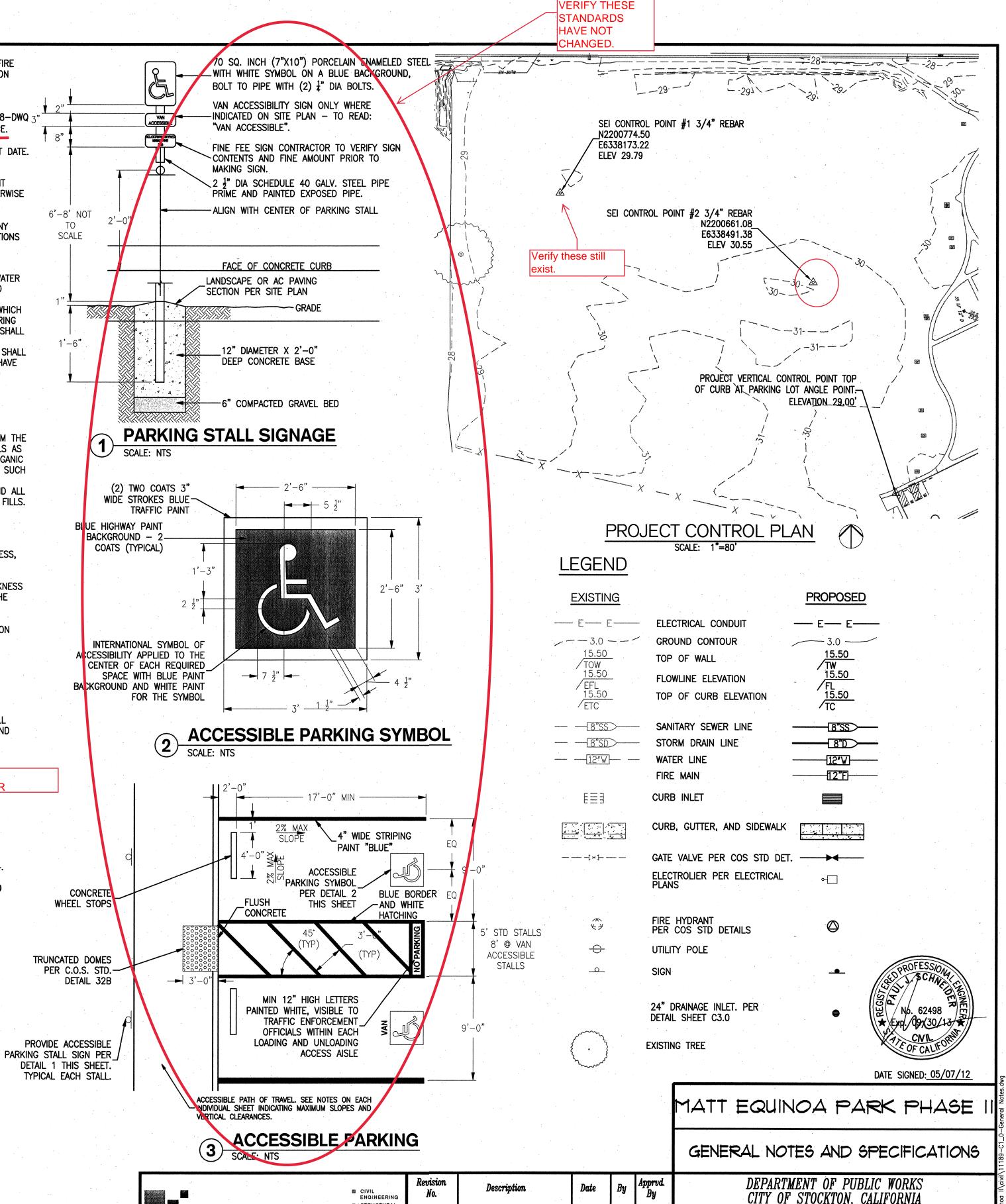
- MAINTENANCE HOLES SHALL BE CONSTRUCTED (GROUTED) SUCH THAT NO INFILTRATION OR EXFILTRATION WILL OCCUR AT ANY JOINTS OR LIFT HOLES. ALL/INFILTRATION SHALL BE CORRECTED PRIOR TO PAINTING OR COATING.
- WHERE THE EXISTING FOUNDATION IS WET OR NORMALLY WET PRIOR TO DEWATERING, THE MAINTENANCE HOLE BASE SHALL BE INSTALLED ON A BEDDING OF MINIMUM 6" THICKNESS OF CRUSHED, EVENLY GRADED ROCK MEETING ASTM C33, GRADATION 67 SPECIFICATIONS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO SEE THAT THIS TYPE BEDDING ROCK DOES NOT JEOPARDIZE THE POLYTHYLENE SLEEVE WHERE SUCH SLEEVE IS PRESENT.
- 3. MAINTENANCE HOLES SHALL BE INSPECTED BY CITY PLUMBING INSPECTOR DURING INSTALLATION AND PRIOR TO USE.

#### SPECIFICATIONS FOR INITIAL BACKFILL (ALL TRENCHES)

- 1. ALL TRENCH EXCAVATIONS SHALL BE IN ACCORDANCE WITH THE CITY OF STOCKTON STANDARD SPECIFICATION 7-1.01E. AS WELL AS C.O.S. STD DWG.
- 2. JETTING SHALL NOT BE PERMITTED

#### PIPE TABLE

TYPE OF PIPE	PIPE DIAMETER	TYPE & CLASS	BEDDING AND BACKFILL
STORM DRAIN		SDR-35 PVC ASTM 3034 OR HDPE PER C.O.S. STDS. SECTION 71 (TYP.)	PER C.O.S. STDS. SECTION 71-1.03, 71-1.04, AND 71-1.05



SCALE

DESIGNED B

DRAWN BY

CHECKED BY

RECORD DWGS.

SHEET NO.

CLØ

2 OF 28 SHEETS

7/12/12

PPROVED BY:

CITY LANDSCAPE ARCHITEC"

STOCKTON. CALIFORNIA

RJN

RIN

PJS

STRUCTURA ENGINEERIN

ARCHITECTUR

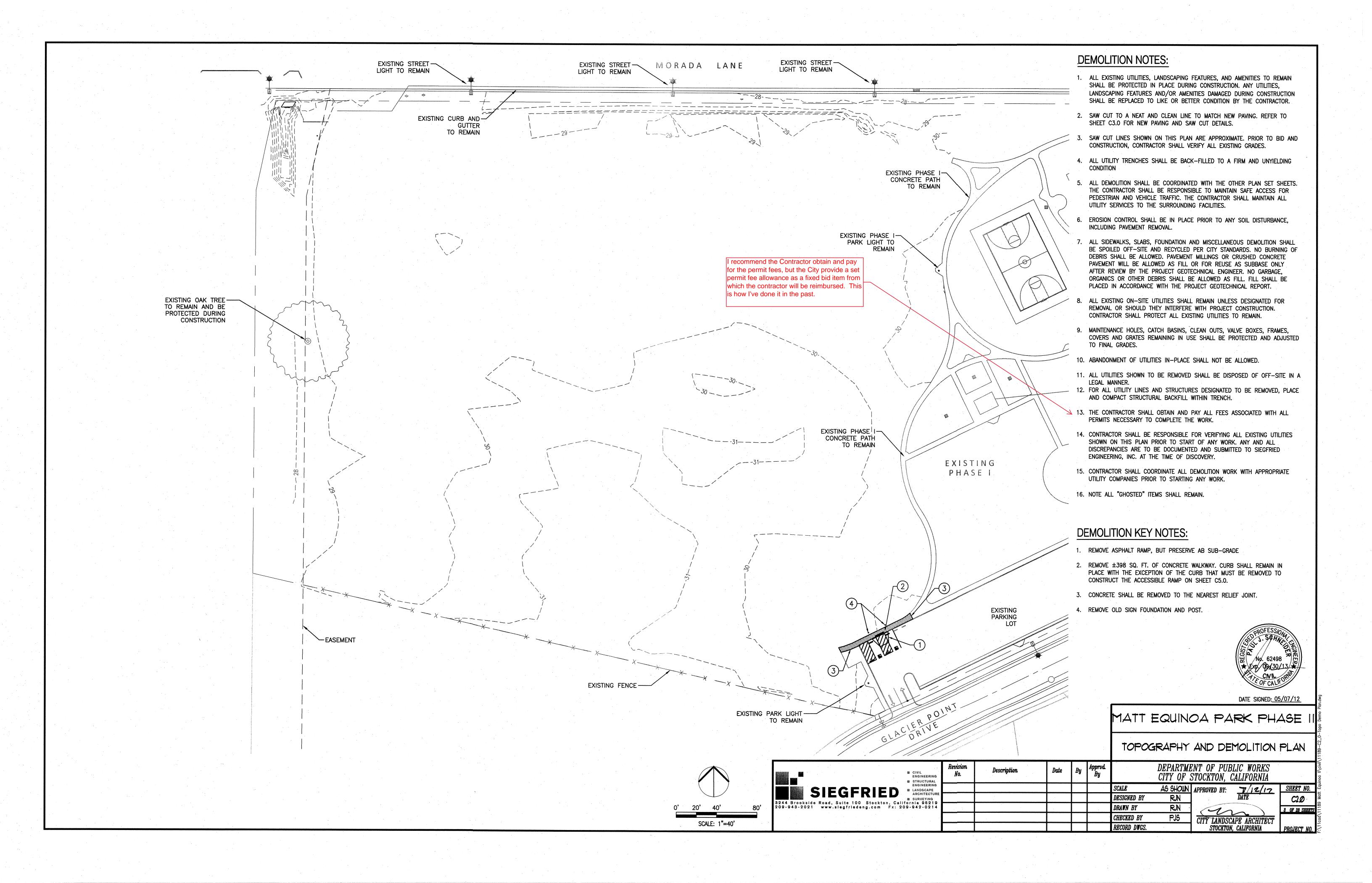
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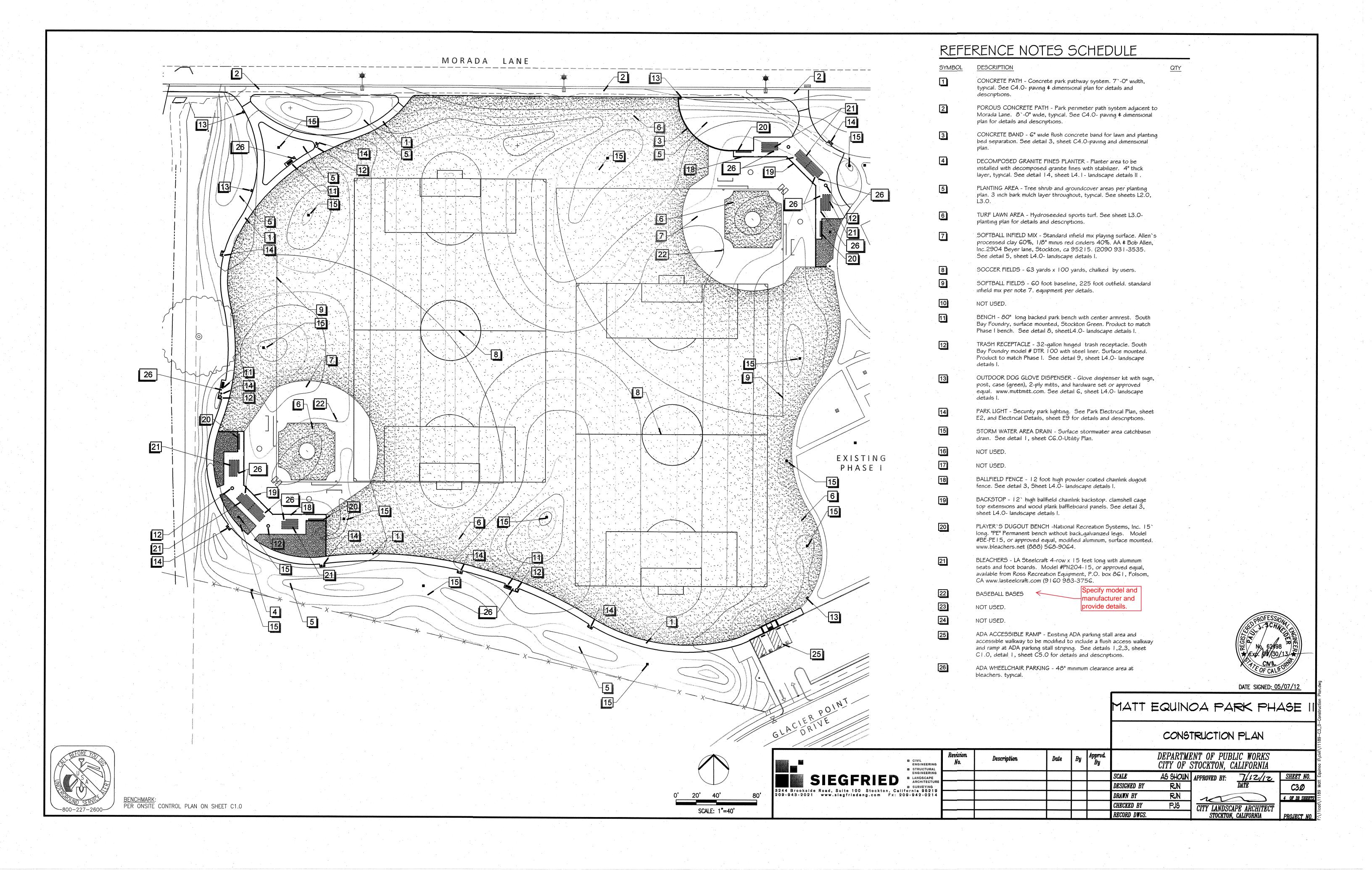
3244 Brookside Road, Suite 100 Stockton, California 9521 209-943-2021 www.slegfrledeng.com Fx: 209-942-021

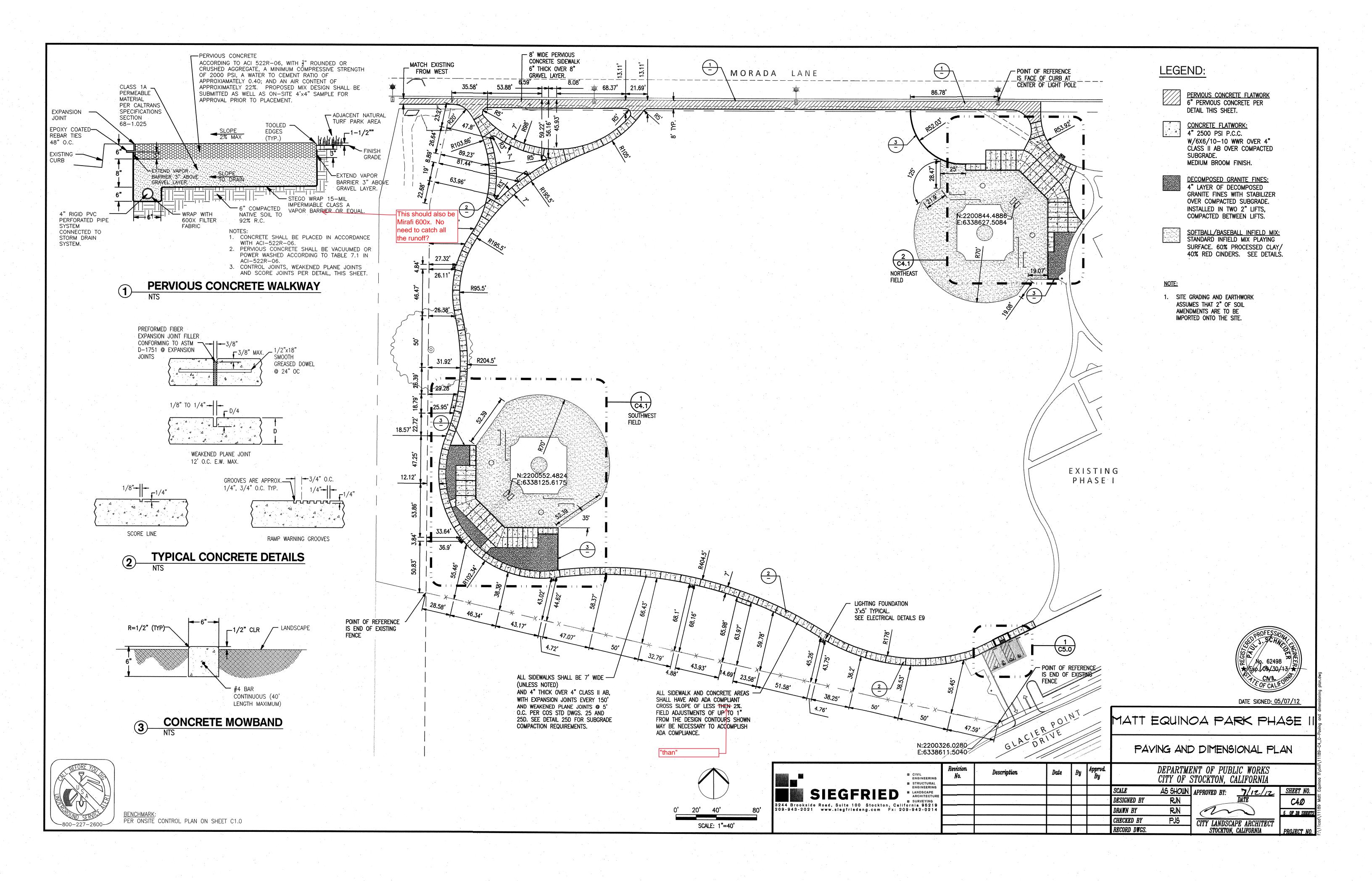
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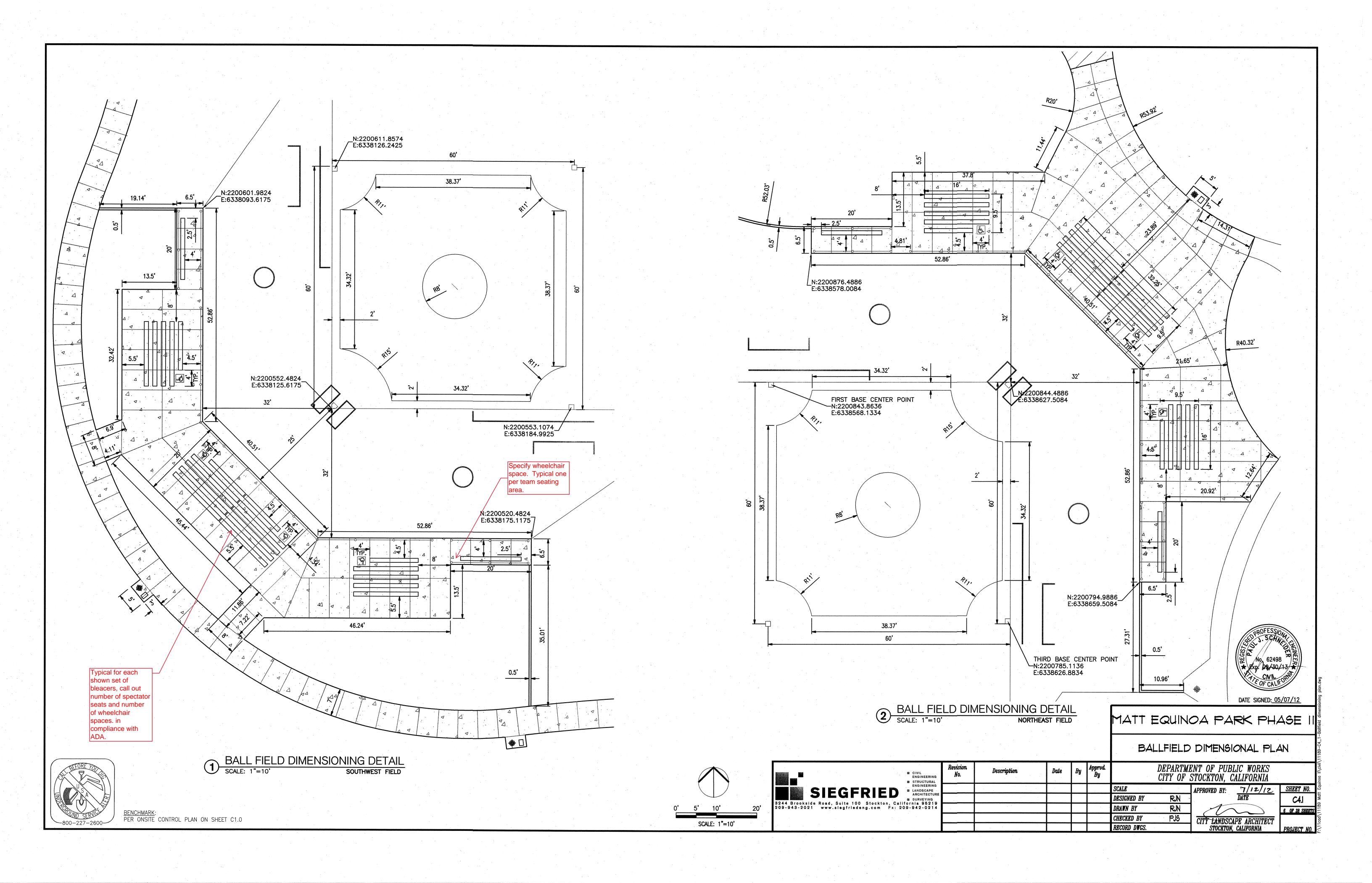


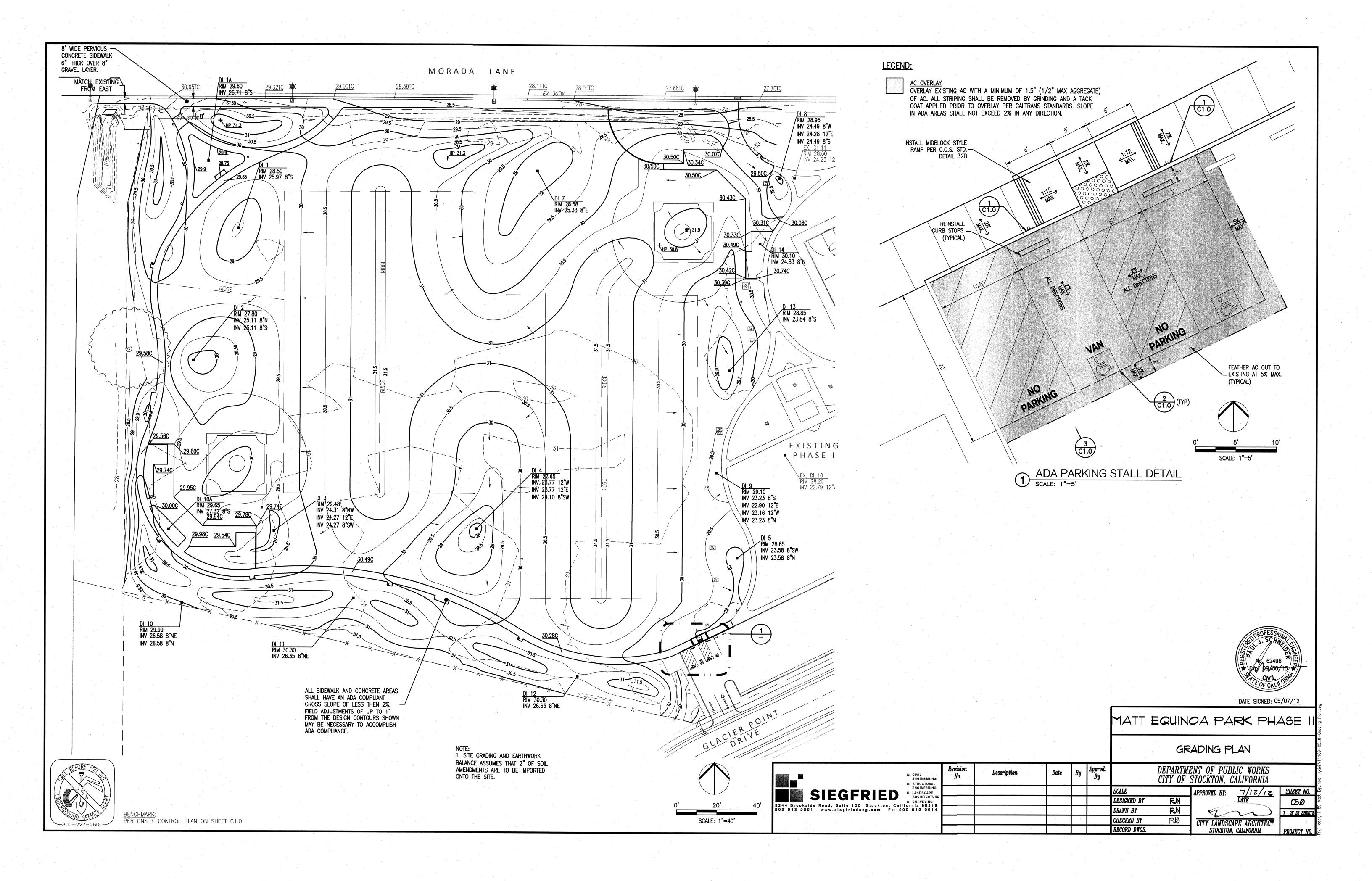
PER ONSITE CONTROL PLAN ON SHEET C1.0

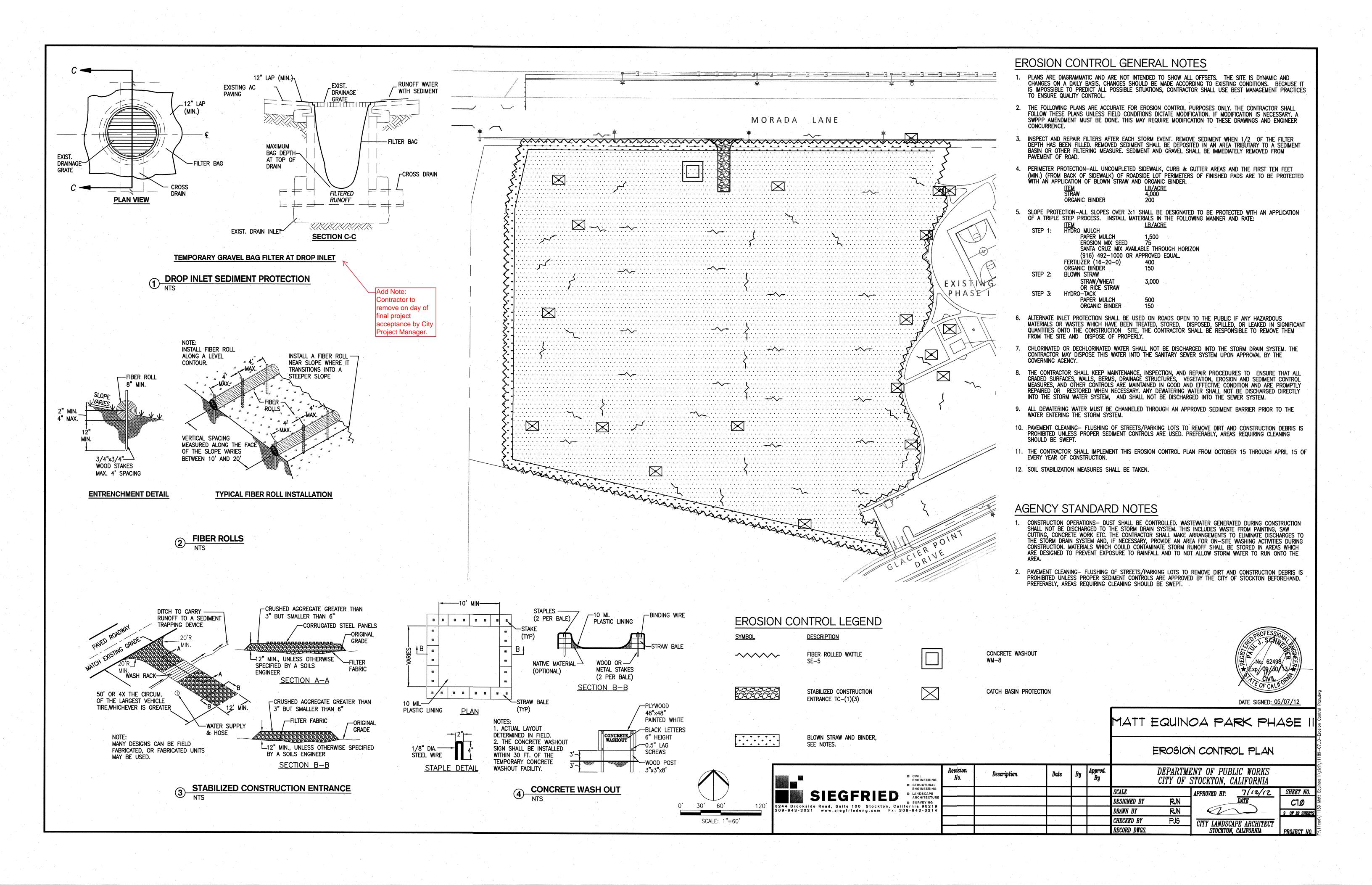


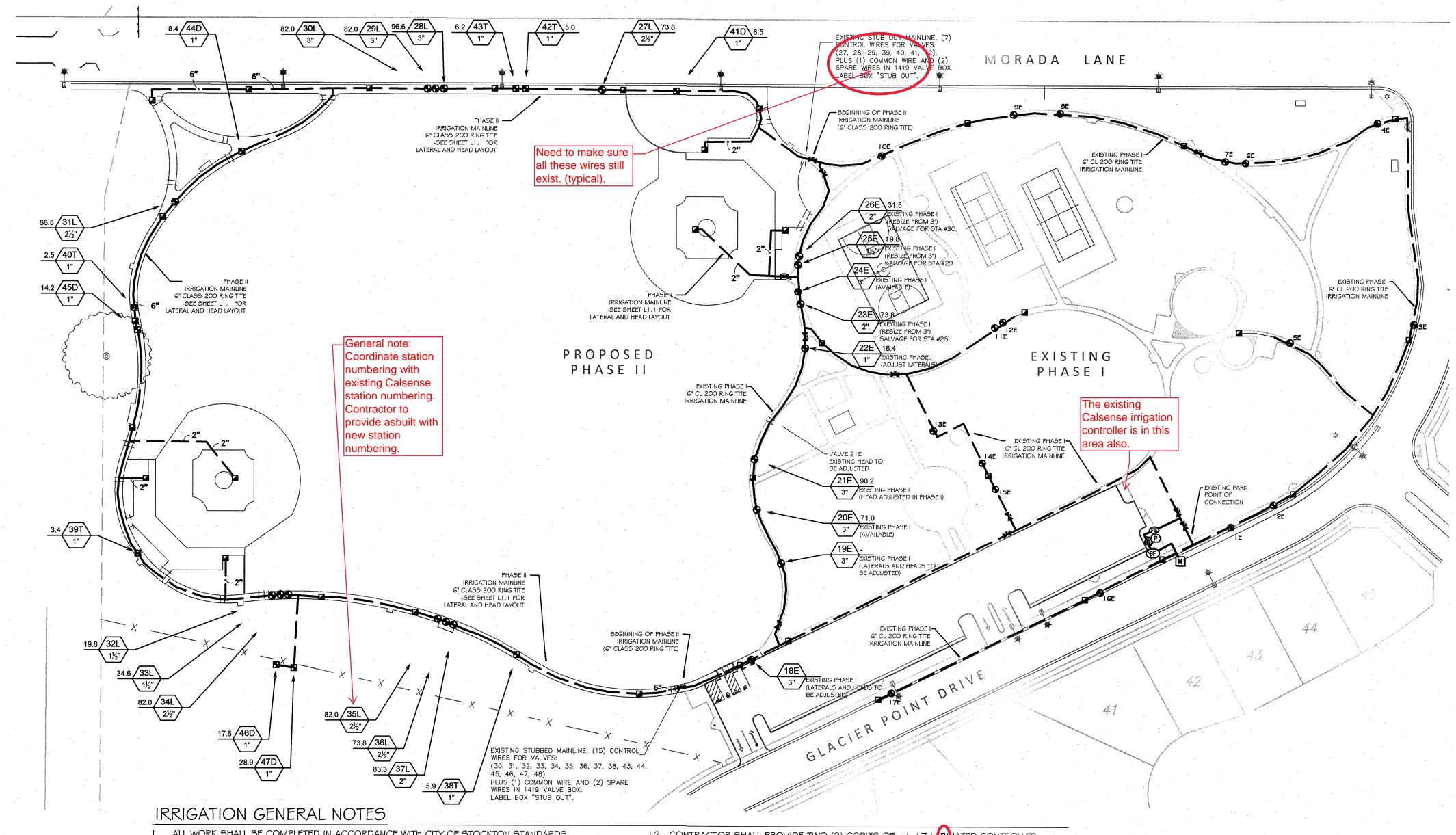












IRRIGATION SCHEDULE

MANUFACTURER/MODEL/DESCRIPTION SYMBOL Netafim LFCZ10075-HF I" valve, 3/4" filter and a high flow pressure regulating valve (3.5 - 17.6gpm). Netafim LVCZ10075-LF I" valve, 3/4" filter and a low flow pressure regulating valve (0.25 - 4.4 gpm).Griswold 2030 37 Low Amp. Solenoid Rain Bird 44-NP I" Quick Coupler Valve, two piece body, locking cover, with non-potable Purple Locking Cover. Nibco P-619-RW 2" to 12" cast iron gate valve, same size as mainline pipe where located. Resilient wedge non-rising stem flow control with IPS push-on ends. EXISTING 6" CLA-VAL CHECK VALVE #81-02 BF EXISTING Febco 825YD 6" Reduced Pressure Backflow Preventer EXISTING Dual Flow Sensor and Master Valve DFSAV-150P+400P+600 P EXISTING Booster Pump BARRETT BOOSTER PUMP. IRRIBOOST #BEP2.5YHB-50-2 M EXISTING Water Meter 4" POINT OF CONNECTION FOR ENTIRE PARK SYSTEM. EXISTING AS PART OF PHASE I Irrigation Mainline: PVC 6" Class 200 Ring Tite 5,289 l.f. Unless Noted In Plan

Valve Callout - Valve Number E-EXISTING D-DRIP T-TREES L-LAWN

> (E) EXISTING VALVES TO MODIFY 118E, 19E, 22E, 24E (D) DRIP VALVES 41D, 44D, 45D, 46D, 47D (T) TREE VALVES 38T, 39T, 40T, 42T, 43T (L) LAWN VALVES 20E, 21E, 23E, 25E, 26E,

27L, 28L, 29L, 30L, 31L, 32L, 33L, 34L, 35L, 36L, 37L

- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH CITY OF STOCKTON STANDARDS. THE SUB-SURFACE DRIP SYSTEM IS DESIGNED TO OPERATE AT 20 PSI WITH THE OPPORTUNITY
- TO RUN MULTIPLE STATIONS AT ONCE. THE SUBCONTRACTOR IS TO PERFORM A STATIC AND DYNAMIC PRESSURE TEST: VERIFY AT LEAST 45 PSI. STATIC AND THEN RECORD THE PRESSURE READING AT 85 GPM. REPORT THE FINDINGS TO THE LANDSCAPE ARCHITECT. IF THE SUBCONTRACTOR FAILS TO DO SO, THE SUBCONTRACTOR WILL TAKE FULL RESPONSIBILITY FOR ANY NECESSARY REVISIONS.
- 3. THE INTENT OF THIS IRRIGATION SYSTEM IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH. LANDSCAPE SUBCONTRACTOR SHALL GUARANTEE
- 100% COVERAGE OF SYSTEM. 4. IRRIGATION CONTROLLER TO BE LOCATED AT EXISTING LOCATIONS(PER PLANS).
- 5. SPLICING OF 24 VOLT WIRES IS NOT PERMITTED EXCEPT IN VALVE BOXES. LEAVE A 36" LONG, 6" DIAMETER COIL OF EXCESS WIRE AT EACH SPLICE AND A 36" LONG EXPANSION LOOP EVERY 100 FEET ALONG WIRE RUN. TAPE WIRE TOGETHER EVERY TEN FEET. TAPING WIRES IS NOT REQUIRED INSIDE SLEEVES. RUN WIRE FROM EACH REMOTE CONTROL VALVE TO THE CONTROLLER. ALL CONTROLLER WIRES TO BE INDEXED AT VALVES AND CONTROLLER.
- 6. PLASTIC VALVE BOX LIDS TO BE T-STYLE NON-HINGED COVERS. BOX BODY SHALL HAVE
- KNOCK-OUTS WITH BOLT-DOWN LIDS. 7. INSTALL NEW REMOTE CONTROL VALVE BOXES 12" FROM WALK, CURB, LAWN, HEADER BOARD, BUILDING, OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB, LAWN, ETC. AND EACH BOX SHALL BE 12" APART.
- SHORT SIDE OF RECTANGULAR VALVE BOXES SHALL BE PARALLEL TO WALK, CURB, LAWN, ETC. 8. THIS PLAN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHERE POSSIBLE. AVOID ANY CONFLICTS BETWEEN THE IRRIGATION SYSTEM AND PLANTING AND ARCHITECTURAL FEATURES.
- 9. THE IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST ALL HEADS FOR MAXIMUM PERFORMANCE AND TO MINIMIZE OVERSPRAY ON TO WALKS, WALLS, FENCES, DRIVES, AND BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT EXISTING CONDITIONS AND TO THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM AND SO THAT EACH VALVE CLOSES
- AUTOMATICALLY WITHIN 20 SECONDS OF BEING DEACTIVATED AT THE CONTROLLER. 10. ALL CONTROL WIRE TO BE U.L. LISTED DIRECT BURY #14 GAUGE WIRE TO ALL VALVES FROM
- CONTROLLER. 11. CONTRACTOR SHALL LABEL VALVE BOX LIDS PER STANDARDS. REMOTE CONTROL VALVES SHALL BE LABELED WITH STATION NUMBER, QUICK COUPLERS WITH "QCV" AND GATE VALVES WITH "GV".

PER ONSITE CONTROL PLAN ON SHEET C1.0

- 12. CONTRACTOR SHALL PROVIDE TWO (2) COPIES OF 11x17 LIBINATED CONTROLLER CHARTS PRIOR TO FINAL ACCEPTANCE BY OWNER. CONTROLLER CHARTS SHALL BE COLOR-CODED INDICATING EACH VALVE AND THE SYSTEM IT OPERATES. CHARTS SHALL BE REDUCTIONS OF THE IRRIGATION PLANS.
- 13. SEE SPECIFICATIONS FOR COMMON TRENCHING REQUIREMENTS. 14. ALL PVC SLEEVES UNDER PAVEMENT AND ROADWAYS TO BE SCH. 40. SLEEVES TO BE
- TWICE THE DIAMETER OF PIPE OR WIRE BUNDLE THAT WILL PASS THROUGH SLEEVE. 15. INSTALL CHECK VALVES OR IN-HEAD CHECK VALVES TO ELIMINATE LOW HEAD
- 16. SUBSTITUTION FOR IRRIGATION EQUIPMENT SPECIFIED ON THE PLANS MAY BE DONE
- ONLY WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE. 17. PROVIDE A MINIMUM 24" COVER OVER ALL MAIN LINE PIPING AND 18" OVER ALL LATERAL LINES.

DRAINAGE WHERE NECESSARY.

- 18. THE IRRIGATION SUBCONTRACTOR SHALL NOT WILLFULLY INSTALL THE SYSTEM AS DESIGNED WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT WERE NOT IDENTIFIED IN THE DRAWINGS. SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. OTHERWISE, THE SUBCONTRACTOR MUST ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY REVISIONS.
- 19. ALL WIRE CONNECTIONS TO BE MADE IN VALVE BOX WITH WATER TIGHT CONNECTORS PER THE MANUFACTURERS DIRECTIONS. WIRE SPLICES SHALL NOT BE PERMITTED UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE. WIRE SPLICE LOCATIONS
- MUST BE INDICATED ON "AS-BUILTS" PER THE SPECIFICATIONS 20. ALL PIPE 2 1/2" AND SMALLER TO BE SOLVENT WELD AND ALL PIPE 3" AND OVER TO BE RING-TITE WITH JOINT RESTRAINTS.
- 21. CONTRACTOR TO VERIFY LOCATIONS OF ALL ON-SITE UTILITIES. RESTORATION OF DAMAGED UTILITIES SHALL BE MADE AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE CITY.
- 22. CONTRACTOR TO MARK IRRIGATION STREET CROSSINGS OF WATER LINES WITH A CHISELED "I" IN THE CURB. 23. SEE IRRIGATION DETAILS FOR ADDITIONAL INFORMATION.
- 24. ALL IRRIGATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF STOCKTON STANDARDS.

SCALE: 1"=60'



THE IRRIGATION SYSTEMS MEET THE CITY AND STATE 'MODEL WATER EFFICIENT LANDSCAPE ORDINANCE' (AB | 881) WATER PRESERVATION REQUIREMENTS BASED ON THE USE OF DRIP AND WATER EFFICIENT IRRIGATION, AND LOW AND MODERATE WATER-USE PLANT SPECIES INSTALLED.



MATT EQUINOA PARK PHASE

IRRIGATION OVERALL PLAN

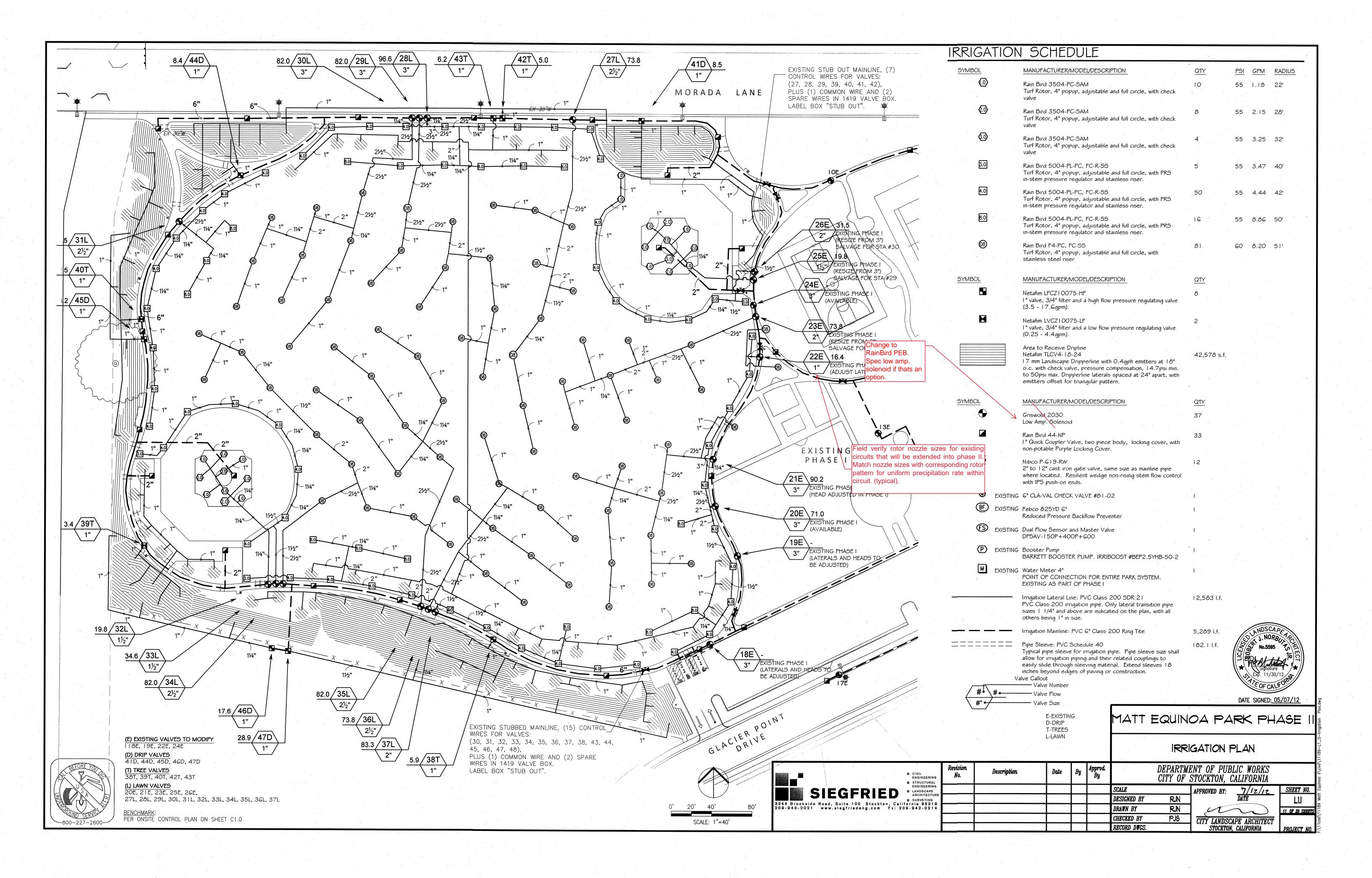


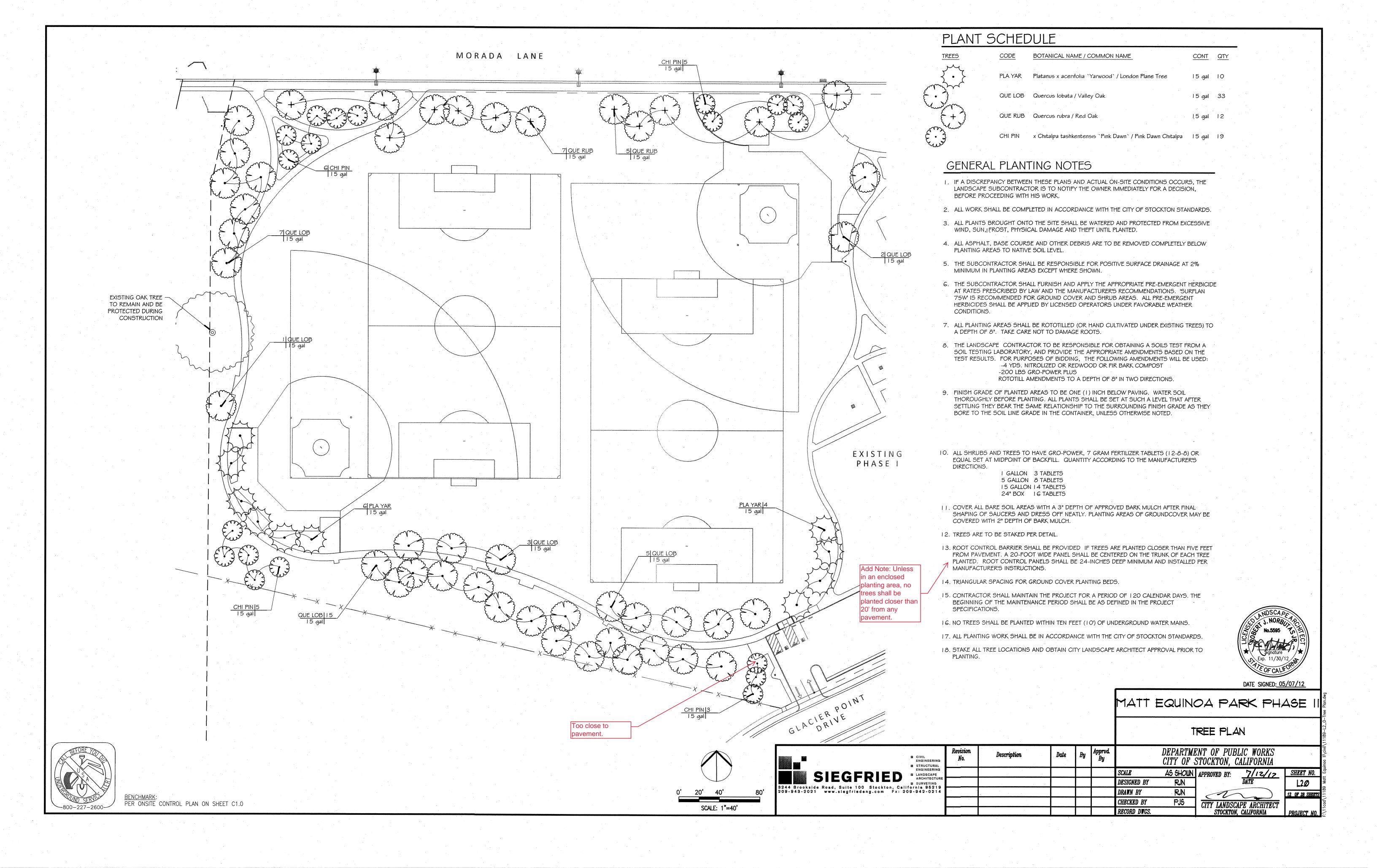
DEPARTMENT OF PUBLIC WORKS DESIGNED B RJN RJN DRAWN BY CHECKED BY PJS RECORD DWGS.

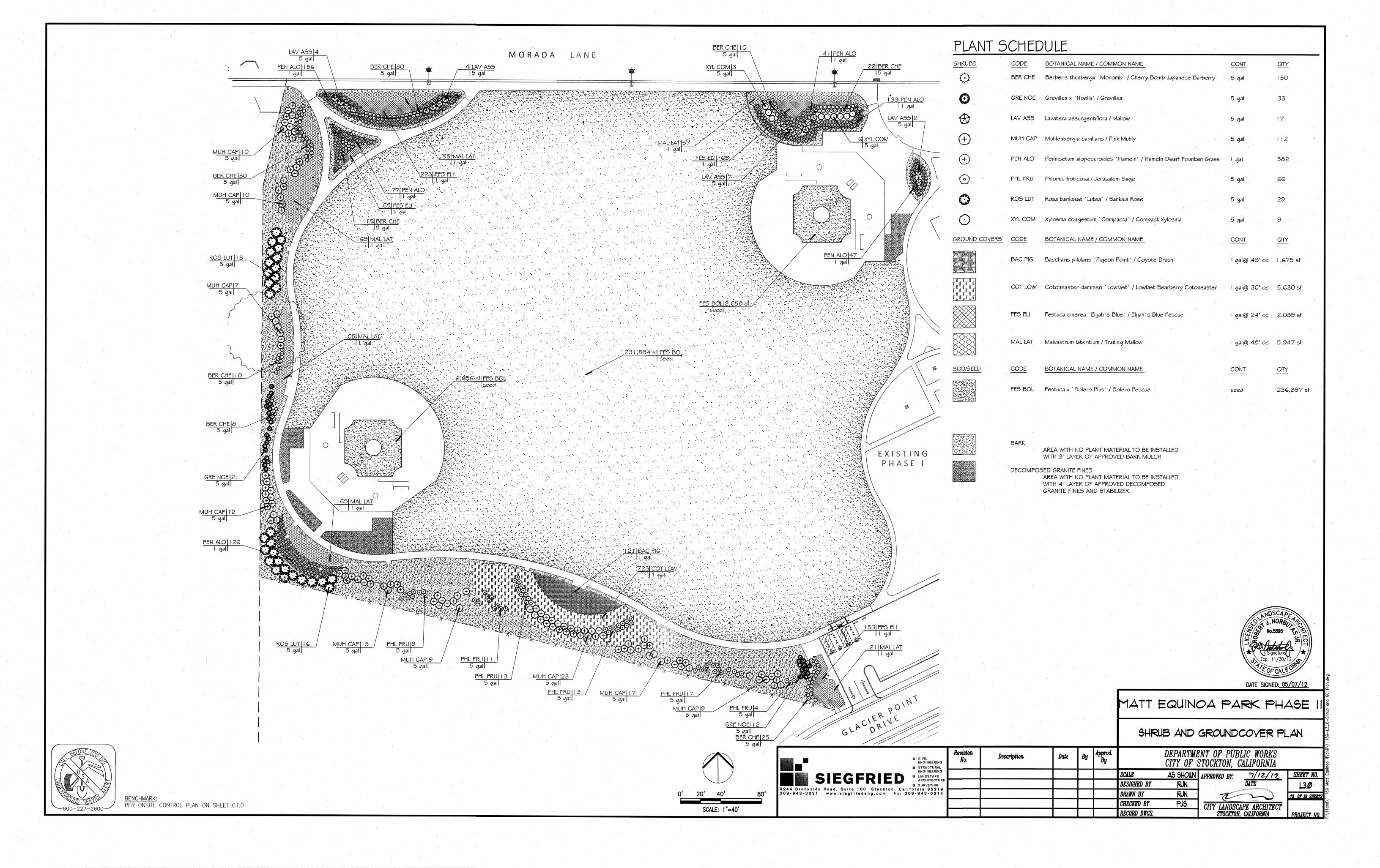
CITY OF STOCKTON, CALIFORNIA 7/12/12 SHEET NO. APPROVED BY: LIO CITY LANDSCAPE ARCHITECT STOCKTON, CALIFORNIA

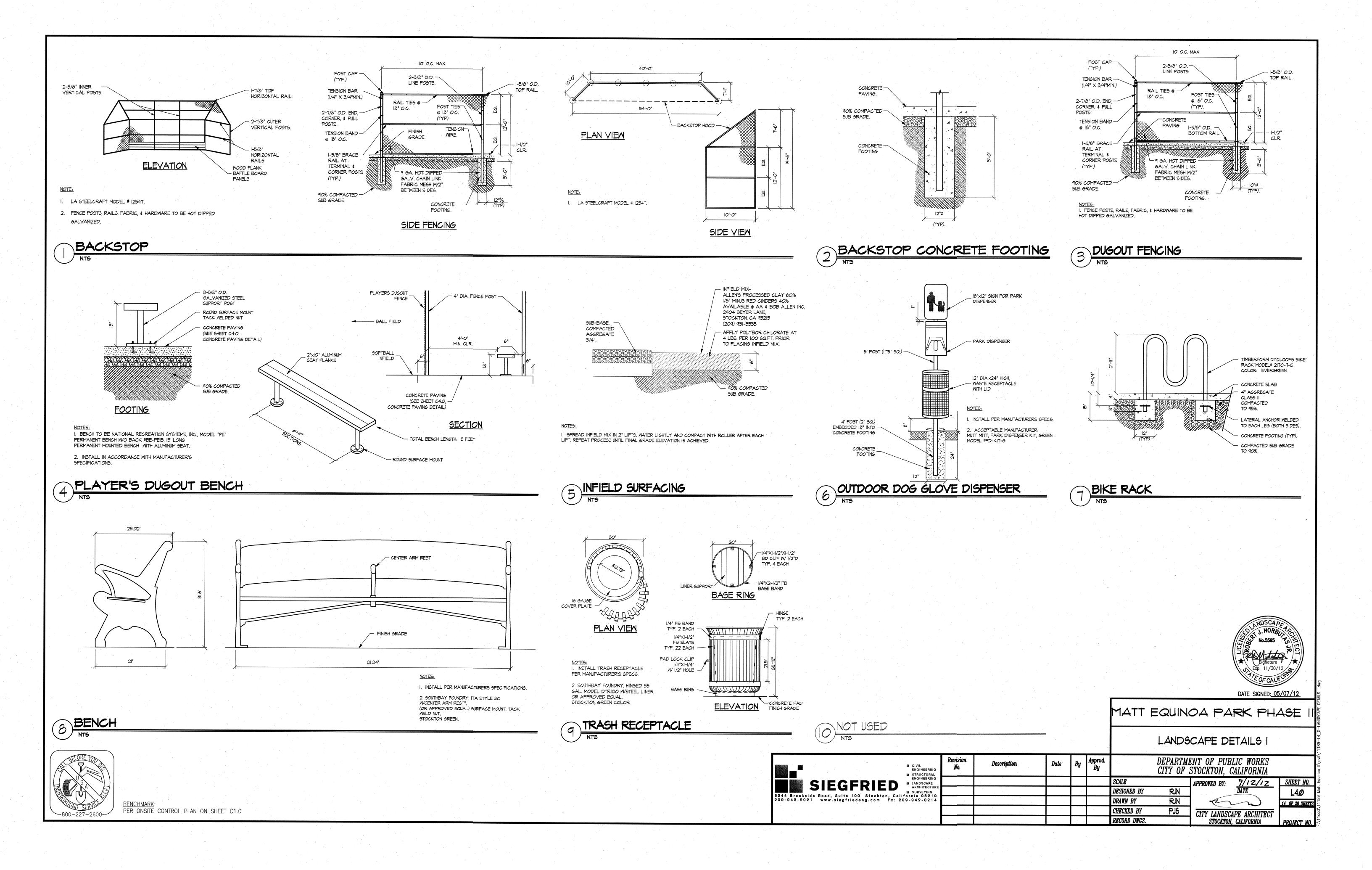
10 OF 28 SHEETS

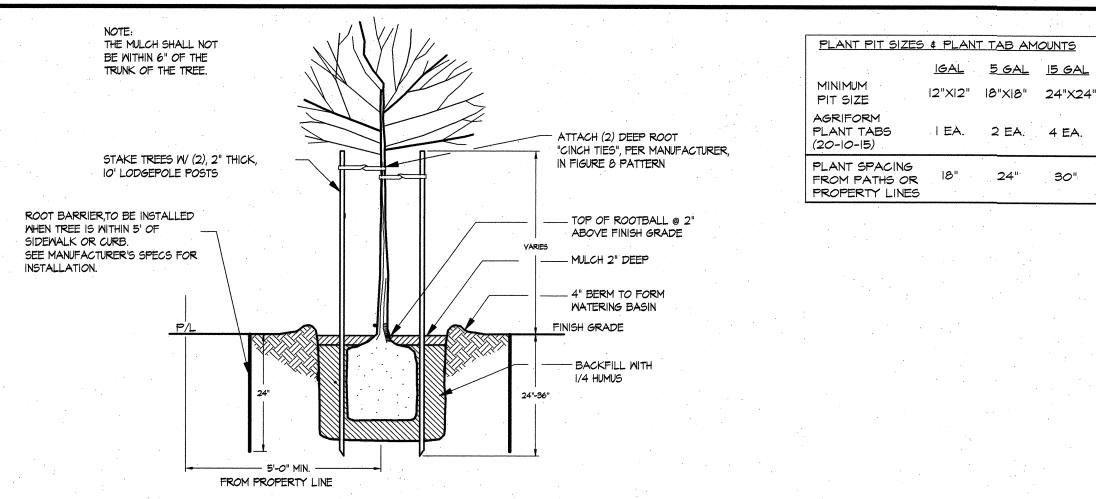




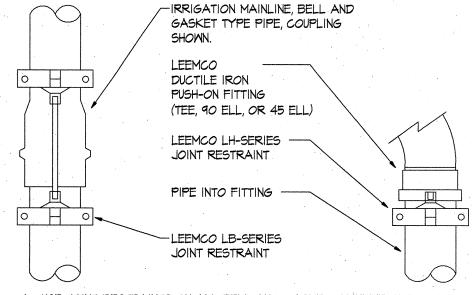








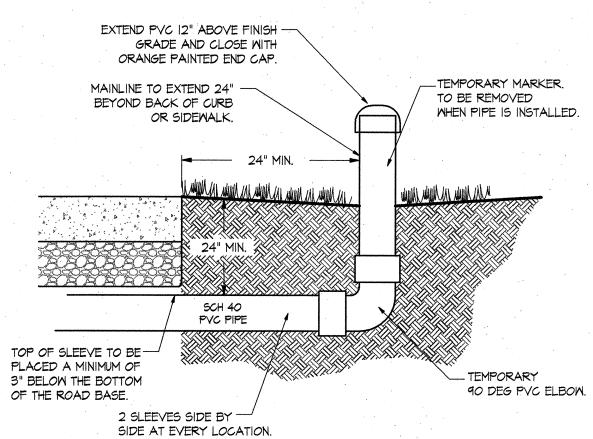
#### TREE PLANTING & STAKING



- 1. USE JOINT RESTRAINTS ON ALL BELL AND GASKET MAINLINE PIPE. 2. USE THRUST BLOCKS ON ALL SOLVENT WELD MAINLINE PIPE. 3. USE LB SERIES RESTRAINTS FOR BELL AND GASKET JOINTS.
- 4. USE LH SERIES RESTRAINTS FOR PVC PIPE TO LEEMCO FITTINGS INCLUDING 45 ELLS, 90 ELLS, MAINLINE TEES, AND VALVE STUB OUTS.
- 5. USE TWO LH SERIES RESTRAINTS AND TWO TIE-BARS FOR PUSH ON GATE VALVES, SEE LEEMCO RECOMMENDATIONS.
- 6. USE TWO LMJ SERIES RESTRAINTS (CONSISTING OF ONE LH SERIES RESTRAINT AND TWO MJ-LK LINKS) FOR FLANGED GATE VALVES.
- 7. USE TWO LMJ SERIES RESTRAINTS (CONSISTING OF ONE LH SERIES RESTRAINT AND TWO MJ-LK LINKS) FOR FLANGED BUTTERFLY VALVES. 8. SIZE OF RESTRAINT TO BE AS PER PIPE AND FITTING USED.

#### PIPE RESTRAINTS

(6" MAINLINE)



-FINISH GRADE IN SHRUB AREAS ---24" WIRE LOOP -VALVE ID TAG PVC SCH. 80 SF-FEMALE ADAP. -CONTROL VALVE LATERAL PIPE --SCH 80 PVC NIPPLE -3/4" CRUSHED GRAVEL PVC SCH. 80 SF - 4" NIPPLE TYP. TWO CUBIC FEET BRICK SUPPORTS SCH. 80 UNION -ROMAC #202N SADDLE \_W/(2)S.S. STRAPS LANDSCAPE -FABRIC

I" ABOVE FINISH GRADE IN TURF AREAS

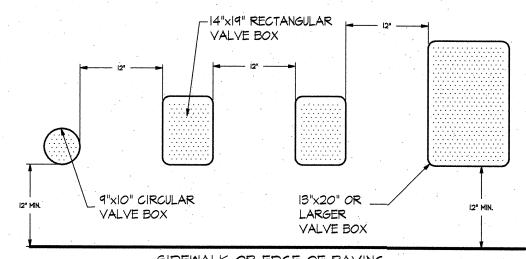
-PLASTIC RECTANGULAR VALVE BOX WITH BOLT DOWN

COVER, USE STAINLESS BOLT, NUT, AND WASHER. BOX

TO BE PLACED AT RIGHT ANGLE TO HARDSCAPE EDGE.

HEAT BRAND "RCV" AND CONTROL STATION # ONTO LID.

#### REMOTE CONTROL VALVE (ROTOR VALVE-BOTTOM INLET)



#### NOTES :

- CENTER BOX OVER VALVE TO FACILITATE SERVICING VALVE.
- FINISH GRADE IN TURF AREA.
- INSTALL IN LAWN AREA ONLY IF GROUND COVER/SHRUB AREA DOES NOT EXIST ADJACENT TO LAWN.

- 6. VALVE BOXES SHALL HAVE BOLT DOWN LIDS WITH BOLTS INSTALLED.

## 22 PIPE AND WIRE TRENCHING

SLEEVE 24" BELOW ALL HARDSCAPE ELEMENTS WITH SCH. 40 PVC TWICE THE

3. SNAKE ALL PLASTIC PIPING IN TRENCHES FROM SIDE TO SIDE AS SHOWN, AT A 50'

ALL SOLVENT WELD

PLASTIC PIPING TO BE

SNAKED IN TRENCH AS

A NOT USED

SLEEVING UNDER MAINLINE, LATERAL MAINLINE

AND WIRING.

SECTION VIEW

PLAN VIEW

DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.

2. FOR PIPE AND WIRE BURIAL DEPTHS SEE SPECIFICATIONS.

HARDSCAPE

TIE A 24" LOOP

IN ALL WIRING

DIRECTION OF 30 deg OR

AT CHANGES OF

GREATER. UNTIE AFTER ALL

CONNECTIONS

HAVE BEEN

MADE.

- 18" MIN.

NTS

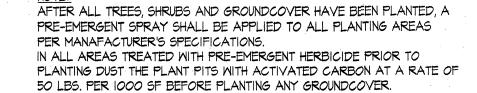
HARDSCAPE

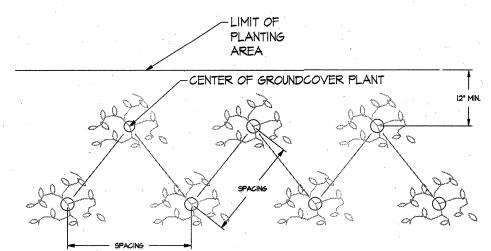
RUN WIRING BENEATH -

AND BESIDE MAINLINE.

TAPE AND BUNDLE AT

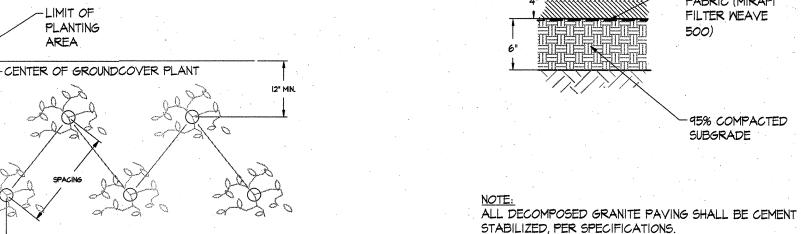
10' INTERVALS.





GROUNDCOVER SPACING

- BOLT DOWN LID



- FINISH GRADE/TOP OF MULCH

- QUICK-COUPLING VALVE

VALVE BOX WITH COVER:

PVC SCH 80 NIPPLE

(LENGTH AS REQUIRED)

-3-INCH MINIMUM DEPTH

PVC SCH 40 STREET ELL

OF PEA GRAVEL

-BRICK (TYP. OF 3)

- PVC SCH 80 NIPPLE

(LENGTH AS REQUIRED)

- PVC SCH 40 STREET ELL

- PVC SCH 40 TEE OR ELL

- #4 REBAR WITH STAINLESS

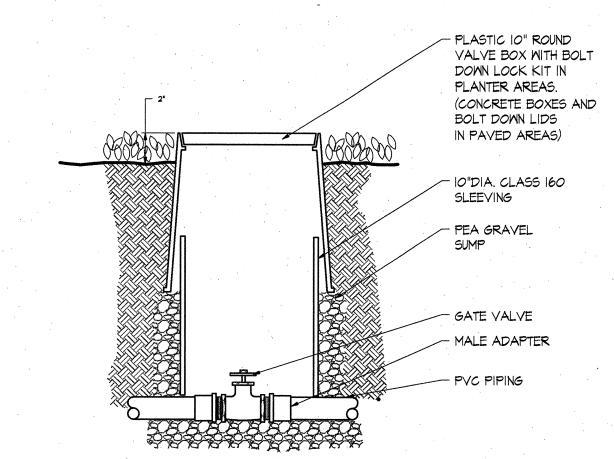
- PVC SCH 40 ELL

- PVC MAINLINE PIPE

CARSON 910

#### INSTALLATION OF SECOND LAYER. DECOMPOSED GRANITE

(2) 2" LIFTS



GATE VALVE

FIRST LAYER OF D.G. PAVING SHALL BE COMPACTED BEFORE

DECOMPOSED GRANITE W

EQUAL LIFTS, COMPACT TO

- FINISH GRADE

- WEED BARRIER

FILTER WEAVE

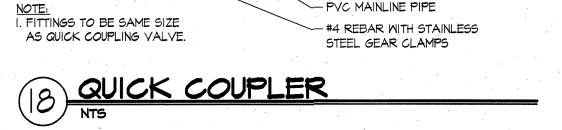
FABRIC (MIRAFI

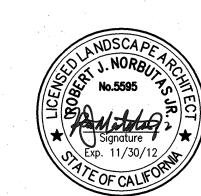
-95% COMPACTED

SUBGRADE

STABILIZER, LAY IN TWO

95% RELATIVE DENSITY.





7/12/17

CITY LANDSCAPE ARCHITECT

STOCKTON, CALIFORNIA

SHEET NO

15 OF 28 SHEETS

DATE SIGNED: 05/07/12

MATT EQUINOA PARK PHASE

LANDSCAPE DETAILS II

DEPARTMENT OF PUBLIC WORKS CITY OF STOCKTON, CALIFORNIA

> RJN RIN

PJS

RECORD DWGS.

						L
© CIVIL ENGINEERING STRUCTURAL	Revision No.	<b>Description</b>	Date	Ву	Apprvd. By	;
SIEGFRIED ENGINEERING LANDSCAPE ARCHITECTURE						SCALE
SURVEYING						DESIGNED
44 Brookside Road, Suite 100 Stockton, California 95219 9-943-2021 www.slegfriedeng.com Fx: 209-942-0214			·			DRAWN BY
						CHECKED .

# WHEN PIPE IS INSTALLED. SIDEMALK OR EDGE OF PAYING

2. SET BOXES 2" ABOVE FINISH GRADE IN GROUND COVER/SHRUB AREA AND FLUSH WITH

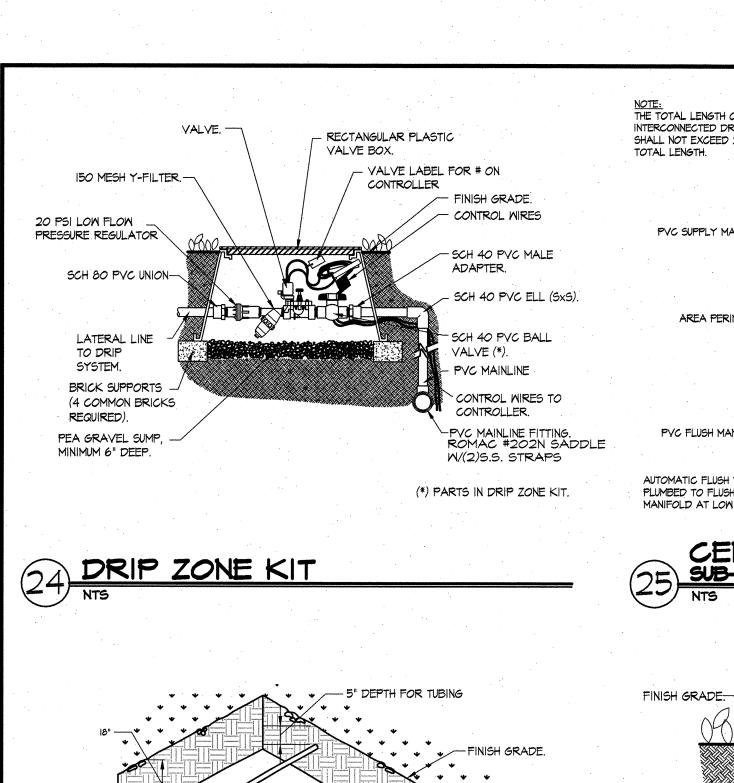
3. SET VALVE BOX ASSEMBLY IN GROUND COVER/SHRUB AREA WHERE POSSIBLE. 4. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.

5. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOX EDGES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.

21 VALVE BOX

PIPE SLEEVE W/ 90° ELBOW

PER ONSITE CONTROL PLAN ON SHEET C1.0



-DRIPLINE LATERAL

- FINISH GRADE.

- AIR/VACUUM RELIEF VALVE

1/2" PVC COUPLING (TXT).

- 1/2" SCH 80 PVC NIPPLE

(LENGTH AS REQUIRED).

PVC ELL (5xT) WITH 1/2"

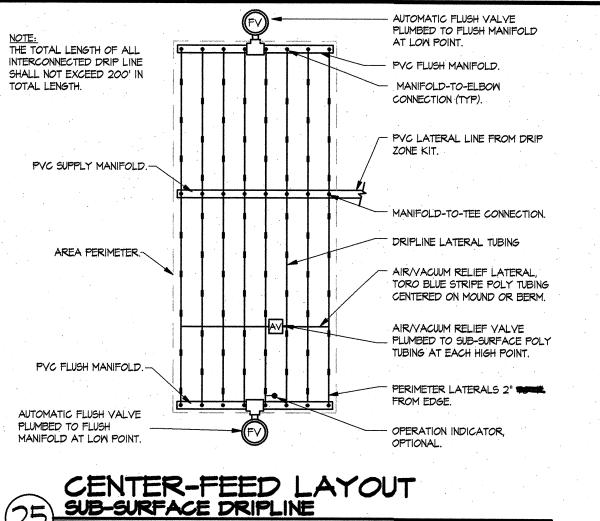
USE ONE AIR/RELIEF VALVE FOR EVERY T GPM PER ZONE.

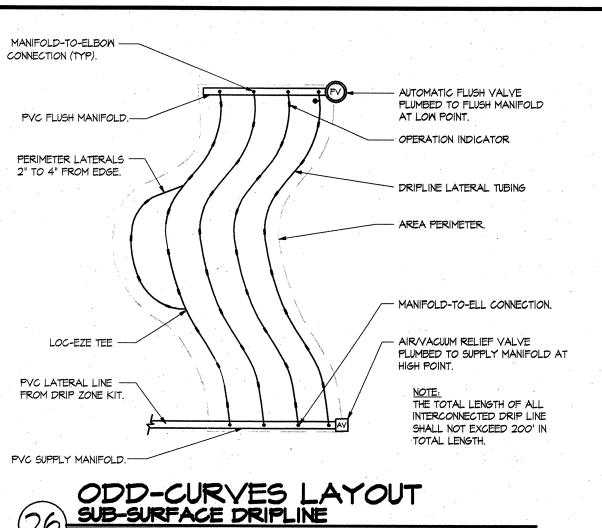
LOCATE AT HIGH POINTS.

THREADED OUTLET.

(2 COMMON BRICKS REQUIRED).

- BRICK SUPPORTS





- 5" DEPTH FOR TUBING

SUB-SURFACE DRIPLINE TUBING

SUB-SURFACE

DRIPLINE TUBING

LOC-EZE X 1/2" MPT

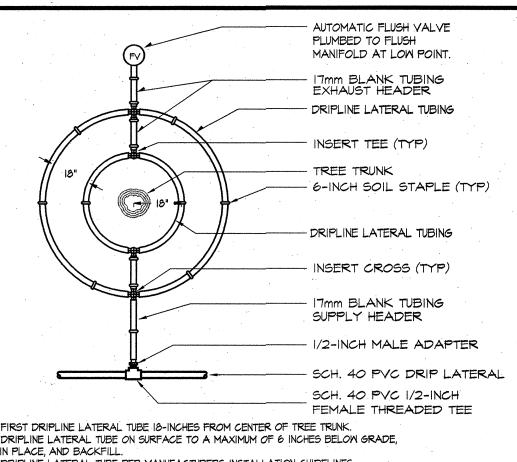
-PVC TEE (SXSXT) WITH 1/2"

NATIVE SOIL BACKFILL

PER SPECIFICATIONS.

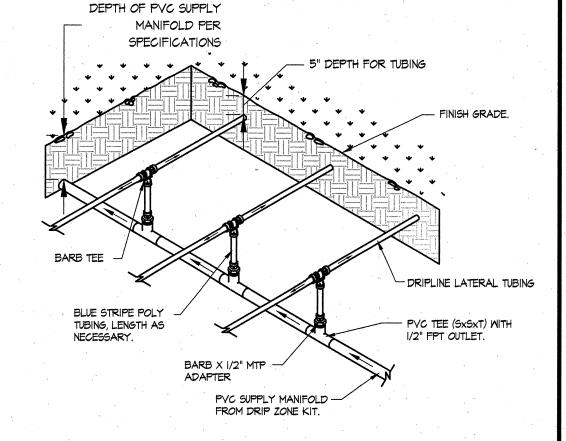
ADAPTER (FAMI6).

FPT OUTLET.

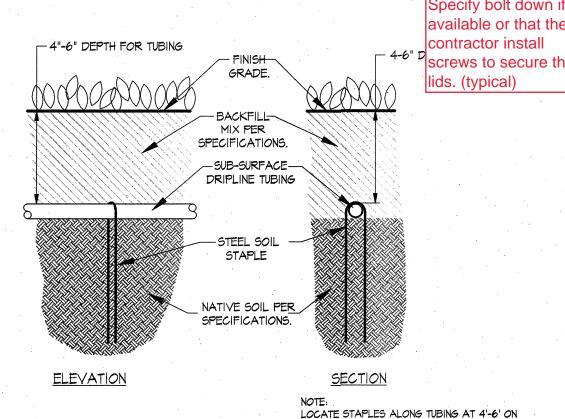


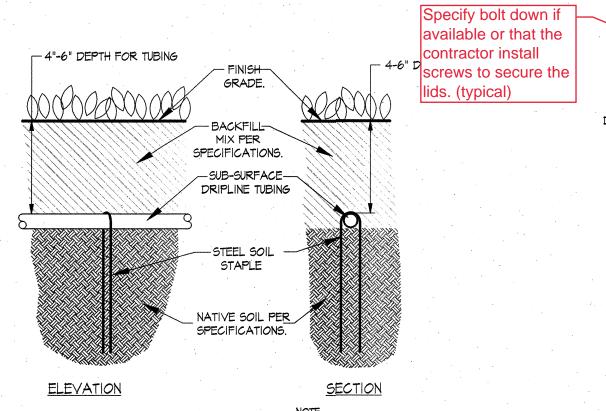
INSTALL FIRST DRIPLINE LATERAL TUBE 18-INCHES FROM CENTER OF TREE TRUNK INSTALL DRIPLINE LATERAL TUBE ON SURFACE TO A MAXIMUM OF 6 INCHES BELOW GRADE STAPLE IN PLACE, AND BACKFILL. TWO RING TREE LAYOUT SUB-SURFACE DRIPLINE

NTS

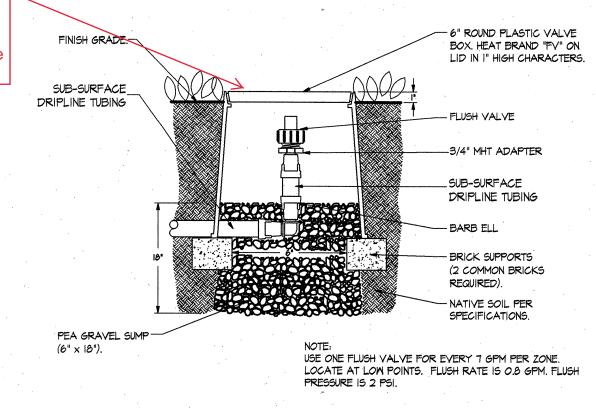


MANIFOLD CENTER FEED SUB-SURFACE DRIPLINE





CENTER AND AT ALL FITTINGS (TEES, ELLS, ETC.)



MANIFOLD END FEED
SUB-SURFACE DRIPLINE

PVC TEE (SXSXT) WITH

PVC SUPPLY MANIFOLD -

FROM DRIP ZONE KIT.

1/2" FPT OUTLET.

BARB X I/2" MTP

ADAPTER

6" ROUND PLASTIC VALVE BOX. -HEAT BRAND "AR" ON LID IN I"

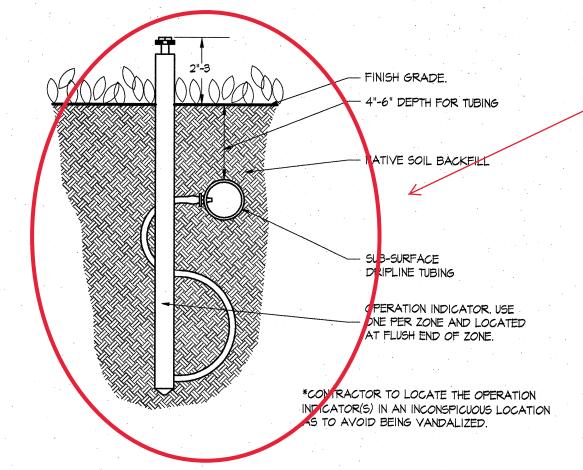
HIGH CHARACTERS.

NATIVE SOIL PER

SPECIFICATIONS.

PEA GRAVEL

POLY TUBING , LENGTH AS NECESSARY.





----5" DEPTH FOR TUBING

SUB-SURFACE

- BARB TEE

SUB-SURFACE

ADAPTER

DRIPLINE TUBING

1/2" FPT OUTLET.

LOC-EZE X 1/2" MPT

PVC TEE (SXSXT) WITH

NATIVE SOIL BACKFILL

PER SPECIFICATIONS.

DRIPLINE TUBING



#### SUBSURFACE IRRIGATION NOTES

- 1. PIPE DEPTH FOR DRIPLINE IS 4" BELOW FINISHED GRADE, 6" MAXIMUM.
- 2. USE 17 mm NETAFIM BARBED FITTINGS FOR ALL DRIPLINE CONNECTIONS TO ENSURE THE INTEGRITY OF THE CONNECTION.
- 3. LANDSCAPE CONTRACTOR MUST INSTALL THE DRIPLINE AT A UNIFORM DEPTH AND WIDTH ACCORDING TO SPECIFICATIONS.
- 4. LANDSCAPE CONTRACTOR RESPONSIBLE FOR PRESSURE TESTING THE SYSTEM BEFORE COVERING TRENCHES OR, WHEN PLOWING, TO PRE-TEST FOR LEAKS PRIOR TO PLANTING.
- 5. IT IS RECOMMENDED THAT THE TREES BE PLANTED PRIOR TO INSTALLATION OF THE DRIPLINE SYSTEM. THIS METHOD WOULD ENSURE THAT THE TREE IRRIGATION SYSTEM IS LOCATED CORRECTLY AND MINIMIZE ANY POSSIBLE DISTURBANCE TO THE DRIPLINE WHICH COULD OCCUR DURING THE PLANTING OF THE TREES.
- 6. TAPE OPEN ENDS DURING LAYOUT. FLUSH SYSTEM THOROUGHLY DURING INSTALLATION AND MAKE ALL FINAL CONNECTIONS WITH WATER FLOWING.
- 7. TEST SYSTEM WITH CITY REPRESENTATIVE PRESENT FOR PROPER COVERAGE PRIOR TO PLANTING.



DATE SIGNED: 05/07/12

#### MATT EQUINOA PARK PHASE

DRIP DETAILS

PER ONSITE CONTROL PLAN ON SHEET C1.0

AIR/VACUUM RELIEF VALVE

SUB-SURFACE DRIPLINE

OPERATION INDICATOR

SUB-SURFACE DRIPLINE

NTS

vandalized. How

them below ground

in a little valve box?

about if we put

DEPARTMENT OF PUBLIC WORKS Description Date CITY OF STOCKTON, CALIFORNIA ENGINEERIN STRUCTURAL 7/12/12 SHEET NO. ARCHITECTU DESIGNED BY RIN 3244 Brookside Road, Suite 100 Stockton, California 9521 209-943-2021 www.slegfriedeng.com Fx: 209-942-021 DRAWN BY RJN 16 OF 28 SHEETS CHECKED BY PJS CITY LANDSCAPE ARCHITECT RECORD DWGS. STOCKTON, CALIFORNIA

#### VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	WIRE	PSI -	PSI @ POC	GPM	PRECIP
44D	Netafim LFCZ10075-HF	1.	Area for Dripline		45.22	54.94	8.35	0.23 m/h
41D	Netafim LFCZ10075-HF	1 "	Area for Dripline		45.32	54.96	8.47	0.23 m/h
45D	Netafim LFCZ10075-HF	1 "	Area for Dripline		47.30	57.47	14.18	0.23 in/h
46D	Netafım LFCZ10075-HF	1 "	Area for Dripline		47.31	57.77	17.59	0.23 in/h
47D	Netafım LFCZ10075-HF	j "	Area for Dripline		48.76	60.55	28.95	0.23 in/h
3 <i>8</i> T	Netafım LFCZ10075-HF	, <b>  "</b>	Area for Dripline		45.18	54.76	5.93	0.23 in/h
39T	Netafım LVCZ I 0075-LF	"	Area for Dripline		45.09	54.63	3.43	0.23 in/h
40T	Netafım LVCZ10075-LF	N	Area for Dripline		45.09	54.62	2.50	0.23 in/h
43T	Netafım LFCZ   0075-HF	"	Area for Dripline	•	46.55	56.14	6.24	0.23 in/h
42T	Netafım LFCZ10075-HF	) n	Area for Dripline		45.35	54.91	4.99	0.23 in/h
28L	Griswold 2030	3"	Turf Rotor		59.64	85.44	96.59	0.51 in/h
31L .	Griswold 2030	2-1/2"	Turf Rotor		59.60	80.21	66.54	0.53 in/h
37L	Griswold 2030	2"	Turf Rotor		60:89	81.03	83.31	0.50 in/h
32L	Griswold 2030	1-1/2"	Turf Rotor		58.34	68.74	19.82	0.59 in/h
33L	Griswold 2030	1-1/2"	Turf Rotor		63.54	75.55	34.55	0.66 in/h
36L	Griswold 2030	2-1/2"	Turf Rotor	*	65.08	83.14	73.80	0.34 m/h
35L	Griswold 2030	2-1/2"	Turf Rotor		67.90	87.88	82.00	0.34 m/h
34L	Griswold 2030	2-1/2"	Turf Rotor		67.87	89.72	82.00	0.35 in/h
30L	Griswold 2030	3"	Turf Rotor		66.86	88.51	82.00	0.32 m/h
29L	Griswold 2030	3"	Turf Rotor		67.12	88.71	82.00	0.34 in/h
. 27L	Griswold 2030	2-1/2"	Turf Rotor		67.51	85.63	73.80	0.36 in/h
20E	Griswold 2030	3"	Turf Rotor		59.83	75.33	70.98	0.50 in/h
21E	Griswold 2030	3"	Turf Rotor		65.49	84.25	90.20	0.33 in/h
22E	Griswold 2030	"	Turf Rotor		62.61	72.42	16.40	0.35 in/h
23E	Griswold 2030	2"	Turf Rotor		65.38	80.46	73.80	0.35 in/h
25E	Griswold 2030	1-1/2"	Turf Rotor		57.89	67.89	19.82	0.57 in/h
26E	Griswold 2030	2"	Turf Rotor		61.38	72.07	31.50	0.59 in/h

#### MAXIMUM APPLIED WATER ALLOWANCE (MAWA)

MAWA = (ETo) (0.8) (LA) (0.62)(53.3) (0.8) (339,815) (0.62)

TOTAL MAXIMUM APPLIED WATER ALLOWANCE (MAWA): 8,983,621 Gallons Per Year

#### ESTIMATED TOTAL WATER USE (EWU)

SHRUB/TREE/GROUNDCOVER

PLANTING AREAS

 $\frac{(53.3) (.85) (236,897) (.62)}{(.85)} = \frac{7,828,694 \text{ Gallons Per Year}}{}$ 

TOTAL ESTIMATED WATER USE (EWU): 8,287,192 Gallons Per Year

#### SUMMARY:

(EWU):8,287,192 Gallons Per Year IS LESS THAN (MAWA): 8,983,621 Gallons Per Year

Calculations based on California Irrigation Management Information System (CIMIS) Reference Evapotranspiration (ETo) Zones Map 1999 and Department of Water Resources(DWR) The Landscape Coefficient Method and WUCOLS III (Water Use Classifications of Landscape Species) guide.

ETo = Reference evapotranspiration (inches/year)

0.8 = ET adjustment factorLA = Landscape area (square feet)

0.62 = Conversion factor (to gallons per square foot)

PF = Plant Factor (0.3 Low, 0.60 Medium, 0.70\* High plant water usage = Hydrozone Area (square feet)

= Irrigation Efficiency (% of total landscape irrigation with drip-0-25%=0.71, 26-50%=0.75, 51-75%=0.80, 76-100%=0.85)

Zone 12 on the CIMIS Map 53.3 Inches per year

\*Use of drought tolerant turfgrass

#### WATERING SCHEDULE - ESTABLISHMENT PERIOD (May-September)

NUMBER	MODEL	TYPE	PRECIP	SUN	MON	TUE	WED	THU	FRI	SAT	IN.WEEK	MIN.WEEK	GAL.WEEK	GAL./DAY
44D	Netafim LFCZ10075-HF	Area for Dripline	0.23 in/h	85 min	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	4,970	710.1
41D	Netafım LFCZ10075-HF	Area for Dripline	0.23 in/h	85 min	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	5,039	719.9
45D	Netafım LFCZ10075-HF	Area for Dripline	0.23 m/h	85 min	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	8,440	1,206
46D	Netafim LFCZ10075-HF	Area for Dripline	0.23 m/h	85 min	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	10.466	1,495
47D	Netafım LFCZ I 0075-HF	Area for Dripline	0.23 m/h	85 min	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	17,224	2,461
3 <i>8</i> T	Netafım LFCZ10075-HF	Area for Dripline	0.23 in/h	85 min	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	3,526	503.8
39T	Netafım LVCZ I 0075-LF	Area for Dripline	0.23 m/h	85 min	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	2,042	291.7
40T	Netafım LVCZ I 0075-LF	Area for Dripline	0.23 m/h	85 min	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	1.485	212.1
43T	Netafım LFCZ I 0075-HF	Area for Dripline	0.23 m/h	85 min	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	3,712	530.3
42T	Netafım LFCZ10075-HF	Area for Dripline	0.23 in/h	85 min -	85 min	85 min	85 min	85 min	85 min	85 min	2.28	595	2,970	424.2
28L	Griswold 2030	Turf Rotor	0.51 in/h	39 min	39 min	39 min	39 min	39 min	39 min	39 min	2.28	269	25,983	3,712
31L	Griswold 2030	Turf Rotor	0.53 m/h	37 min	37 min	37 min	37 min	37 min	37 min	37 min	2.28	259	17.234	2,462
37L	Griswold 2030	Turf Rotor	0.50 in/h	40 min	40 min	40 min	40 min	40 min	40 min	40 min	2.28	274	22,827	3,261
32L	Griswold 2030	Turf Rotor	0.59 in/h	34 min	34 min	34 min	34 min	34 min	34 min	34 min	2.28	232	4,598	656.9
33L	Griswold 2030	Turf Rotor	0.66 in/h	30 min	30 min	30 min	30 min	30 min	30 min	30 min	2.28	208	7,186	1,027
36L	Griswold 2030	Turf Rotor	0.34 m/h	58 min	58 min	58 min	58 min	58 min	58 min	58 min	2.28	403	29,741	4,249
35L	Griswold 2030	Turf Rotor	0.34 in/h	58 min	58 min	58 min	58 min	58 min	58 min	58 min	2.28	403	33,046	4,721
34L	Griswold 2030	Turf Rotor	0.35 in/h	56 min	56 min	56 min	56 min	56 min	56 min	56 min	2.28	391	32,062	4,580
30L	Griswold 2030	Turf Rotor	0.32 m/h	62 min	62 min	62 min	62 min	62 min	62 min	62 min	2.28	428	35,096	5,014
29L	Griswold 2030	Turf Rotor	0.34 in/h	58 min	58 min	58 min	58 min	58 min	58 min	58 min	2.28	403	33,046	4,721
27L	Griswold 2030	Turf Rotor	0.36 in/h	55 min	55 min	55 min	55 min	55 min	55 min	55 min	2.28	3 <i>8</i> 0	28,044	4,006
20E	Griswold 2030	Turf Rotor	0.50 in/h	40 min	40 min	40 min	40 min	40 min	40 min	40 min	2.28	274	19,449	2,778
. 21E	Griswold 2030	Turf Rotor	0.33 in/h	60 min	60 min	60 min	60 min	60 min	60 min	60 min	2.28	415	37,433	5,348
22E	Griswold 2030	Turf Rotor	0.35 in/h	56 min	56 min	56 min	56 min	56 min	56 min	56 min	2.28	391	6,412	916.1
23E	Griswold 2030	Turf Rotor	0.35 in/h	56 min	56 min	56 min	56 min .	56 min	56 min	56 min	2.28	391	28,856	4,122
25E	Griswold 2030	Turf Rotor	0.57 in/h	35 min	35 min	35 min	35 min	35 min	35 min	35 min	2.28	240	4,757	679.5
26E	Griswold 2030	Turf Rotor	0.59 in/h	34 min	34 min	34 min	34 min	34 min	34 min	34 min	2.28	232	7,308	1,044
		TOTALS:		1,658	1,658	1,658	1,658	1,658	1,658	1,658		11,543	432,951	61,850

#### WATERING SCHEDULE - ESTABLISHMENT PERIOD (October-April)

1		the state of the s											•		
ľ	NUMBER	MODEL	TYPE	PRECIP	SUN	MON	TUE	WED	THU	FRI	SAT	IN.WEEK	MIN.WEEK	GAL.WEEK	GAL./DAY
1	44D	Netafim LFCZ10075-HF	Area for Dripline	0.23 in/h	31 min	31 min	31 min	31 min	31 min	31 min	31 min	0.83	217	1,813	259.0
ı	41D	Netafim LFCZ10075-HF	Area for Dripline	0.23 m/h	31 min	31 min	31 min	31 min	31 min	31 min	31 min	0.83	217	1,838	262.6
ı	45D	Netafim LFCZ10075-HF	Area for Dripline	0.23 m/h	31 min	31 min.	31 min	0.83	217	3,078	439.7				
١	46D	Netafim LFCZ10075-HF	Area for Dripline	0.23 m/h	31 min	31 min	31 min	31 min	31 min	31 min	31 min	0.83	217	3,817	545.3
1	47D	Netafim LFCZ10075-HF	Area for Dripline	0.23 m/h	31 min	31 min	31 min	31 min	31 min	31 min	31 min	0.83	217	6,282	897.4
ı	38T	Netafim LFCZ10075-HF	Area for Dripline	0.23 m/h	31 min	31 min	31 min	31 min	31 min	3-1 min	31 min	0.83	217	1,286	183.7
ı	· 39T	Netafim LVCZ10075-LF	Area for Dripline	0.23 m/h	31 min	31 min	31 min	31 min	31 min	31 min	31 min	0.83	217	744.6	106.4
ı	40T	Netafım LVCZ I 0075-LF	Area for Dripline	0.23 m/h	31 min	31 min	31 min	31 min	31 mm	31 min	31 min	0.83	217	541.5	77.4
ı	43T	Netafim LFCZ10075-HF	Area for Dripline	0.23 in/h	31 min	31 min	31 min	31 min	31 min	31 min	31 min	0.83	217	1,354	193.4
ı	42T	Netafım LFCZ I 0075-HF	Area for Dripline	0.23 m/h	31 min	31 min	31 min	31 min	31 min	31 min	31 min	0.83	217	1,083	154.7
ı	28L	Griswold 2030	Turf Rotor	0.51 m/h	14 min	14 min	14 min	14 min	14 min	14 min	14 min	0.83	98	9,466	1,352
ı	31L	Griswold 2030	Turf Rotor	0.53 m/h	14 min	14 min	14 min	14 min	1.4 min	14 min	14 min	0.83	94	6,255	893.5
ı	37L	Griswold 2030	Turf Rotor	0.50 m/h	15 min	.15 min	15 min	15 min	15 min	15 min	15 min	0.83	100	8,331	1,190
ı	32L -	Griswold 2030	Turf Rotor	0.59 m/h	13 min	13 min	13 min	13 min	13 min	13 min	13 min	0.83	<i>8</i> 5	1,685	240.7
1	33L	Griswold 2030	Turf Rotor	0.66 in/h	II min	II min	l l min	l I min	II min	I I min	l I min	0.83	76	2,626	375.1
ı	36L	Griswold 2030	Turf Rotor	0.34 m/h	21 min	21 min	21 min	21 min	21 min	21 min	21 min	0.83	147	10,849	1,550
ı	35L	Griswold 2030	Turf Rotor	0.34 m/h	21 min	21 min	21 min	21 min	21 min	21 min	21 min	0.83	147	12,054	1,722
ı	34L	Griswold 2030	Turf Rotor	0.35 m/h	21 min	21 min	21 mm.	21 min	21 min	21 min	21 min	0.83	143	11,726	1,675
ı	30L	Griswold 2030	Turf Rotor	0.32 in/h	23 min	23 min	23 min	23 min	23 min	23 min	23 min	0.83	156	12,792	1,827
ı	29L	Griswold 2030	Turf Rotor	0.34 m/h	21 min	21 min	21 min	21 min	21 mm.	21 min	21 min	0.83	147	12,054	1,722
ı	27L	Griswold 2030	Turf Rotor	0.36 m/h	20 min	20 min	20 min	20 min	20 min	20 min	20 min	0.83	139	10,258	1,465
ı	20E	Griswold 2030	Turf Rotor	0.50 m/h	15 min	15 min	15 min	15 min	15 min	15 min	15 min	0.83	100	7,098	1,014
ı	21E	Griswold 2030	Turf Rotor	0.33 in/h	22 min	22 min	22 min	22 min	22 min	22 min	22 min	0.83	151	13,620	1,946
ı	22E	Griswold 2030	Turf Rotor	0.35 in/h	21 min	21 min	21 min	21 min	21 min	21 min	21 min	0.83	143	2,345	335.0
ı	23E	Griswold 2030	Turf Rotor	0.35 in/h	21 min	21 min	21 min	21 min	21 min	21 min	21 min	0.83	143	10,553	1,508
ı	25E	Griswold 2030	Turf Rotor	0.57 in/h	13 min	13 min	13 min	13 min	13 min	13 min	13 min	0.83	88	1,744	249.2
I	26E	Griswold 2030	Turf Rotor	0.59 m/h	13 min	13 min	13 min	.13 min	13 min	13 min	13 min	0.83	<i>8</i> 5	2,678	382.5
ı			TOTALS:		609	609	609	609	609	609	609		4,212	157,970	22,567
I															

This sheet will need to be updated with the new station numbering and valve MFG. Discuss with Calsense representative how to maintain the existing park irrigation while allowing for an establishment schedule for the new areas.

#### WATERING SCHEDULE - ESTABLISHED (May - September)

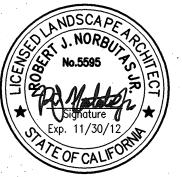
1	NUMBER	MODEL	TYPE	PRECIP	SUN	MON	TUE	WED	THU	FRI	SAT	IN.WEEK	MIN.WEEK	GAL./WEEK	GAL./DAY
	44D	Netafim LFCZ10075-HF	Area for Dripline	0.23 m/h	24 min	24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	1,353	193.3
-1	41D	Netafım LFCZ I 0075-HF	Area for Dripline	0.23 in/h	24 min	24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	1,372	196.0
- 1	45D	Netafım LFCZ10075-HF	Area for Dripline	0.23 in/h	24 min	. 24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	2,298	328.3
- 1	46D	Netafım LFCZ10075-HF	Area for Dripline	0.23 in/h	24 min	24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	2,850	407.1
- 1	47D	Netafım LFCZ   0075-HF	Area for Dripline	0.23 in/h	24 min	24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	4,689	669.9
- 1	38T	Netafım LFCZ   0075-HF	Area for Dripline	0.23 in/h	24 min	24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	960.1	137.2
1	39T	Netafim LVCZ10075-LF	Area for Dripline	0.23 in/h	24 min	24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	555.9	79.4
- 1	40T	Netafim LVCZ10075-LF	Area for Dripline	0.23 in/h	24 min	24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	404.3	57.8
ı	43T	Netafim LFCZ10075-HF	Area for Dripline	0.23 in/h	24 min	24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	1,011	144.4
-1	42T	Netafim LFCZ10075-HF	Area for Dripline	0.23 in/h	24 min	24 min	24 min	24 min	24 min	24 min	24 min	0.62	162	808.5	115.5
- 1	28L	Griswold 2030	Turf Rotor	0.51 in/h	30 min	30 min	30 min	30 min	30 min	30 min	30 min	1.73	* 204	19,704	2,815
- 1	31L	Griswold 2030	Turf Rotor	0.53 in/h	28 min	28 min	28 min	28 min	28 min	28 min	28 min	1.73	196	13,042	1,863
- 1	37L .	Griswold 2030	Turf Rotor	0.50 m/h	30 min	30 min	30 min	30 min	30 min	30 min	, 30 min	1.73	208	17,328	2,475
- 1	32L	Griswold 2030	Turf Rotor	0.59 in/h	26 min	26 min	26 min	26 min	.26 min	26 min	26 min	1.73	176	3,488	498.3
1	33L	Griswold 2030	Turf Rotor	0.66 in/h	23 min	23 min	23 min	23 min	23 min	23 min	23 min	1.73	158	5,459	779.8
	36L .	Griswold 2030	Turf Rotor	0.34 in/h	44 min	44 min	44 min	44 min	44 min	44 min	44 min	1.73	306	22,583	3,226
- 1	35L	Griswold 2030	Turf Rotor	0.34 in/h	44 min	44 min	44 min	44 min	44 min	44 min	44 min	1.73	306	25,092	3,585
	34L	Griswold 2030	Turf Rotor	0.35 in/h	43 min	43 min	43 min	43 min	43 min	43 min	43 min	1.73	297	24,354	3,479
- 1	30L	Griswold 2030	Turf Rotor	0.32 in/h	47 min	47 min	47 min	47 min	47 min	47 min	47 min	1.73	325	26,650	3,807
-	29L	Griswold 2030	Turf Rotor	0.34 in/h	44 min	44 min	44 min	44 min	44 min	44 min	44 min	1.73	306	25,092	3,585
- 1	27L	Griswold 2030	Turf Rotor	0.36 in/h	42 min	42 min	42 min	42 min	42 min	42 min	42 min	1.73	289	21,328	3,047
-	20E	Griswold 2030	Turf Rotor	0.50 in/h	30 min	30 min	30 min	30 min	30 min	30 min	30 min	1.73	208	14,764	2,109
- 1	21E	Griswold 2030	Turf Rotor	0.33 in/h	45 min	45 min	45 min	45 min	45 min	45 min	45 min	1.73	315	28,413	4,059
.	22E	Griswold 2030	Turf Rotor	0.35 m/h	43 min	43 min	43 min	43 min	43 min	43 min	43 min	1.73	297	4,871	695.8
1	23E	Griswold 2030	Turf Rotor	0.35 m/h	43 min	43 min	43 min	43 min	43 min	43 min	43 min	1.73	297	21,919	3,131
	25E	Griswold 2030	Turf Rotor	0.57 in/h	27 min	27 min	27 min	27 min	27 min	27 min	27 min	1.73	183	3,627	518.2
	26E	Griswold 2030	Turf Rotor	0.59  in/h	26 min	26 min	26 min	26 min	26 min	26 min	26 min	1.73	176	5,544	792
- 1		•	TOTALS:		855	855	855	<i>8</i> 55	855	855	<i>8</i> 55		5,867	299,560	42,794

#### WATERING SCHEDULE - ESTABLISHED (October-November \$ March-April)

NMBER   MODEL   TYPE   Area for Dripline   A		the state of the s													· ·
41D   Netafim LFCZ10075-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   27 mm   0.30   79   6.9.1   223.0		MODEL	TYPE	PRECIP	SUN		TUE		THU	FRI	SAT				GAL./DAY
45D   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   27 mm   0.30   79   1,121   373.5     47D   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   27 mm   0.30   79   1,390   463.2     47D   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   2,287   762.3     38T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   27 mm   0.30   79   468.2   156.1     39T   Netafim LVCZ I OO75-LF   Area for Dripline   0.23 m/h   27 mm   27 mm   27 mm   0.30   79   271.1   90.4     40T   Netafim LVCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   27 mm   0.30   79   197.1   65.7     43T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   27 mm   0.30   79   197.1   65.7     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 m/h   27 mm   27 mm   0.30   79   492.8   164.3     42T   Netafim LFCZ I OO75-HF   Area for Driplin	44D		Area for Dripline							27 min		0.30	79	659.9	220.0
45D         Netafim LFCZ1 0075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         1,390         463.2           47D         Netafim LFCZ1 0075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         2,287         762.3           38T         Netafim LFCZ1 0075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         468.2         156.1           40T         Netafim LFCZ1 0075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         271.1         90.4           42T         Netafim LFCZ1 0075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         197.1         65.7           42T         Netafim LFCZ1 0075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         492.8         164.3           42T         Netafim LFCZ1 0075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79<	41D	Netafım LFCZ10075-HF	Area for Dripline	0.23 in/h				27 min		27 min		0.30	79	669.1	223.0
47D   Netafim LFCZ I OO75-HF   Area for Dripline   0.23 in/h   27 min   27 min   27 min   27 min   0.30   79   4.68.2   156.1			Area for Dripline	0.23 in/h				27 min				0.30		1,121	373.5
38T         Netatim LFCZ10075-IF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         27 min         0.30         79         468.2         156.1           39T         Netatim LVCZ10075-IF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         271.1         90.4           43T         Netatim LFCZ10075-IF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         492.8         164.3           42T         Netatim LFCZ10075-IF         Area for Dripline         0.23 in/h         27 min         27 min         0.30         79         492.8         164.3           42B         Graswold 2030         Turf Rotor         0.51 in/h         34 min         34 min         34 min         34 min         0.80         79         9.45.4         2,151           37L         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         34 min         0.85         97         6,454         2,151           37L         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         34 min         0.85         87         1,724<	46D	Netafım LFCZ10075-HF		0.23 m/h		27 min	*		•				79	1,390	463.2
39T   Netafim LVCZ I 0075-LF   Area for Dripline   0.23 m/h   27 min   27 min   27 min   0.30   79   197.1   65.7			Area for Dripline	0.23 in/h				27 min				0.30	79	2,287	762.3
40T         Netafim LVCZ10075-LF         Area for Dripline         0.23 in/h         27 min         0.30         79         492.8         164.3           42T         Netafim LFCZ10075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         492.8         164.3           42T         Netafim LFCZ10075-HF         Area for Dripline         0.23 in/h         27 min         27 min         0.30         79         492.8         164.3           42T         Netafim LFCZ10075-HF         Area for Dripline         0.23 in/h         37 min         27 min         0.30         79         492.8         164.3           42T         Netafim LFCZ10075-HF         Area for Dripline         0.23 in/h         34 min         0.85         97         6,454         2,151           31L         Griswold 2030         Turf Rotor         0.59 in/h         34 min </td <td></td> <td>Netafım LFCZ I 0075-HF</td> <td>Area for Dripline</td> <td>0.23 in/h</td> <td></td> <td></td> <td></td> <td></td> <td>,</td> <td>27 min</td> <td></td> <td>0.30</td> <td>79</td> <td>468.2</td> <td>156.1</td>		Netafım LFCZ I 0075-HF	Area for Dripline	0.23 in/h					,	27 min		0.30	79	468.2	156.1
43T         Netafim LFCZ10075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         492.8         164.3           42T         Netafim LFCZ10075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         394.3         131.4           28L         Griswold 2030         Turf Rotor         0.51 in/h         34 min         34 min         0.85 in/h         97         6,454         2,151           31L         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         0.85 in/h         97         6,454         2,151           37L         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         34 min         0.85 in/h         97         6,454         2,151           31L         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         0.85 in/h         97         6,454         2,151           31L         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         0.85 in/h         36 min         0.85 in/h         160 in/h         26 min         0.85 in/h         26 min         <	39T	Netafım LVCZ10075-LF	Area for Dripline					27 min		27 min		0.30	79	271.1	90.4
42T         Netafim LFCZ I 0075-HF         Area for Dripline         0.23 in/h         27 min         27 min         27 min         0.30         79         394.3         131.4           28L         Griswold 2030         Turf Rotor         0.51 in/h         34 min         34 min         0.85 in/n         100         9,659         3,220           31L         Griswold 2030         Turf Rotor         0.50 in/h         33 min         33 min         0.85 in/n         97         6,454         2,151           37L         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         34 min         0.85 in/n         97         6,454         2,151           37L         Griswold 2030         Turf Rotor         0.59 in/h         29 min         29 min         29 min         0.85 in/n         47.24         574.8           38L         Griswold 2030         Turf Rotor         0.66 in/h         26 min         26 min         0.85 in/n         87         2,695 in/n         898.3           36L         Griswold 2030         Turf Rotor         0.34 in/h         50 min         50 min         50 min         0.85 in/n         150 in/n         11,070 in/n         3,690           35L         Griswold 2030         <	40T	Netafım LVCZ10075-LF		0.23  in/h						27 min			79	197.1	65.7
28L Griswold 2030 Turf Rotor 0.5 l in/h 34 min 34 min 34 min 0.85 100 9,659 3,220 31L Griswold 2030 Turf Rotor 0.53 in/h 33 min 33 min 0.85 97 6,454 2,151 37L Griswold 2030 Turf Rotor 0.50 in/h 34 min 34 min 0.85 102 8,498 2,833 32L Griswold 2030 Turf Rotor 0.59 in/h 29 min 29 min 0.85 87 1,724 574.8 33L Griswold 2030 Turf Rotor 0.66 in/h 26 min 26 min 26 min 0.85 78 2,695 898.3 36L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 0.85 150 11,070 3,690 35L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 0.85 150 12,300 4,100 34L Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 11,972 3,991 30L Griswold 2030 Turf Rotor 0.32 in/h 54 min 54 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.36 in/h 48 min 48 min 0.85 160 12,300 4,100 27L Griswold 2030 Turf Rotor 0.36 in/h 48 min 48 min 0.85 160 12,300 4,100 27L Griswold 2030 Turf Rotor 0.36 in/h 48 min 34 min 0.85 102 7,240 2,413 21E Griswold 2030 Turf Rotor 0.33 in/h 52 min 52 min 52 min 0.85 155 13,981 4,660 22E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 49 min 0.85 146 10,775 3,592 25E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 49 min 0.85 146 10,775 3,592 25E Griswold 2030 Turf Rotor 0.59 in/h 30 min 30 min 30 min 0.85 90 1,784 594.6 26E Griswold 2030 Turf Rotor 0.59 in/h 29 min 29 min 29 min 0.85 87 2,741 913.5		Netafim LFCZ10075-HF	Area for Dripline					27 min		27 min		0.30	79	492.8	164.3
31L         Griswold 2030         Turf Rotor         0.53 in/h         33 min         33 min         0.85         97         6,454         2,151           37L         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         34 min         0.85         102         8,498         2,833           32L         Griswold 2030         Turf Rotor         0.59 in/h         29 min         29 min         0.85         87         1,724         574.8           33L         Griswold 2030         Turf Rotor         0.59 in/h         26 min         26 min         0.85         87         1,724         574.8           36L         Griswold 2030         Turf Rotor         0.34 in/h         50 min         50 min         50 min         0.85         78         2,695         898.3           36L         Griswold 2030         Turf Rotor         0.34 in/h         50 min         50 min         0.85         150         11,070         3,690           35L         Griswold 2030         Turf Rotor         0.35 in/h         49 min         49 min         49 min         0.85         150         12,300         4,100           34L         Griswold 2030         Turf Rotor         0.35 in/h         49 mi	42T _	Netafım LFCZ   0075-HF	Area for Dripline					27 min		27 min	*	0.30	79	394.3	131.4
37L         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         34 min         0.85 in/h         102 in/h         8,498 in/h         2,833 in/h           32L         Griswold 2030         Turf Rotor         0.59 in/h         29 min         29 min         29 min         0.85 in/h         87 in/h         1,724 in/h         574.8 in/h         5	28L	Griswold 2030	Turf Rotor									0.85	100	9,659	3,220
32L Griswold 2030 Turf Rotor 0.59 in/h 29 min 29 min 29 min 0.85 87 1,724 574.8 33L Griswold 2030 Turf Rotor 0.66 in/h 26 min 26 min 26 min 0.85 78 2,695 898.3 36L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 11,070 3,690 35L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 12,300 4,100 34L Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 49 min 0.85 146 11,972 3,991 30L Griswold 2030 Turf Rotor 0.32 in/h 54 min 54 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 12,300 4,100 27L Griswold 2030 Turf Rotor 0.36 in/h 48 min 48 min 0.85 142 10,480 3,493 20E Griswold 2030 Turf Rotor 0.50 in/h 34 min 34 min 0.85 102 7,240 2,413 21E Griswold 2030 Turf Rotor 0.33 in/h 52 min 52 min 52 min 0.85 155 13,981 4,660 22E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 2,394 798.1 23E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 10,775 3,592 25E Griswold 2030 Turf Rotor 0.57 in/h 30 min 30 min 0.85 87 2,741 913.5	31L		Turf Rotor					33 min				0.85	97	6,454	2,151
33L Griswold 2030 Turf Rotor 0.66 in/h 26 min 26 min 26 min 0.85 78 2,695 898.3 36L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 11,070 3,690 35L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 12,300 4,100 34L Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 160 13,120 4,373 30L Griswold 2030 Turf Rotor 0.32 in/h 54 min 54 min 54 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 12,300 4,100 27L Griswold 2030 Turf Rotor 0.36 in/h 48 min 48 min 48 min 0.85 142 10,480 3,493 20E Griswold 2030 Turf Rotor 0.50 in/h 34 min 34 min 34 min 0.85 102 7,240 2,413 21E Griswold 2030 Turf Rotor 0.33 in/h 52 min 52 min 0.85 155 13,981 4,660 22E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 2,394 798.1 23E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 10,775 3,592 25E Griswold 2030 Turf Rotor 0.57 in/h 30 min 30 min 30 min 0.85 90 1,784 594.6 26E Griswold 2030 Turf Rotor 0.59 in/h 29 min 29 min 0.85 87 2,741 913.5		Griswold 2030	Turf Rotor									0.85		8,498	2,833
36L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 11,070 3,690 35L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 12,300 4,100 34L Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 49 min 0.85 146 11,972 3,991 30L Griswold 2030 Turf Rotor 0.32 in/h 54 min 54 min 54 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 12,300 4,100 27L Griswold 2030 Turf Rotor 0.36 in/h 48 min 48 min 48 min 0.85 142 10,480 3,493 20E Griswold 2030 Turf Rotor 0.50 in/h 34 min 34 min 34 min 0.85 102 7,240 2,413 21E Griswold 2030 Turf Rotor 0.33 in/h 52 min 52 min 0.85 155 13,981 4,660 22E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 49 min 0.85 146 2,394 798.1 23E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 49 min 0.85 146 10,775 3,592 25E Griswold 2030 Turf Rotor 0.57 in/h 30 min 30 min 30 min 0.85 87 2,741 913.5												0.85	87.	1,724	574.8
35L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 12,300 4,100 34L Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 49 min 0.85 146 11,972 3,991 30L Griswold 2030 Turf Rotor 0.32 in/h 54 min 54 min 54 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 12,300 4,100 27L Griswold 2030 Turf Rotor 0.36 in/h 48 min 48 min 48 min 0.85 142 10,480 3,493 20E Griswold 2030 Turf Rotor 0.50 in/h 34 min 34 min 34 min 0.85 102 7,240 2,413 21E Griswold 2030 Turf Rotor 0.33 in/h 52 min 52 min 52 min 0.85 155 13,981 4,660 22E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 2,394 798.1 23E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 10,775 3,592 25E Griswold 2030 Turf Rotor 0.57 in/h 30 min 30 min 30 min 0.85 90 1,784 594.6 26E Griswold 2030 Turf Rotor 0.59 in/h 29 min 29 min 0.85 87 2,741 913.5													78	2,695	
34L Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 49 min 0.85 146 11,972 3,991 30L Griswold 2030 Turf Rotor 0.32 in/h 54 min 54 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 0.85 150 12,300 4,100 27L Griswold 2030 Turf Rotor 0.36 in/h 48 min 48 min 0.85 142 10,480 3,493 20E Griswold 2030 Turf Rotor 0.50 in/h 34 min 34 min 34 min 0.85 102 7,240 2,413 21E Griswold 2030 Turf Rotor 0.33 in/h 52 min 52 min 0.85 155 13,981 4,660 22E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 2,394 798.1 23E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 10,775 3,592 25E Griswold 2030 Turf Rotor 0.57 in/h 30 min 30 min 0.85 90 1,784 594.6 26E Griswold 2030 Turf Rotor 0.59 in/h 29 min 29 min 0.85 87 2,741 913.5							100			*					
30L Griswold 2030 Turf Rotor 0.32 in/h 54 min 54 min 54 min 0.85 160 13,120 4,373 29L Griswold 2030 Turf Rotor 0.34 in/h 50 min 50 min 50 min 0.85 150 12,300 4,100 27L Griswold 2030 Turf Rotor 0.36 in/h 48 min 48 min 48 min 0.85 142 10,480 3,493 20E Griswold 2030 Turf Rotor 0.50 in/h 34 min 34 min 34 min 0.85 102 7,240 2,413 21E Griswold 2030 Turf Rotor 0.33 in/h 52 min 52 min 52 min 0.85 155 13,981 4,660 22E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 2,394 798.1 23E Griswold 2030 Turf Rotor 0.35 in/h 49 min 49 min 0.85 146 10,775 3,592 25E Griswold 2030 Turf Rotor 0.57 in/h 30 min 30 min 0.85 90 1,784 594.6 26E Griswold 2030 Turf Rotor 0.59 in/h 29 min 29 min 0.85 87 2,741 913.5												0.85	150	12,300	4,100
29L         Griswold 2030         Turf Rotor         0.34 in/h         50 min         50 min         0.85         150         12,300         4,100           27L         Griswold 2030         Turf Rotor         0.36 in/h         48 min         48 min         48 min         0.85         142         10,480         3,493           20E         Griswold 2030         Turf Rotor         0.50 in/h         34 min         34 min         34 min         0.85         102         7,240         2,413           21E         Griswold 2030         Turf Rotor         0.33 in/h         52 min         52 min         0.85         155         13,981         4,660           22E         Griswold 2030         Turf Rotor         0.35 in/h         49 min         49 min         49 min         0.85         146         2,394         798.1           23E         Griswold 2030         Turf Rotor         0.35 in/h         49 min         49 min         49 min         0.85         146         10,775         3,592           25E         Griswold 2030         Turf Rotor         0.57 in/h         30 min         30 min         30 min         0.85         90         1,784         594.6           26E         Griswold 2030         Turf Ro			Turf Rotor					49 min		49 min		0.85		11,972	3,991
27L       Griswold 2030       Turf Rotor       0.36 in/h       48 min       48 min       0.85       142       10,480       3,493         20E       Griswold 2030       Turf Rotor       0.50 in/h       34 min       34 min       34 min       0.85       102       7,240       2,413         21E       Griswold 2030       Turf Rotor       0.33 in/h       52 min       52 min       0.85       155       13,981       4,660         22E       Griswold 2030       Turf Rotor       0.35 in/h       49 min       49 min       49 min       0.85       146       2,394       798.1         23E       Griswold 2030       Turf Rotor       0.35 in/h       49 min       49 min       49 min       0.85       146       10,775       3,592         25E       Griswold 2030       Turf Rotor       0.57 in/h       30 min       30 min       30 min       0.85       90       1,784       594.6         26E       Griswold 2030       Turf Rotor       0.59 in/h       29 min       29 min       29 min       0.85       87       2,741       913.5													160	13,120	4,373
20E       Griswold 2030       Turf Rotor       0.50 in/h       34 min       34 min       0.85       102       7,240       2,413         21E       Griswold 2030       Turf Rotor       0.33 in/h       52 min       52 min       0.85       155       13,981       4,660         22E       Griswold 2030       Turf Rotor       0.35 in/h       49 min       49 min       0.85       146       2,394       798.1         23E       Griswold 2030       Turf Rotor       0.35 in/h       49 min       49 min       49 min       0.85       146       10,775       3,592         25E       Griswold 2030       Turf Rotor       0.57 in/h       30 min       30 min       30 min       0.85       90       1,784       594.6         26E       Griswold 2030       Turf Rotor       0.59 in/h       29 min       29 min       29 min       0.85       87       2,741       913.5	29L									50 min		0.85	150	12,300	4,100
21E       Griswold 2030       Turf Rotor       0.33 in/h       52 min       52 min       0.85       155       13,981       4,660         22E       Griswold 2030       Turf Rotor       0.35 in/h       49 min       49 min       49 min       0.85       146       2,394       798.1         23E       Griswold 2030       Turf Rotor       0.35 in/h       49 min       49 min       49 min       0.85       146       10,775       3,592         25E       Griswold 2030       Turf Rotor       0.57 in/h       30 min       30 min       30 min       0.85       90       1,784       594.6         26E       Griswold 2030       Turf Rotor       0.59 in/h       29 min       29 min       0.85       87       2,741       913.5														10,480	3,493
22E       Griswold 2030       Turf Rotor       0.35 in/h       49 min       49 min       0.85       146       2,394       798.1         23E       Griswold 2030       Turf Rotor       0.35 in/h       49 min       49 min       49 min       0.85       146       10,775       3,592         25E       Griswold 2030       Turf Rotor       0.57 in/h       30 min       30 min       30 min       0.85       90       1,784       594.6         26E       Griswold 2030       Turf Rotor       0.59 in/h       29 min       29 min       0.85       87       2,741       913.5		Griswold 2030	Turf Rotor		•			34 min		34 min		0.85		7,240	2,413
23E       Griswold 2030       Turf Rotor       0.35 in/h       49 min       49 min       49 min       0.85       146       10,775       3,592         25E       Griswold 2030       Turf Rotor       0.57 in/h       30 min       30 min       30 min       0.85       90       1,784       594.6         26E       Griswold 2030       Turf Rotor       0.59 in/h       29 min       29 min       0.85       87       2,741       913.5												0.85	155	13,981	4,660
25E Griswold 2030 Turf Rotor 0.57 in/h 30 min 30 min 30 min 0.85 90 1,784 594.6 26E Griswold 2030 Turf Rotor 0.59 in/h 29 min 29 min 0.85 87 2,741 913.5		Griswold 2030	Turf Rotor					49 min		49 min		0.85	146	2,394	798.1
26E Griswold 2030 Turf Rotor 0.59 in/h 29 min 29 min 29 min 0.85 87 2,741 913.5		Griswold 2030	Turf Rotor							49 min		0.85	146 -	10,775	3,592
		Griswold 2030	Turf Rotor	0.57 ın/h		30 min		30 min		30 min.		0.85	90	1,784	594.6
TOTALS: 970 970 970 2,878 147,136 49,045	26E	Griswold 2030	Turf Rotor	0.59 in/h				29 min				0.85	87	2,741	913.5
			TOTALS:			970		970		970			2,878	147,136	49,045

#### ESTABLISHED WATERING SCHEDULE (December-February)

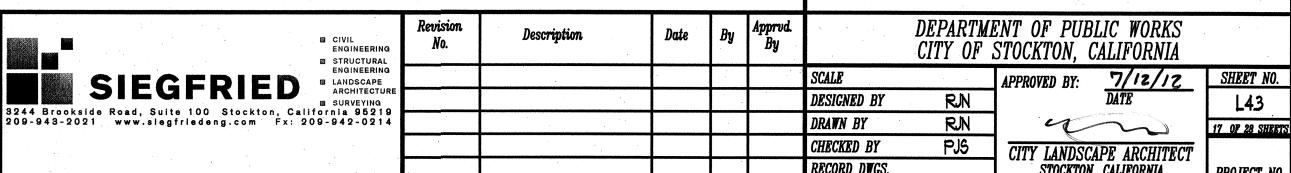
IRRIGATION SYSTEM IS OFF

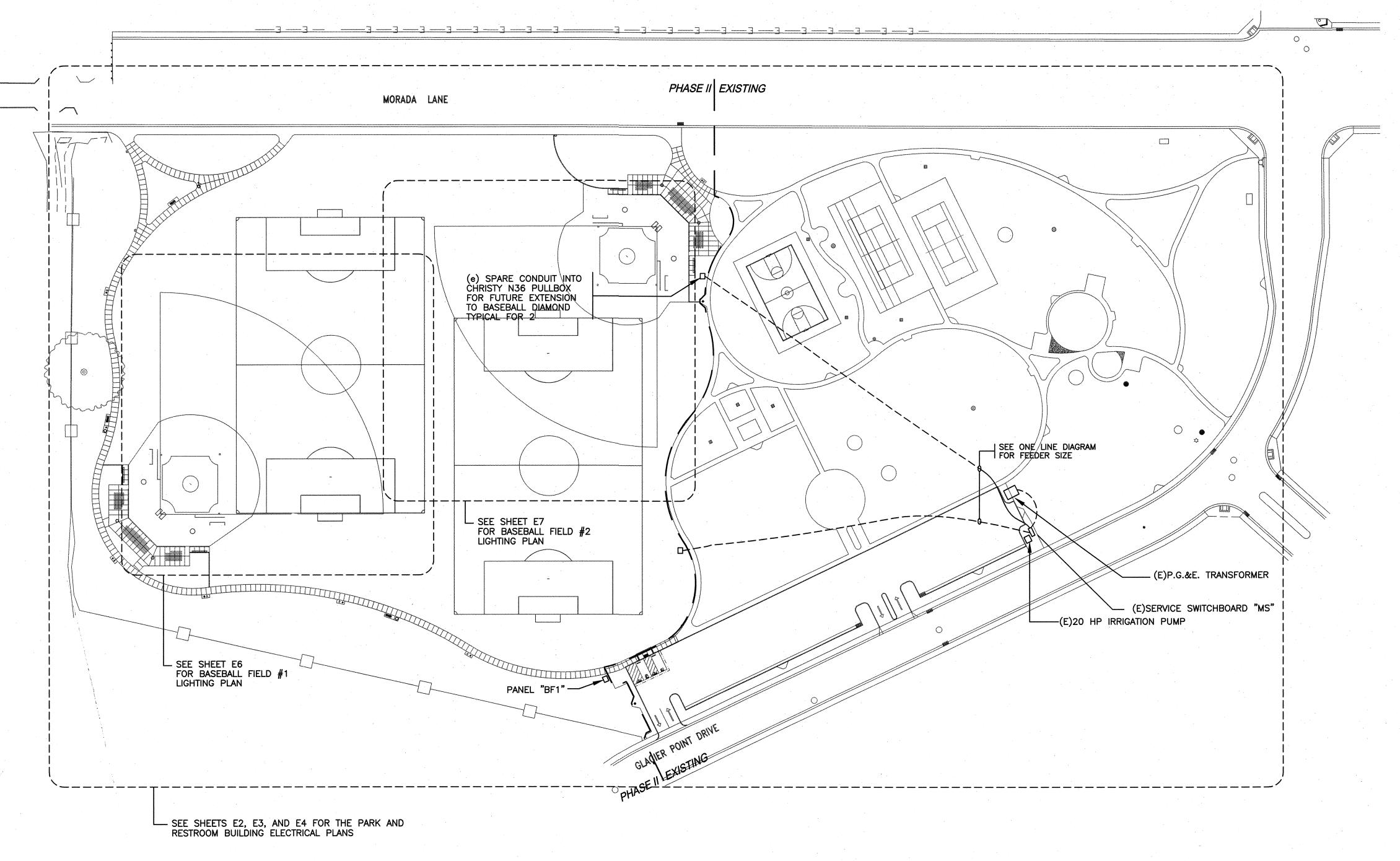


DATE SIGNED: 05/07/12

MATT EQUINOA PARK PHASE

IRRIGATION NOTES AND CALCULATIONS





OVERALL PARK ELECTRICAL PLAN

ALE I"=60'-0"



MATT EQUINOA PARK PHASE II

OVERALL PARK ELECTRICAL





H U S E N G | N E E K | N G, | N C.

CONSULTING ELECTRICAL ENGINEERS

4512 FEATHER RIVER DRIVE, SUITE F

STOCKTON, CA 95219 (209)478-8270

E-MAIL ADDRESS - Richard@hcs-eng.com

PROJ. 2011.181 DES. RCS ENG. RCS



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ision Io.	Description	Date	Ву	Approd. By				BLIC WORKS CALIFORNIA	
					SCALE	AS SHOWN	APPROVED BY:	7/12/12	SHEET NO
					DESIGNED BY	RCS		DATE	F1
					DRAWN BY	BA	(1)		18 OF 28 SHE
					CHECKED BY		CITY LANDS	CAPE ARCHITECT	
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ELECTRICAL NOTES

ELECTRICAL INSTALLATION SHALL COMPLY WITH TITLE 24, CALIFORNIA

2. ELECTRICAL CONTRACTOR SHALL VERIFY POWER SERVICE AT SITE PRIOR TO BIDDING. SERVICE TO CONFORM TO UTILITY COMPANY REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL ARRANGE FOR SERVICE INSTALLATION PER UTILITY COMPANY REQUIREMENTS AND PAY ALL CUSTOMER CHARGED SERVICES COSTS. LOCATIONS SHOWN ARE APPROXIMATE ONLY. PROVIDE ALL CONDUITS.

4. PROVIDE ALL LABOR, MATERIALS, TOOLS, PLANT, EQUIPMENT,

AND LABEL SERVICE IS REGULARLY FURNISHED BY THAT AGENCY.

TRANSPORTATION AND PERFORM ALL OPERATIONS NECESSARY FOR PROPER EXECUTION AND COMPLETION OF ALL "ELECTRICAL WORK" COVERED UNDER

5. ALL ELECTRICAL MATERIALS SHALL BE NEW AND LISTED WITH THE UNDERWRITERS' LABORATORIES, INC., SHALL MEET THEIR REQUIREMENTS AND

SHALL BEAR THEIR LABEL WHEREVER STANDARDS HAVE BEEN ESTABLISHED

6. ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH THE SIZE AND LOCATIONS OF EQUIPMENT ARE SHOWN TO SCALE WHEREVER POSSIBLE, CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION AT THE SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT AND INSTALLING HIS WORK TO AVOID

8. WORK SHOWN ON THE DRAWINGS TO BE INSTALLED UNDERGROUND SHALL BE INSTALLED AT LEAST 24" BELOW GRADE. BACKFILL IN 6" THICK, PROPERLY MOISTENED LAYERS, SOLIDLY PACKED AND IRON TAMPED TO A DENSITY NOT LESS THAN THAT OF ADJACENT, UNDISTURBED EARTH. RESTORE SURFACES, ROADWAYS,

WALKS, CURBS, WALLS, EXISTING UNDERGROUND INSTALLATIONS TO ORIGINAL

ALL WALKWAY LIGHTING AND PARKING LOT LIGHTING SHALL BE

UNMETERED, POWERED FROM UTILITY COMPANY POWER SOURCE SUITABLE

2. ALL POWER SUPPLY TO LUMINAIRES SHALL HAVE APPROPRIATE IN LINE FUSES INSTALLED IN PROPER WEATHERPROOF FUSE HOLDERS LOCATED

3. STRICTLY FOLLOW THE COLOR CODE FOR CABLES FOR PHASES PER NEC. THE SAME PHASE SHALL BE IDENTIFIED BY THE SAME PHASE COLOR

CIRCUIT CONDUCTOR TO THE GROUND ROD USING #8 COPPER CONDUCTOR.

MINIMUM UNDERGROUND CONDUIT SIZE SHALL BE 1-1/2" UNLESS

6. MINIMUM CONDUCTOR SIZE FOR PATHWAY, PARKING LOT LIGHTING SHALL BE #8 INCLUDING GROUND.

4. PROVIDE A 5/8"x8' COPPER CLAD GROUND ROD IN EACH UNDERGROUND PULLBOX FOR PATHWAY LIGHTING SYSTEM. GROUND POLE ASSEMBLY AND GROUND

9. DETERMINE EXACT ROUTE OF UNDERGROUND CONDUIT WITH LANDSCAPE ARCHITECT IN FIELD PRIOR TO ANY TRENCHING. CONTRACTOR SHALL VERIFY ACTUAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO TRENCHING, ETC.

7. CONDUCTORS SHALL BE 600V COPPER CONDUCTORS TYPE THWN UNLESS OTHERWISE NOTED OR REQUIRED BY CODE.

3. ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL LICENSES, ETC. REQUIRED TO CARRY ON AND COMPLETE THE WORK. ADDITIONALLY, HE/SHE

CODE OF REGULATIONS, INCLUDING THE FOLLOWING:
TITLE 24, CCR, PART 2, 2010 CBC
TITLE 24, CCR, PART 3, 2010 CEC
TITLE 24, CCR, PART 4, 2010 CBC

TITLE 24, CCR, PART 9, 2010 CFC ALL APPLICABLE LOCAL CODES.

SHALL OBTAIN ALL PERMITS NECESSARY.

INTERFENCE WITH OTHER TRADES.

CONDITION IN AN ACCEPTABLE MANNER.

FOR STREET LIGHTING.

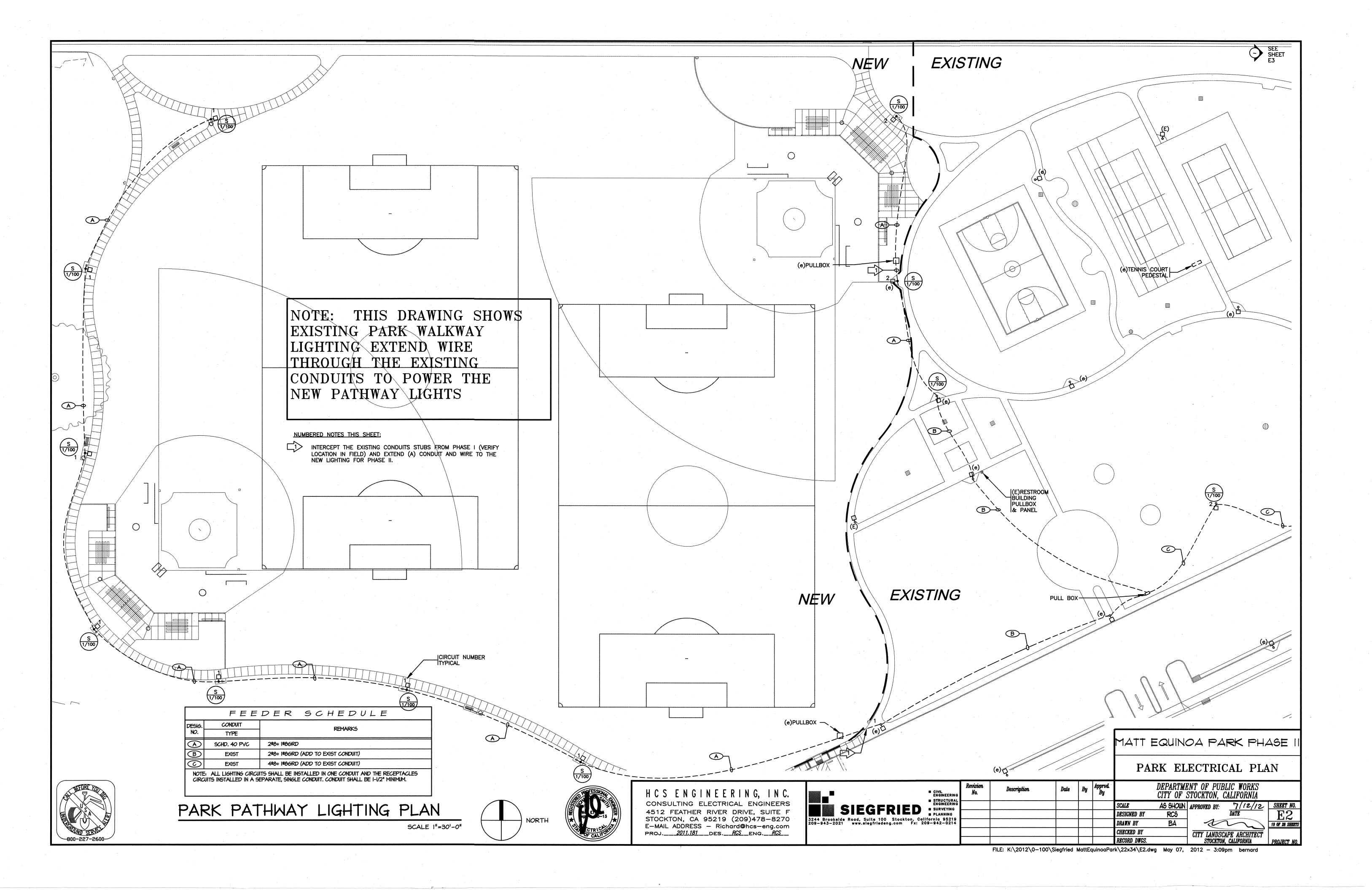
IN LUMINAIRE HAND HOLES.

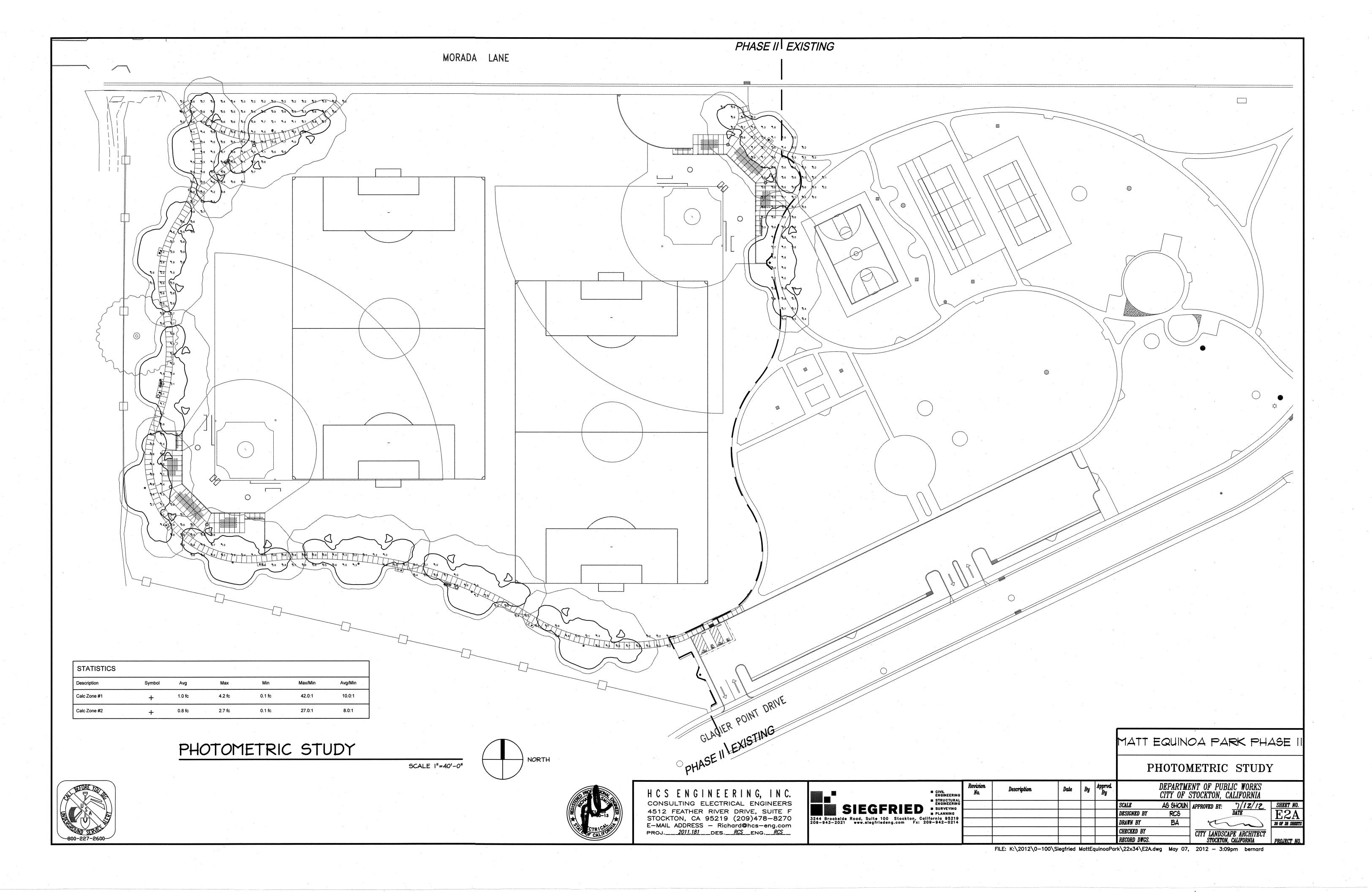
THROUGHOUT THE INSTALLATION.

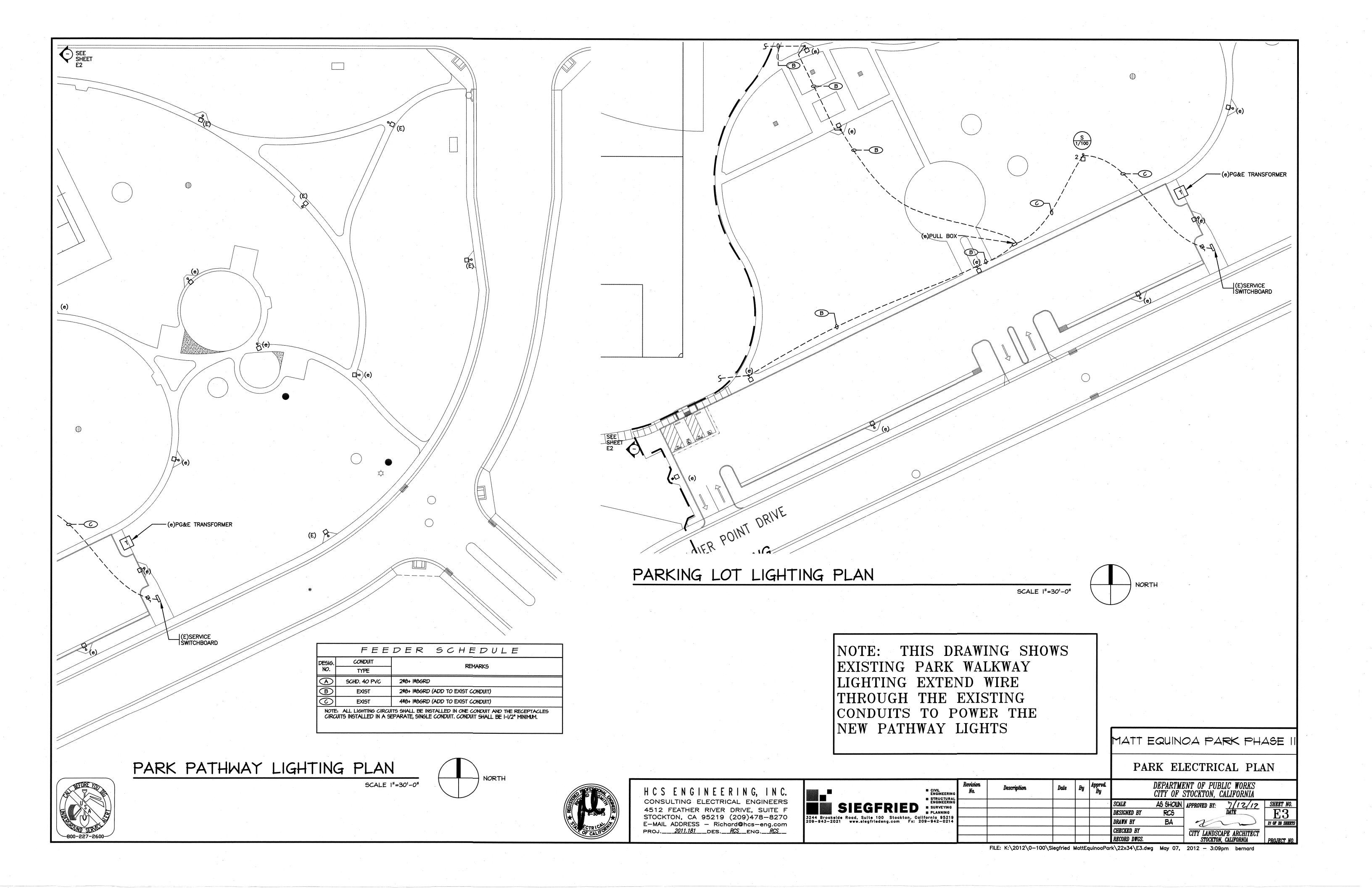
PATHWAY AND PARKING LOT LIGHTING NOTES:

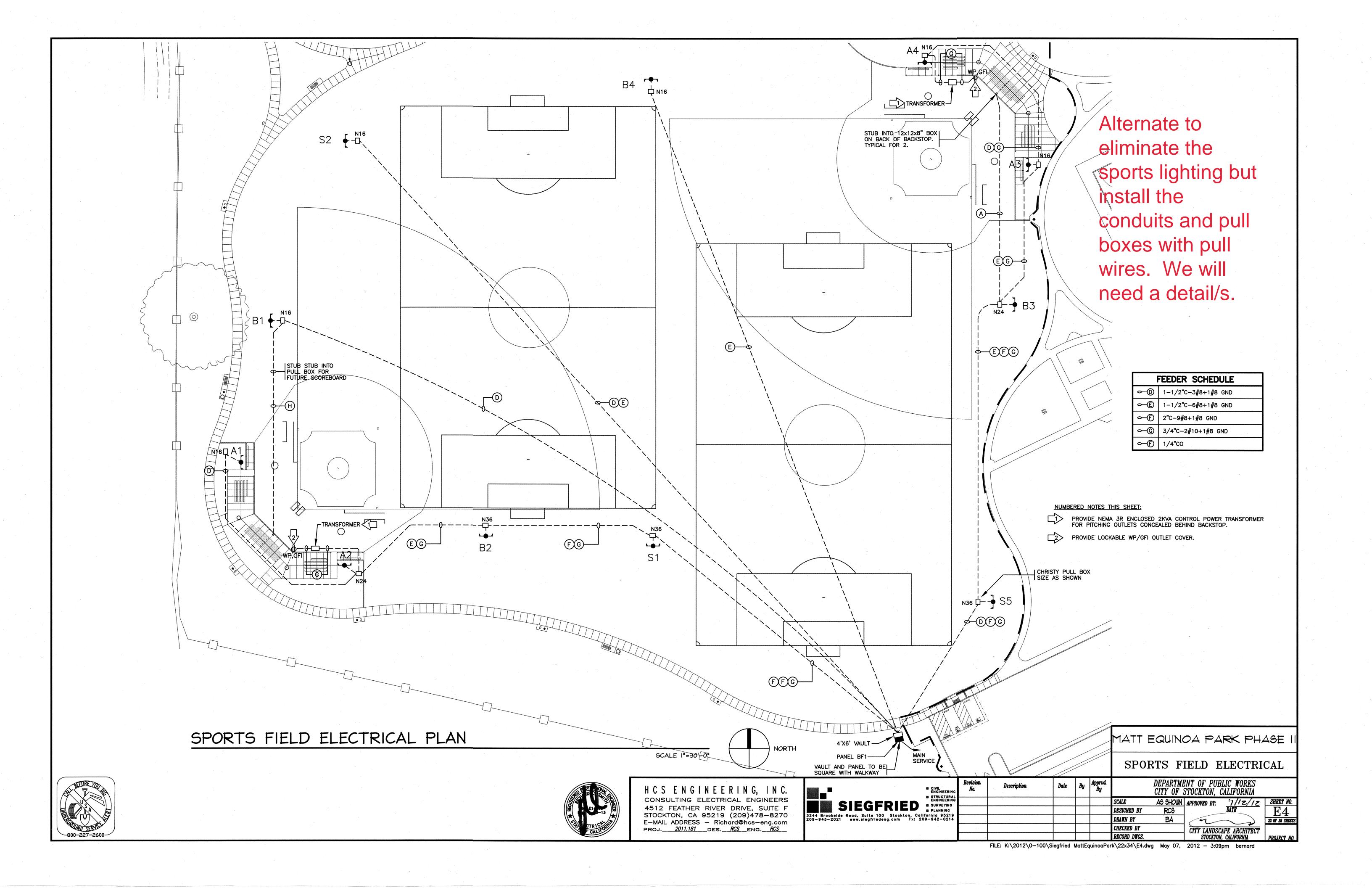
CABLES, ETC. AS REQUIRED.

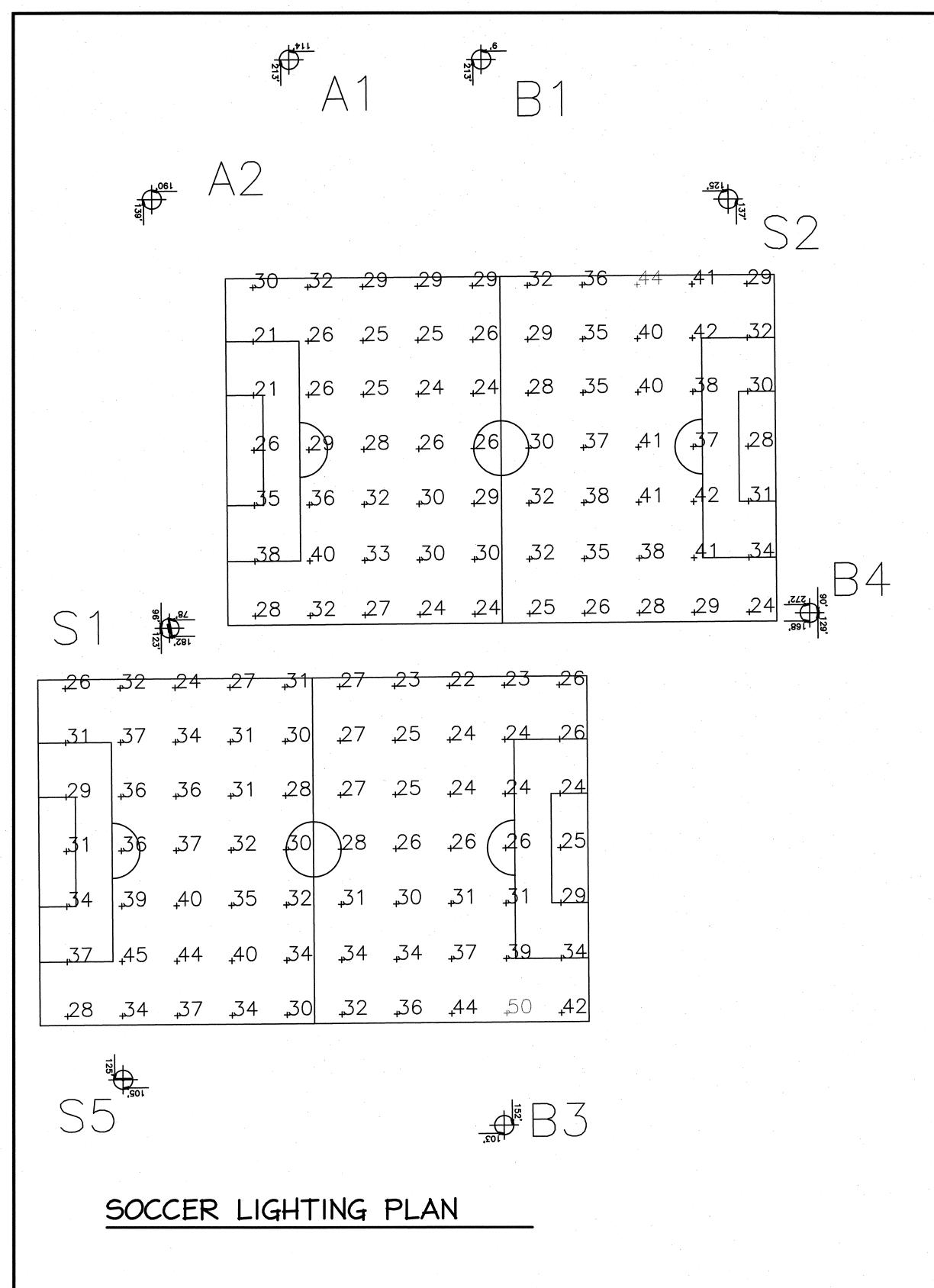
**GENERAL NOTES:** 

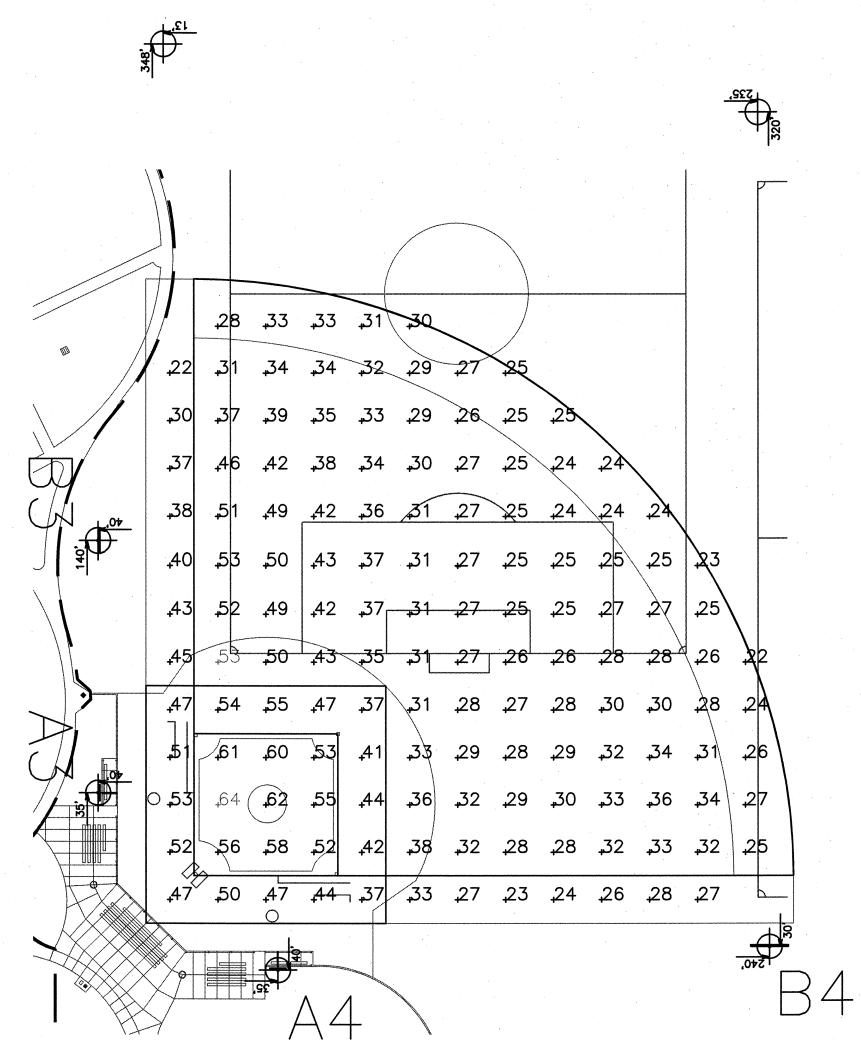












42, 72, 13, 34 33 31 27 2<del>4</del>

EAST BASEBALL FIELD

WEST BASEBALL FIELD



HCS ENGINEERING, INC. 4512 FEATHER RIVER DRIVE, SUITE F STOCKTON, CA 95219 (209)478-8270 E-MAIL ADDRESS - Richard@hcs-eng.com PROJ. <u>2011.181</u> DES. <u>RCS</u> ENG. <u>RCS</u>

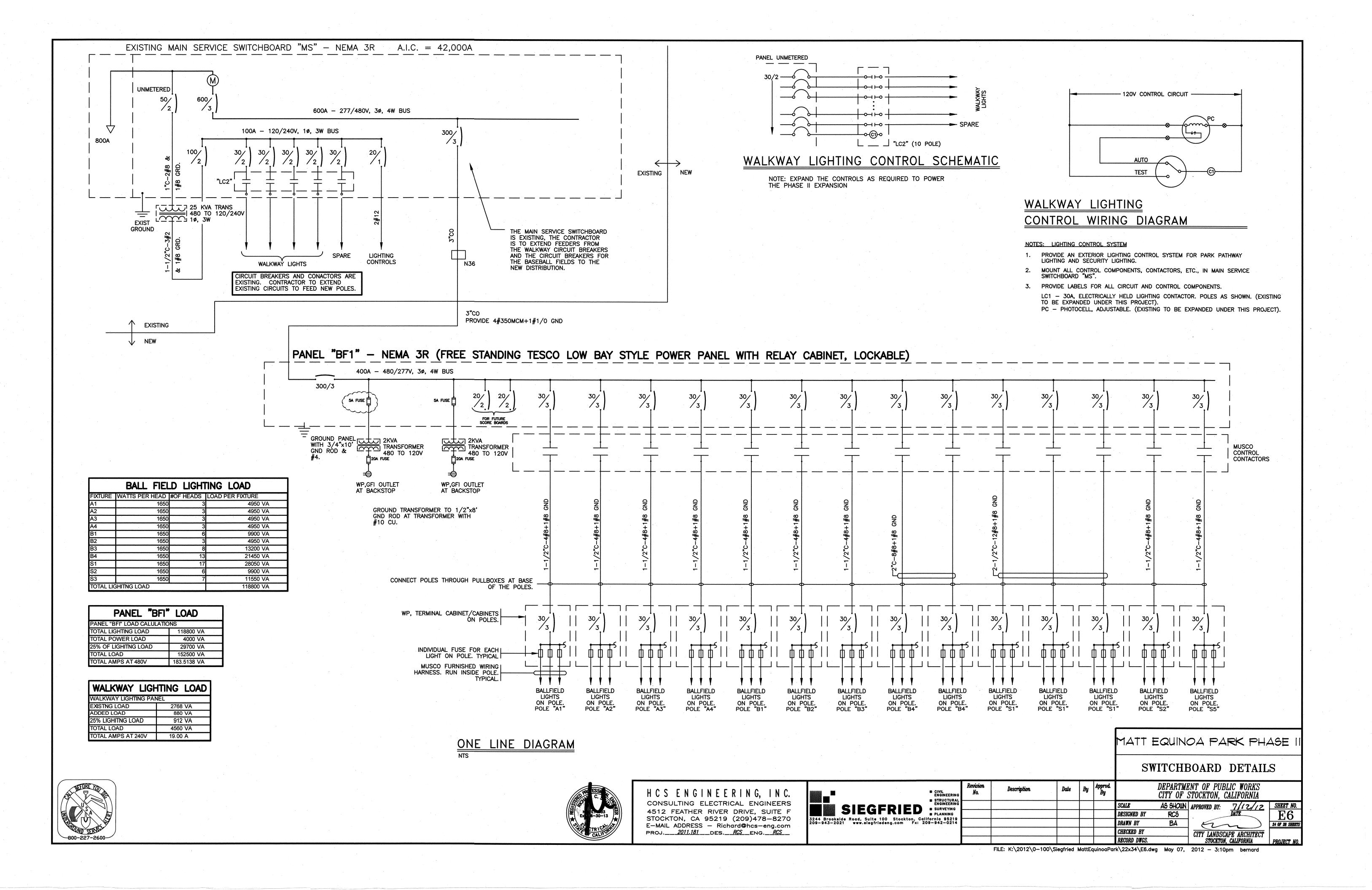
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	STRUCTURAL ENGINEERING	
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	m PLANNING	
3244 Brookside Road, Suite 100 Stockton, Cali 209-943-2021 www.siegfriedeng.com Fx: 20	fornia 95219 )9-942-0214	

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vision No.	Description	Date	Ву	Approd. By				BLIC WORKS CALIFORNIA
		-	·		SCALE	AS SHOWN	APPROVED BY:	
					DESIGNED BY	RCS	*	DATE
					DRAWN BY	BA	· ut	
					CHECKED BY		CITY LANDS	CAPE ARCHITECT
					RECORD DWGS.			N, CALIFORNIA

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MATT EQUINOA PARK PHASE

SPORTS FIELD PHOTOMETRIC





#### **CONTROL SYSTEM SUMMARY**

Project Number: 134373 Stockton Multi Purpose Project Name: Eric Svenby Date: 04/10/2008 Sales Rep: Jasen Deniz 134373 Service Location: 1 of 1

CONTROL SYSTEM TYPE: Control and Monitoring Typical

#### **EQUIPMENT LISTING**

**DESCRIPTION** 

APPROXIMATE SIZE

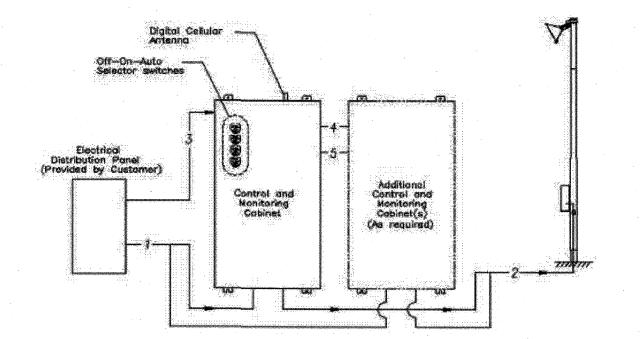
1. CONTROL AND MONITORING CABINET 2. CONTROL AND MONITORING CABINET

24 X 72 24 X 48

30 AMP

TOTAL CONTACTORS:

TOTAL Off/On/Auto SWITCHES: 6



Control and Monitoring Digital

<u>Typical Equipment Layout</u>

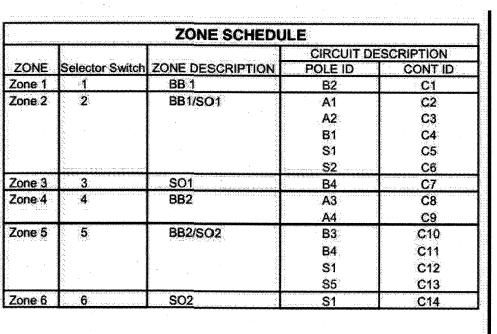
		Wiring	Details	4.7	an in an agreement to the	- Service Company of the Company of
NIRE	OESCRIPTION	YOUTAGE	# OF WIRES	TYP, SIZE	Notes	SUPPLIER
1	POWER TO LIGHTING CONTACTORS (LINE)	NOTE A	NOTE A	NOTE II	A thru E	CONTRACTOR
2	POWER FROM CONTACTORS TO POLES (LOAD)	NOTE A	NOTE A	NOTE B	A thru E	CONTRACTOR
3	CONTROL VOLTAGE (20 AMP)	120V (AC)		12	Ç,D,E	CONTRACTOR
4	CONTROL VOLTAGE HARNESSES	120V (AC)			C,0,E	MUSCO
5	MONITORING MODULE COMMUNICATION CABLE	a and VA	· · · · · · · · · · · · · · · · · · ·		C.O.E	MUSCO

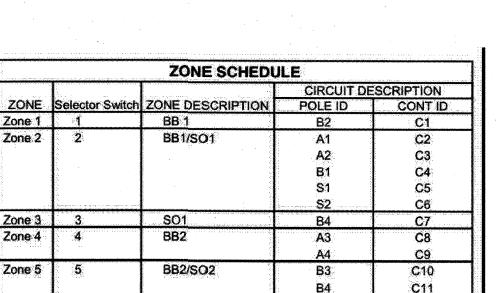
- A. Voltage and phasing per the notes on page 2.
- B. Calculate per load, voltage drop.
- C. For more information on equipment, see attached drawings.
- D. Refer to installation instructions for details on equipment mounting and conduit entry points.
- E. Power circuits (wire #1-4) must be run in separate conduit from non-power circuits (wire #5).

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Service Notes:

Page 1 of 3







*.		CC	NTROL SYST	EM	SUMMA	RY
	Project Number:	134373				
	Project Name:	Stockton Multi Purp	ose			Č.
	Prepared By:	Eric Svenby			POLE	
-	Sales Rep:	Jasen Deniz	Date: 04/10/2008		B2	
	Scan:	134373			A1	BB
÷	Service Location:	1 of 1			A2	BB

#### **IMPORTANT NOTES:**

- This design is based on 480 VOLTS 3 phase. If voltage is other, equipment costs may be affected. Contact your Musco sales representative.
   When 3 phase service is available, all 3 phases are to be run to each pole.
   One contactor is required for each pole. When a pole has multiple circuits, one contactor is required for each circuit.
- 4. If the lighting system will be fed from more than one service location, additional equipment may be required.
- 5. Entrance hub and locknut materials must be die-cast zinc, copper free die-cast aluminum or PVC and must meet NEMA 4 enclosure sealing requirements.
- A single 120V control circuit must be supplied to each control system.
   Size overcurrent devices using the full load amps column of the chart. Full load amps based on an assumed power factor of 0.9.

INRUSH: 1080.0

SEALED: 205.0

CONTROL POWER CONSUMPTION

120V SINGLE PHASE (SEE NOTE 6)

VA LOADING OF

EQUIPMENT

MUSCO SUPPLIED

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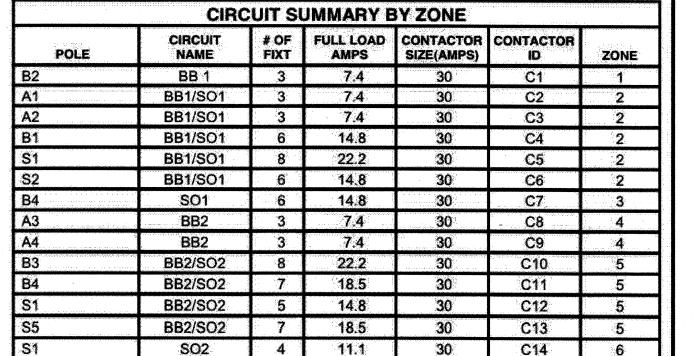
of Musco Lighting LLC:

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SWIT	SWITCHING SCHEDULE								
Field Type	<u>Zones</u>	Customer Field Name							
Baseball	1,2	Baseball 1							
Soccer	2,3	Soccer 1							
Baseball	4,5	Baseball 2							
Soccer	5.6	Soccer 2							



Page 2 of 3

CIRCUIT BREAKER POSITION BY OTHERS FULL LOAD AMPS CABINET MODULE CONT. # LOCATION ID PANEL ID BY OTHERS CIRCUIT DESCRIPTION 1 C1 Pole B2 7.4 1 C2 Pole A1 7.4 1 C3 Pole A2 7.4 1 C4 Pole B1 14.8 22.2 1 C5 Pole S1 14.8 1 C6 Pole S2 Pole B4 14.8 1 | C7 1 C8 Pole A3 7.4 7.4 1 C9 Pole A4 1 C10 Pole B3 22.2 18.5 1 C11 Pole B4 14.8 1 C12 Pole S1 1 C13 Pole S5 18.5 1 C14 Pole S1 11.1

PANEL SUMMARY



HCS ENGINEERING, INC. CONSULTING ELECTRICAL ENGINEERS 4512 FEATHER RIVER DRIVE, SUITE F STOCKTON, CA 95219 (209)478-8270 E-MAIL ADDRESS - Richard@hcs-eng.com

PROJ. <u>2011.181</u> DES. <u>RCS</u> ENG. <u>RCS</u>

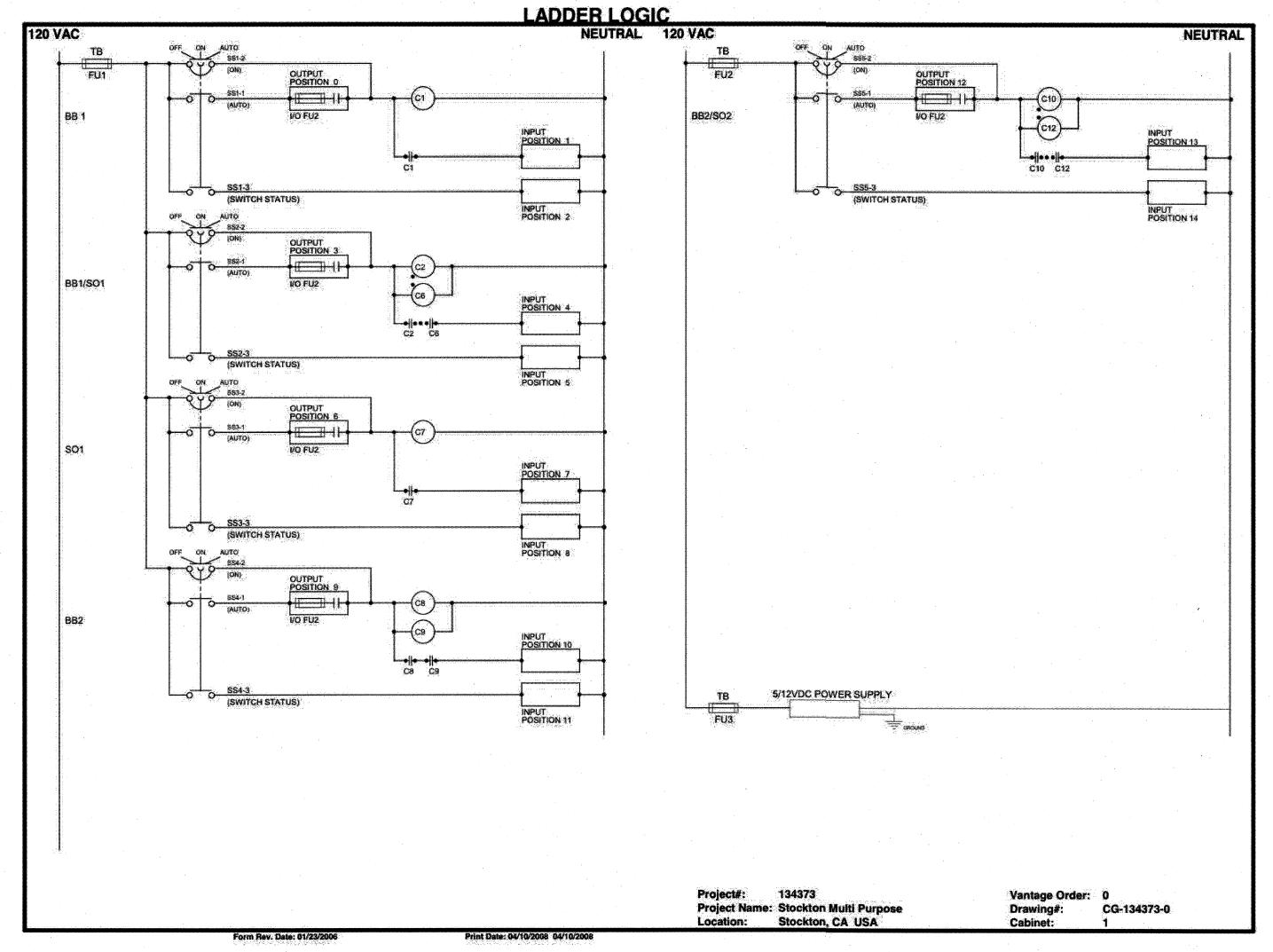


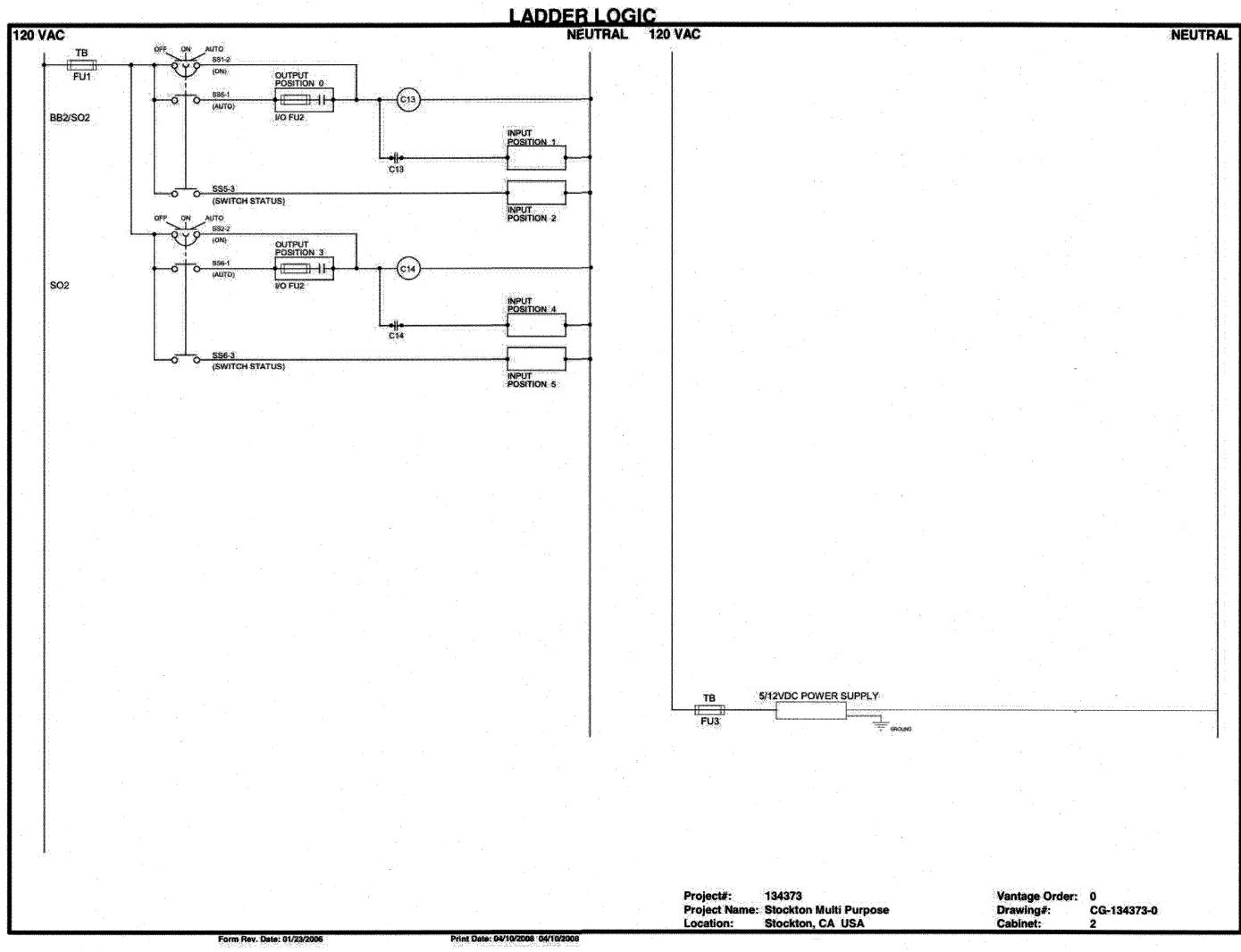
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MATT EQUINOA PARK PHASE

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CONSULTING ELECTRICAL ENGINEERS

4512 FEATHER RIVER DRIVE, SUITE F

STOCKTON, CA 95219 (209)478-8270

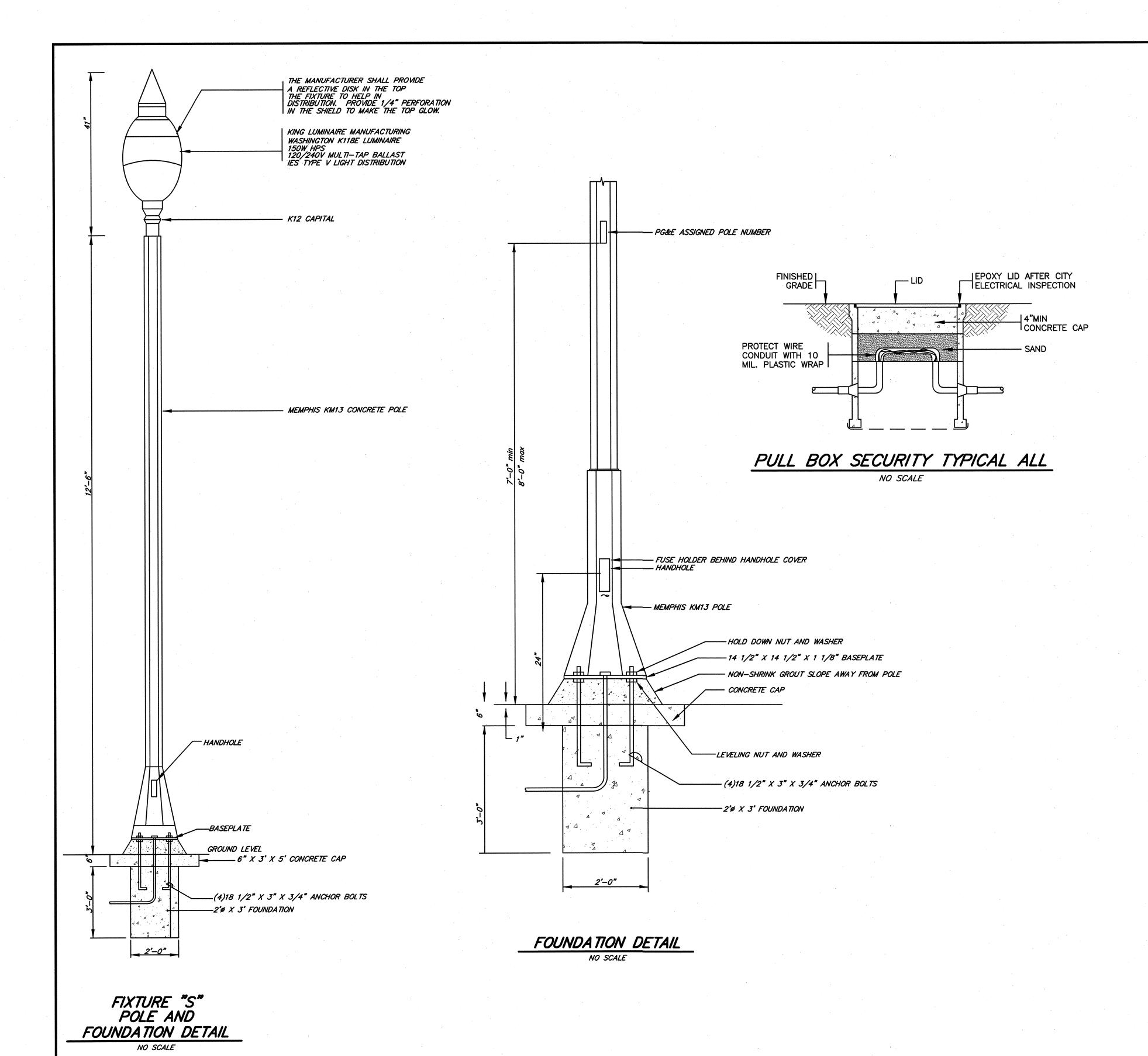
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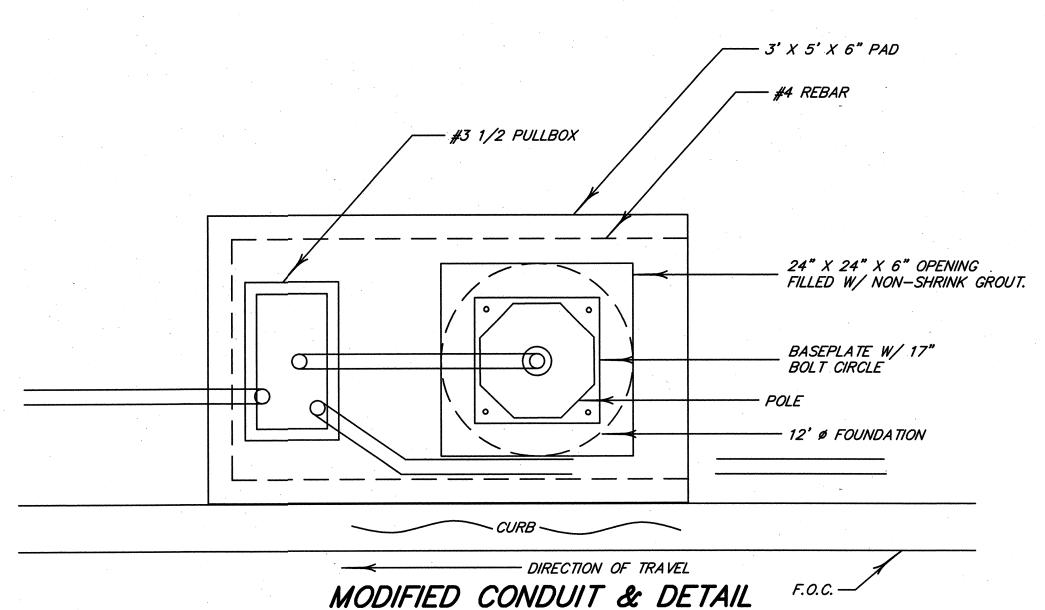
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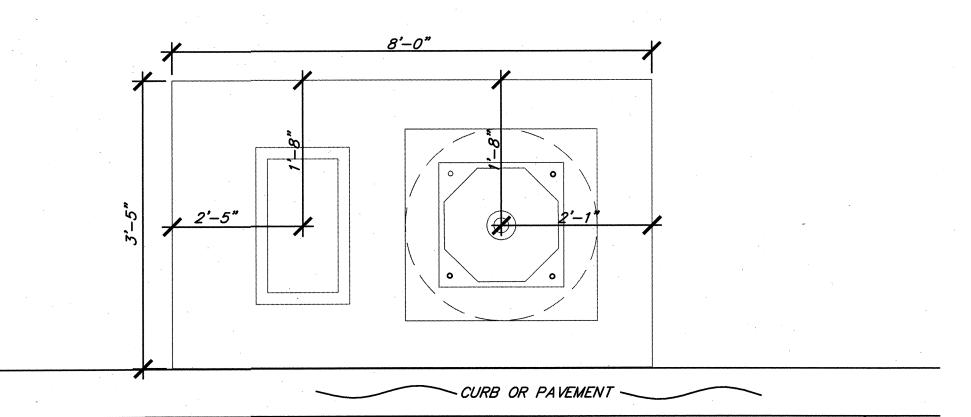
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MATT EQUINOA PARK PHASE I







NO SCALE

#### TYPICAL LIGHT PAVEMENT DETAIL

F.O.C.

#### IOTES:

ALL WORK SHALL CONFORM TO THE 2007 CALIFORNIA ELECTRICAL CODE AND SHALL BE BUILT PER CITY OF STOCKTON CODE.

ELECTRICAL CONTRACTOR SHALL COORDINATE WITH WITH THE PUBLIC WORKS OPERATIONS AND MAINTENANCE, SUSAN KRIETEMEYER [(209) 937-8884] FOR THE ENERGIZATION OF WALKWAY LIGHTS. IN ADDITION HE/SHE SHALL DELIVER TO THE PROJECT INSPECTOR, TWO MYLAR AS-BUILTS UPOM REQUEST FOR ENERGIZATION.

CONTRACTOR SHALL STENCIL EACH POLE WITH A NUMBER ASSIGNED BY PG&E AND SHOW ANY ADDITIONAL POLES NOT ALREADY NUMBERED ON THE AS-BUILT DRAWINGS. CONTRACTOR SHALL OBTAIN A NUMBER FROM PG&E FOR ANY SUCH POLES. NUMBERS SHALL BE STENCILED IN WHITE EPOXY ENAMEL. NO LOWER THAN 7'-0" FROM THE GROUND AND NO HIGHER THAN 8'-0". NUMBER SIZE SHALL BE AS REQUIRED BY PG&E. CONTRACTOR SHALL CONTACT PG&E IMMEDIATELY UPON AWARD OF CONTRACT FOR COORDINATION OF SITE ELECTRICAL

REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING PREPARATION OF AS-BUILT CHANGES FOR SUBMISSION TO PG&E.

ALL CONDUIT SHALL BE INSPECTED AND APPROVED BY CITY BUILDING OFFICIAL PRIOR TO BURIAL.

MATT EQUINOA PARK PHASE I
ELECTRICAL DETAILS





H C S E N G | N E E R | N G, | N C.

CONSULTING ELECTRICAL ENGINEERS

4512 FEATHER RIVER DRIVE, SUITE F

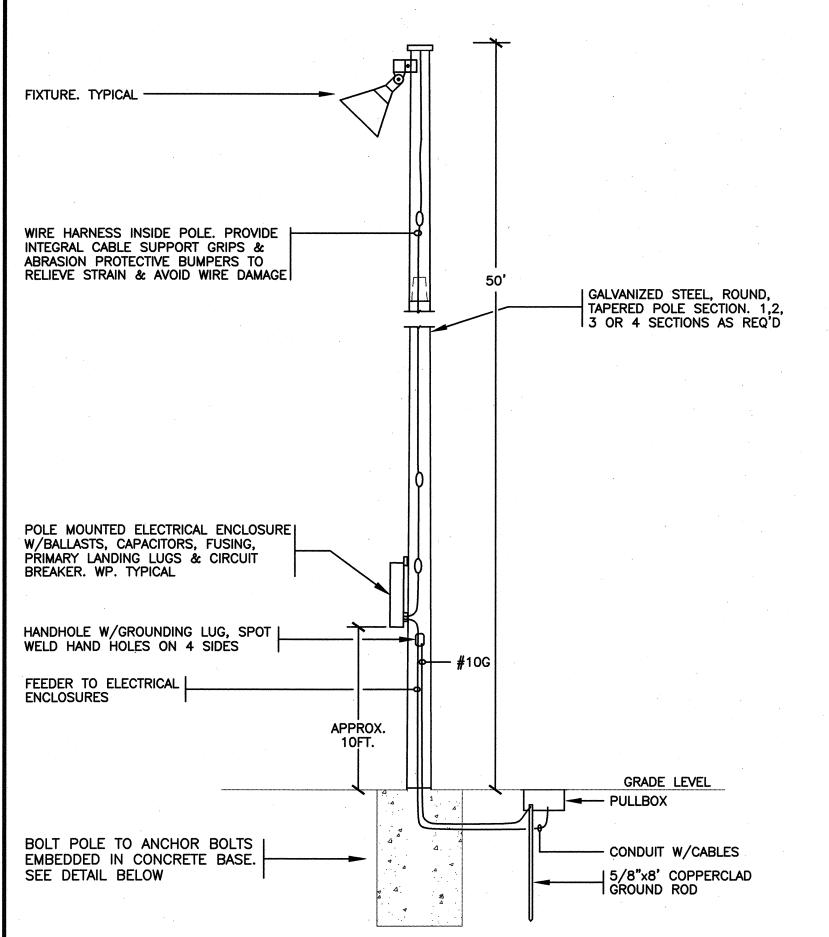
STOCKTON, CA 95219 (209)478-8270

E-MAIL ADDRESS - Richard@hcs-eng.com

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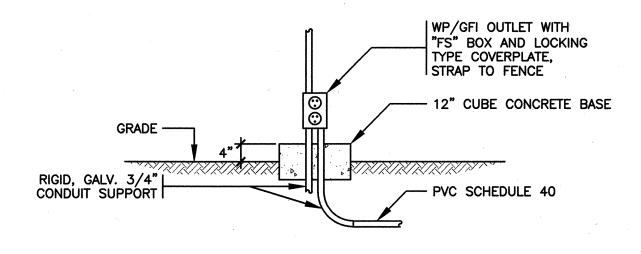
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STRUCTURAL ENGINEERING	_
SIEGFRIED SURVEYING PLANNING	_
3244 Brookside Road, Suite 100 Stockton, California 95219 209-943-2021 www.siegfriedeng.com Fx: 209-942-0214	

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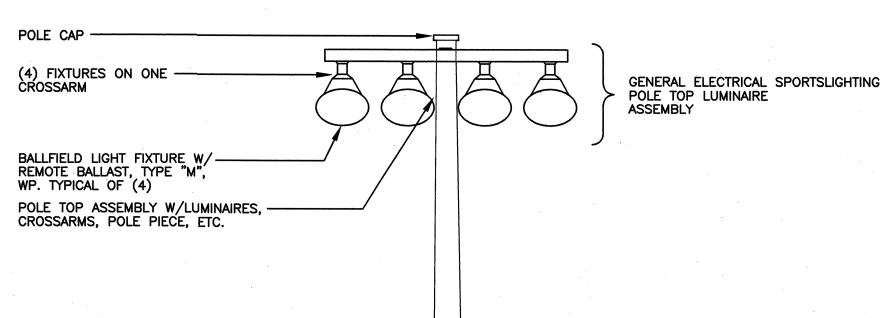


#### TYPICAL POLE : SIDE VIEW

NTS POLE "A2" SIMILAR



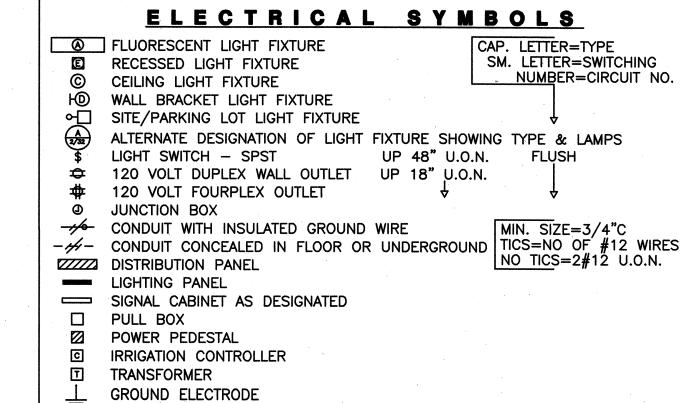
WEATHERPROOF OUTLET DETAIL



#### TYPICAL POLE TOP: FRONT VIEW

#### POLE | CIRCUITS HEIGHT # OF 1500 W HEADS Αl A2 3 A3 3 3 B2 3 **B3** B4 801 13 SI 52 701

# POLE/HEAD SCHEUDLE



#### A.F.G. ABOVE FINISHED GRADE A.F.F. ABOVE FINISHED FLOOR

ELECTRICAL ABBREVIATIONS

UG UNDERGROUND NL NIGHT LIGHT WP WEATHERPROOF

CO CONDUIT ONLY

CONDUIT

U.O.N. UNLESS OTHERWISE NOTED NO. NUMBER

MIN. MINIMUM MAX. MAXIMUM A, AMP AMPERE

> W/ WITH GFI GROUND FAULT INTERRUPTER

& (e) EXISTING

(R) REMOVE

A.I.C. AMPERE INTERRUPTING CAPACITY GRD. GROUND

V VOLT

CKT. CIRCUIT KW KILOWATT

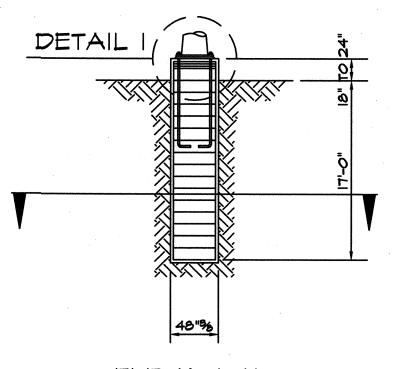
KVA KILOVOLT AMPERE

SPACE

CU COPPER

ALUMINUM LIGHTING CONTACTOR

PB PULL BOX



ELEVATION

#### GENERAL NOTES & SPECIFICATIONS:

I. CONSTRUCTION OF REINFORCED CONCRETE DRILLED-IN CAISSON SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE, ACI 318-95.

2. EXCAVATION AND PREPARATION FOR CAISSON, PLACING OF CONCRETE SHALL BE PER SECTION 205-3-3.2 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

3. ALLOWABLE SOIL PRESSURE IS FURNISHED BY NEIL O. ANDERSON & ASSOCIATES, INC. IN THEIR GEOTECHNICAL INVESTIGATION REPORT, DATED MAY 25, 1999.

4. CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI IN 28 DAYS. PROVIDE TESTING AGENCY FOR SPECIAL INSPECTION OF CONCRETE.

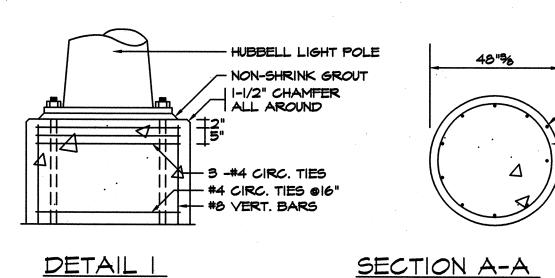
5. REINFORCING STEEL SHALL BE DEFORMED, INTERMEDIATE GRADE, CONFORMING TOP ASTM A615, GR. 60.

6. DESIGN LOADS ARE BASED ON 80 MILE PER HOUR WIND, EXPOSURE C AND SPORTSLIGHTING DESIGN NUMBER S-R-22-A-080.

> 14 -#8 VERT BARS

#4 CIRC. TIES

**1 €16"** 0.C.



POLE ANCHORAGE

PROVIDE DEFERRED APPROVAL SUBMITTAL DRAWINGS OF FOOTING STAMPED BY A CALIFORNIA REGISTERED STRUCTURAL ENGINEER TO MEET CALIFORNIA TITLE 24



SIEGFRIED . SURVEYING 3244 Brookside Road, Suite 100 Stockton, California 95219 209-943-2021 www.siegfriedeng.com Fx: 209-942-0214 MATT EQUINOA PARK PHASE

BASEBALL FIELD DETAILS



DEPARTMENT OF PUBLIC WORKS Date Description CITY OF STOCKTON, CALIFORNIA AS SHOWN APPROVED BY: 7/12/12 DATE E10 DESIGNED BY RC5 DRAWN BY 28 OF 28 SHEETS CHECKED BY CITY LANDSCAPE ARCHITECT RECORD DWGS. STOCKTON, CALIFORNIA

