Sacramento City Unified School District

Business Services
Contracts Office
5735 47th Avenue ● Sacramento, CA 95824
(916) 643-2464

Gerardo Castillo, Chief Business Officer
Kimberly Teague, Contract Specialist

ADDENDUM NO. 1

Date: April 27, 2016

Issued by: Sacramento City Unified School District

Project: Playfield Renovations at Mark Hopkins ES

You are hereby notified of the following changes, clarifications, or modifications to the original Contract Documents, Specifications, and Drawings. This Addendum shall supersede the original project documents, and shall take precedence over anything to the contrary therein. All Addenda shall be acknowledged in the Bid Form. Failure to do so may result in disqualification of the bid. All other conditions remain unchanged.

The following is a list of items/scope of work being added to this project. Drawings are also uploaded separately in e-Bldr in Bid Documents folder (ADD#1). There are a total of eight (8) items included in this addendum.

1. L1.1 – Sod patching updated to match the new trenching on L2.1, centered the gate to the irrigation yard on the fence section.

2. L1.2 – Matchline for L1.3 added.

3. L1.3 – Additional landscape scope at Rosa Parks MS.

4. L2.1 – Move the supply mainline to the booster pump to run behind the portables in the Rosa Parks playfield, and moved the downstream mainline from the pump to run through the Rosa Parks playfield to the Mark Hopkins irrigation. Move the components in the irrigation yard around and added Automatic Controller B. Revised the Automatic Controllers in the legend.

5. L2.2 – Matchline for L2.3 added, and note added to the point of connection.

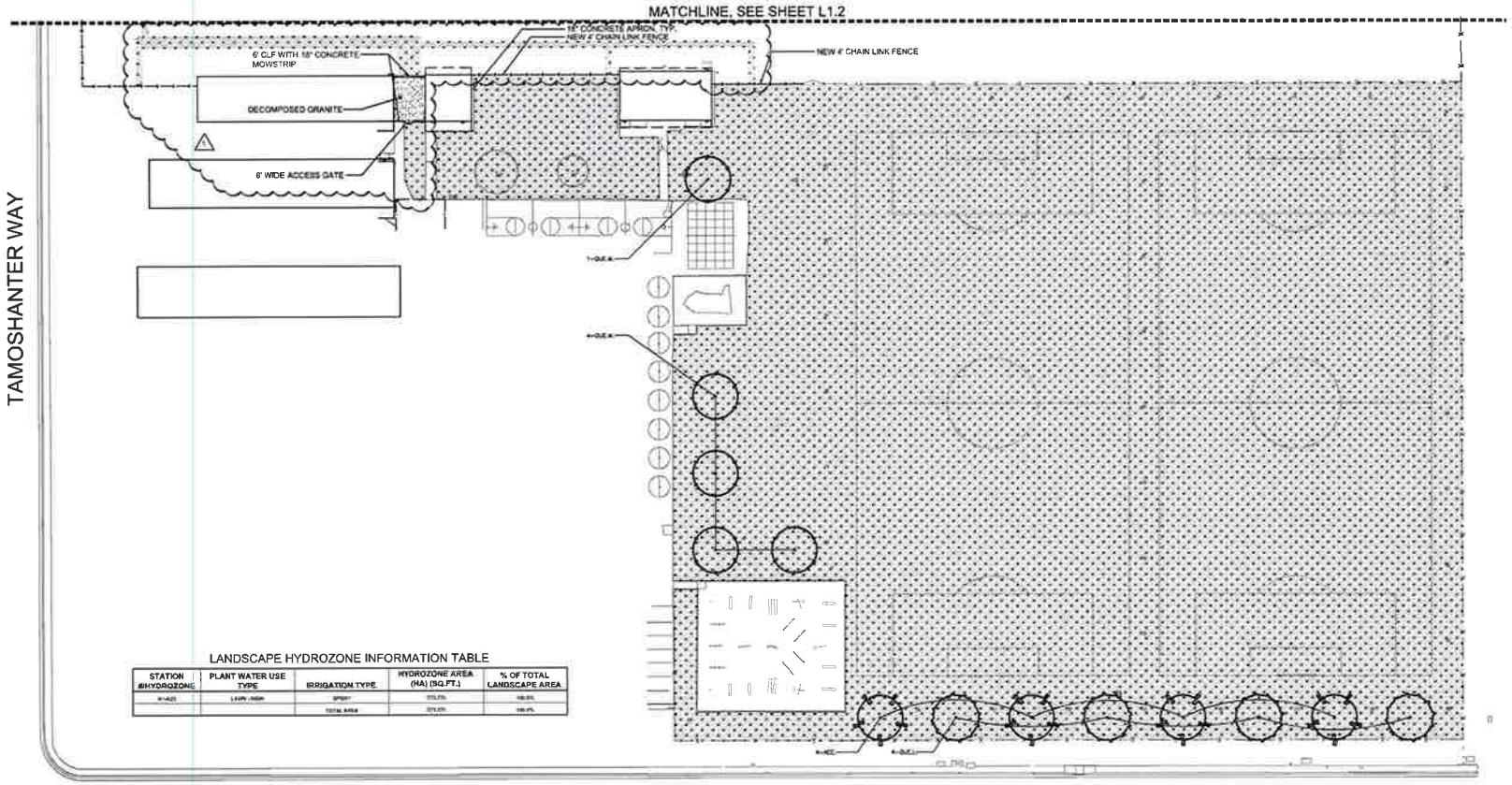
6. L2.3 – Additional irrigation controller scope at Rosa Parks MS.

7. E1.1 – Electrical plan for power and data to irrigation equipment at Mark Hopkins ES.

8. E1.2 – Electrical plan for power and data to irrigation equipment at Rosa Parks MS.

END OF ADDENDUM NO. 1

Attachments



LANDSCAPE HYDROZONE INFORMATION TABLE

STATION #/HYDROZONE	PLANT WATER USE TYPE	IRRIGATION TYPE	HYDROZONE AREA (HA) (SQ.FT.)	% OF TOTAL LANDSCAPE AREA
H-1(LF)	LAWN - HIGH	SPRAY	[illegible]	[illegible]
		TOTAL AREA	[illegible]	[illegible]

KEY	LANDSCAPE LEGEND
	EXISTING TREES TO REMAIN
	TREES - NOT ALL SYMBOLS SHOWN
	LAWN (SOD)
	DECOMPOSED GRANITE
	PLANT QUANTITY
	PLANT KEY
	CHAIN LINK FENCE (4' AND 6' HEIGHT)

PLANT MATERIAL LIST

SIZE	QUANTITY	KEY	BOTANICAL NAME — COMMON NAME
			TREES:
24" BOX	4	ACE.	ACER RUBRUM 'OCTOBER GLORY' — RED MAPLE
24" BOX	4	QUE.L.	QUERCUS LOBATA — VALLEY OAK
24" BOX	5	QUE.M.	QUERCUS MACROCARPA — BUR OAK

GENERAL LANDSCAPE REQUIREMENTS/NOTES

1. NO PLANTING SHALL BE STARTED UNTIL SPRINKLER IRRIGATION SYSTEM HAS BEEN TESTED BY CONTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE AND NOTED DEFICIENCIES CORRECTED
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3. QUANTITIES SHOWN ON PLANT MATERIAL LIST ARE APPROXIMATE. PROVIDE QUANTITIES INDICATED ON LANDSCAPE PLAN
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PROTECTION:

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PLANTING AND TURF INSTALLATION SEASONS AND CONDITIONS

NO WORK SHALL BE DONE WHEN GROUND IS FROZEN, SNOW COVERED, TOO WET OR IN AN OTHERWISE UNSUITABLE CONDITION FOR AMENDING SOIL, FINISH GRADING OR PLANTING.

SOIL TESTING/SOIL IMPROVEMENT:

SEE SPECIFICATIONS 02900, SECTION 3.02 SOIL TESTING AND SECTION 3.03 PREPARATION.

SOIL PERCOLATION

EXCAVATE 10 PLANTING PITS IN RANDOM AREAS OF SITE. FILL EXCAVATED PLANTING PITS WITH WATER TO 1/2 DEPTH OF PIT. PITS SHOULD DRAIN WITHIN 4 HOURS. IF PLANTING PITS DO NOT DRAIN, NOTIFY INSPECTOR IMMEDIATELY. PLANTING SHALL NOT BE STARTED UNTIL OWNER'S REPRESENTATIVE HAS RESOLVED A METHOD TO REMEDY DRAINAGE ISSUE.

PLANT MATERIAL STANDARDS

PLANTS SHALL BE IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) AND ZB3.1 - AMERICAN STANDARD FOR NURSERY STOCK, EXCEPT AS OTHERWISE STATED IN SPECIFICATIONS OR SHOWN ON DRAWINGS. WHERE DRAWINGS OR SPECIFICATIONS ARE IN CONFLICT WITH ANSI Z60.1 DRAWINGS AND SPECIFICATIONS SHALL BE VALID. PRUNE, THIN OUT AND SHAPE TREES IN ACCORDANCE WITH ANSI STANDARD PRACTICES FOR PLANT PRUNING. PRUNE TO RETAIN MAXIMUM HEIGHT AND SPREAD, UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT. DO NOT CUT TREE LEADERS AND REMOVE ONLY INJURED OR DEAD BRANCHES FROM FLOWERING TREES.

EXISTING LANDSCAPE AND SPRINKLER IRRIGATION SYSTEM

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www.hmcarchitects.com

LANDSCAPE ARCHITECTURE AND PLANNING
12911 Old Placerville Road
Suite 200
Sacramento, CA 95677
916 369 1997
MTW GROUP

Key Plan

Agency Approval

FILE NO. 02-09
DSA/SCHOOL FACILITIES BUREAU
OFFICE OF REGULATORY SERVICES
APPL NO 02 - XXXXXX
AC FLS SS
DATE

OPSC / ERP GRANT # 61/67439-00-0233 / 530-017

Project Title:
MARK HOPKINS ELEMENTARY SCHOOL
2016 ERP PROJECTS
SACRAMENTO CITY USD
5735 47TH AVENUE
SACRAMENTO, CA 95824

No.	Description	Date	No.	Description	Date
1	ADDENDUM #1	4/25/16			

Drawing Title:
LANDSCAPE PLANTING PLAN

Architect's Seal: LANDSCAPE ARCHITECT, STATE OF CALIFORNIA, NO. C-29647

Designed: MZ	Project No. 3180047.101
Drawn: KT	Scale:
QAQC: MZ	Drawing No. L1.1
Date: 03/25/2016	

Project Navigator: I:__MTW Shared PROJECT\ACTIVE AutoCAD Files\180047MC_MarkHopkins\A\ROOD_180047\DRAWING\A\A\P1_042516.dwg 4/25/2016 11:37 AM Peter

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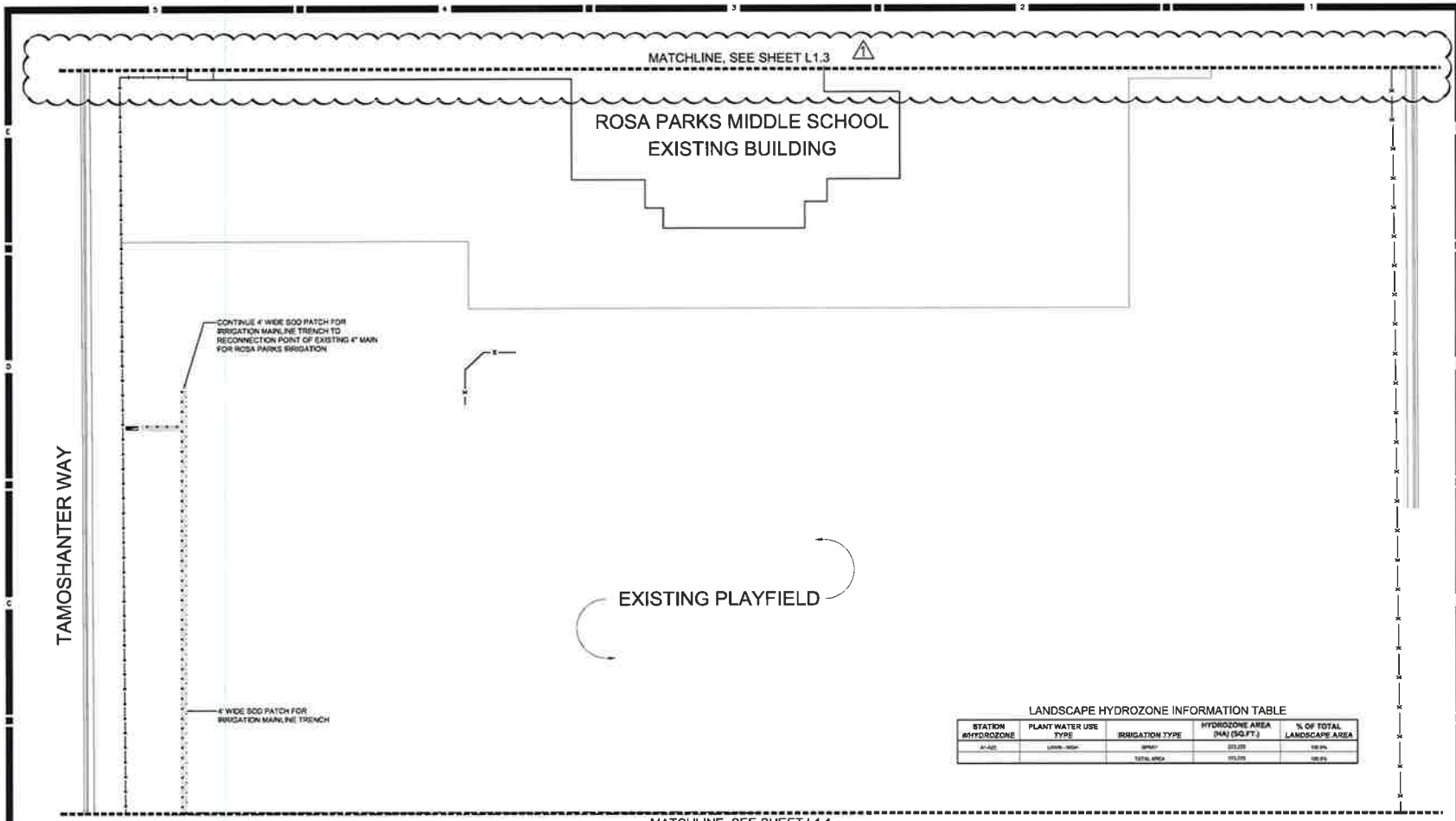

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A1-A20	LOW/ - HIGH	SPRAY	[illegible]	[illegible]
		TOTAL AREA	[illegible]	[illegible]

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SOIL TESTING/SOIL IMPROVEMENT:

SEE SPECIFICATIONS 02800, SECTION 3.02 SOIL TESTING AND SECTION 3.03 PREPARATION.

SOIL PERCOLATION

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MTW group

Key Plan

Agency Approval

OPSC / ERP GRANT # 61/67439-00-0233 / 530-017

Project Title:

MARK HOPKINS ELEMENTARY SCHOOL
2016 ERP PROJECTS

SACRAMENTO CITY USD
5735 47TH AVENUE
SACRAMENTO, CA 95824

No.	Description	Date	No.	Description	Date
1	ADDENDUM #1	4/22/16			

Drawing Title:

LANDSCAPE PLANTING PLAN

Architect's Seal: REGISTERED LANDSCAPE ARCHITECT NO. C-39647 STATE OF CALIFORNIA

Designed: MZ	Project No. 3160047.101
Drawn: KT	Scale:
CADD: MZ	Drawing No. L1.2
Date: 03/25/2016	

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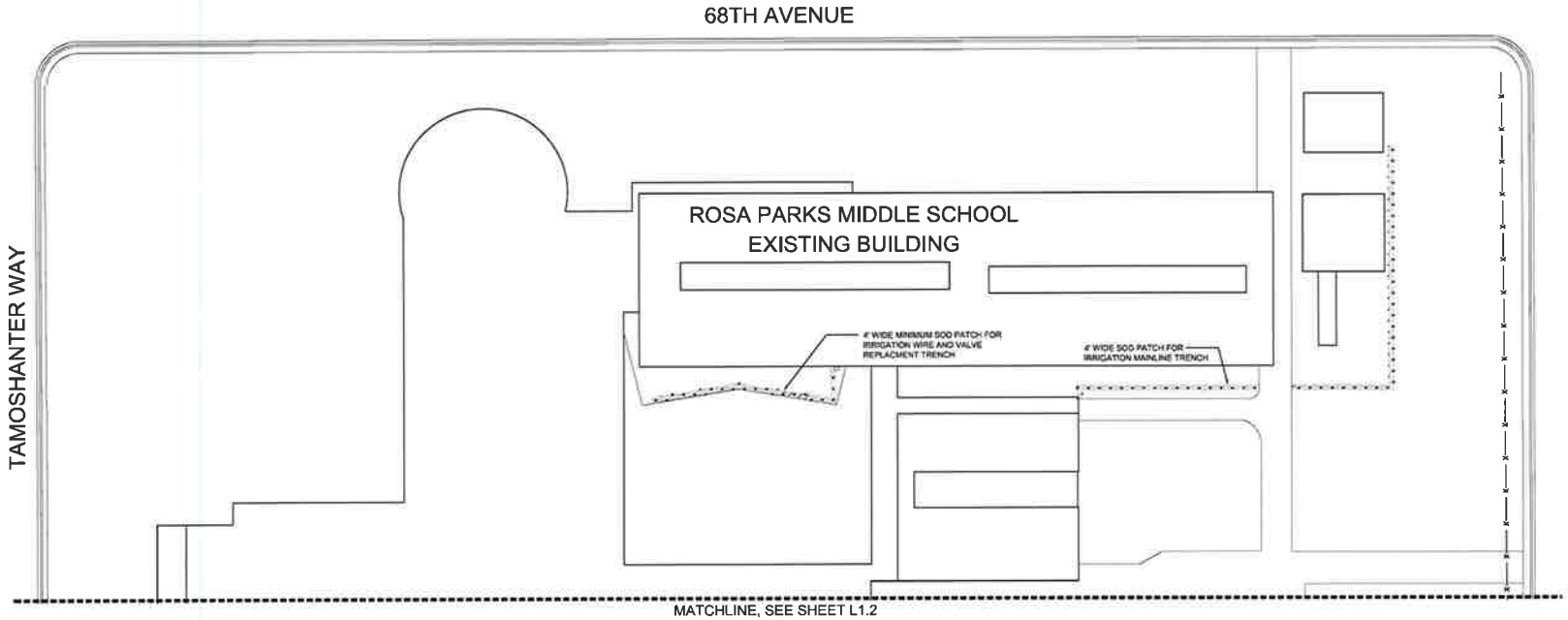

KEY | LANDSCAPE LEGEND

- EXISTING TREES TO REMAIN
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Key Plan

Agency Approval

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Drawing Title:
LANDSCAPE PLANTING PLAN

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Designed: MZ	Project No. 31M0047.101
Drawn: KT	Scale:
CHKD: MZ	Drawing No. L1.3
Date: 03/25/2016	

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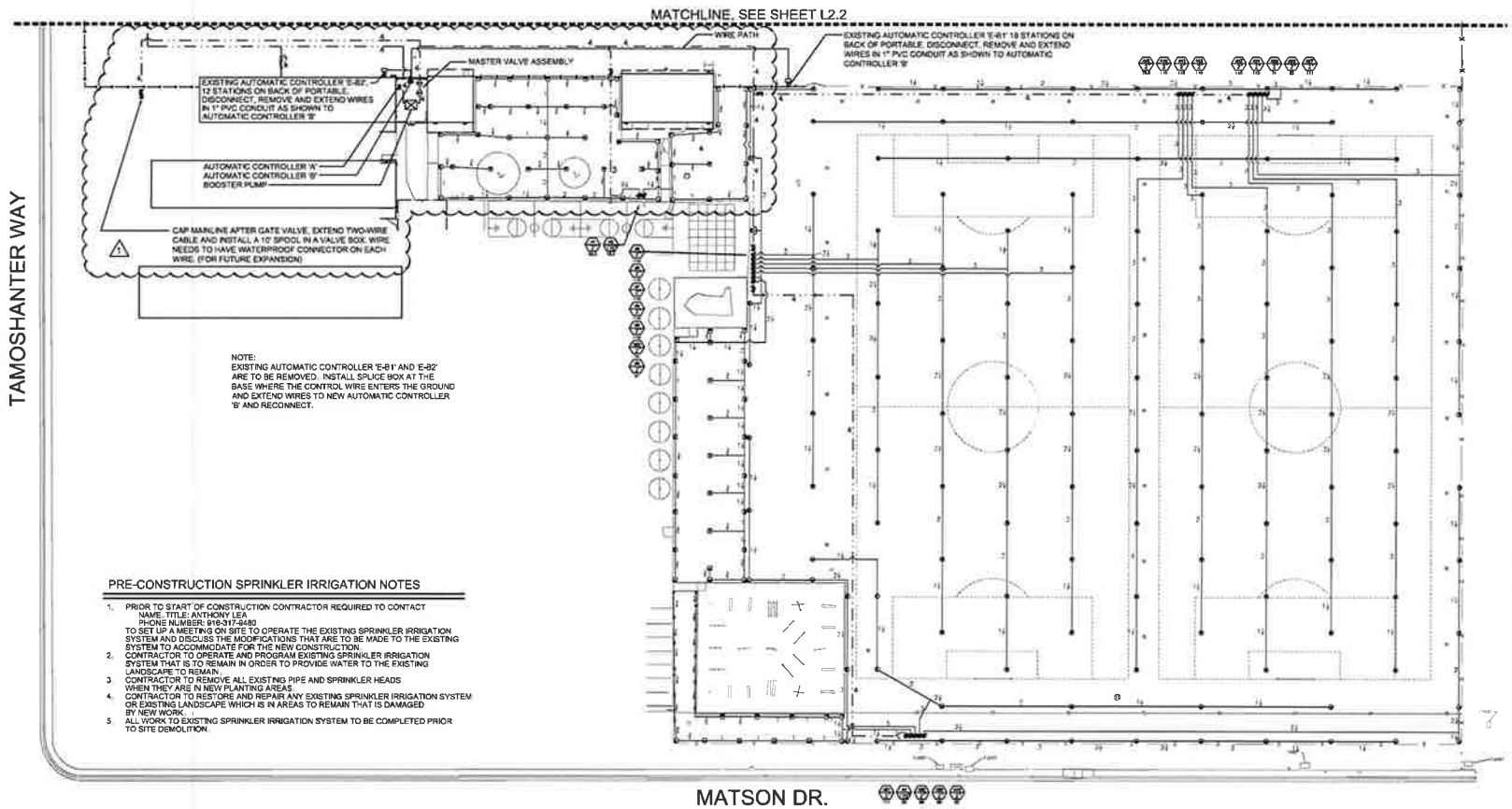


PRE-CONSTRUCTION SPRINKLER IRRIGATION NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR REQUIRED TO CONTACT
   NAME: TITLE: ANTHONY LEA
   PHONE NUMBER: 916-317-6480
   TO SET UP A MEETING ON SITE TO OPERATE THE EXISTING SPRINKLER IRRIGATION SYSTEM AND DISCUSS THE MODIFICATIONS THAT ARE TO BE MADE TO THE EXISTING SYSTEM TO ACCOMMODATE FOR THE NEW CONSTRUCTION.
2. CONTRACTOR TO OPERATE AND PROGRAM EXISTING SPRINKLER IRRIGATION SYSTEM THAT IS TO REMAIN IN ORDER TO PROVIDE WATER TO THE EXISTING LANDSCAPE TO REMAIN.
3. CONTRACTOR TO REMOVE ALL EXISTING PIPE AND SPRINKLER HEADS WHEN THEY ARE IN NEW PLANTING AREAS.
4. CONTRACTOR TO RESTORE AND REPAIR ANY EXISTING SPRINKLER IRRIGATION SYSTEM OR EXISTING LANDSCAPE WHICH IS IN AREAS TO REMAIN THAT IS DAMAGED BY NEW WORK.
5. ALL WORK TO EXISTING SPRINKLER IRRIGATION SYSTEM TO BE COMPLETED PRIOR TO SITE DEMOLITION.

KEY

SPRINKLER IRRIGATION LEGEND

AUTOMATIC CONTROLLER:

AUTOMATIC CONTROLLER 'A':
HUNTER CONTROL SYSTEM - 36 STATION TWO WIRE
(CAN-HUB-WIRELAN/ACC-COM-LAN/ACC-HWM/WS3SEN/WSMAN-KIT/ICSM/TAN18
HUNTER ACC-100 IN STAINLESS TOP ENTRY ENCLOSURE WITH ETHERNET MODEM, WIRELESS SOLAR SYNC REMOTE CONTROL KIT, AND HARDWIRE DECODER PROGRAMMER

AUTOMATIC CONTROLLER 'B':
HUNTER CONTROL SYSTEM - 30 STATION CONVENTIONAL
(CAN-HUB-30/LPP/ACC-COM-HWR/ACC-HWM/WS3SEN/TAN18
HUNTER ACC-30 IN STAINLESS TOP ENTRY ENCLOSURE WITH HARDWIRE KIT AND WIRELESS SOLAR SYNC

AUTOMATIC CONTROLLER 'C':
HUNTER CONTROL SYSTEM - 30 STATION CONVENTIONAL
(CAN-HUB-13/13MDM80/LPP/ACC-COM-LAN/WS3SEN
HUNTER ACC-30 IN STAINLESS WALL MOUNT ENCLOSURE WITH ETHERNET MODEM AND WIRELESS SOLAR SYNC

COORDINATE 110V SERVICE AND POWER CONNECTION WITH ELECTRICAL SUB-CONTRACTOR
COORDINATE ETHERNET CONNECTION WITH THE ELECTRICAL SUB-CONTRACTOR.

SURGE PROTECTOR FOR AUTOMATIC CONTROLLER AND GROUNDING ROD/PLATE TO BE INSTALLED AS PER THE GROUNDING DETAIL.
CONTACT JIM WELLES, SITE ONE CORPORATION, AT 925-451-1410 FOR PHONE CONTRACTOR TO HAVE DON FRANKLIN WITH HUNTER ON-SITE PRIOR TO INSTALLATION TO PROVIDE TRAINING AND PROPER INSTALLATION. CONTACT DON AT (916) 989-9457.

POINT OF CONNECTION

THIS SPRINKLER IRRIGATION SYSTEM IS DESIGNED TO OPERATE AT
80 PSI DYNAMIC WATER PRESSURE WITH A MAXIMUM FLOW OF 190 GPM.
CONTRACTOR SHALL LOCATE EXISTING REDUCED PRESSURE DEVICE.
CONNECT AT THIS POINT AND EXTEND AS INDICATED ON DRAWINGS.

EXISTING REDUCED PRESSURE BACKFLOW PREVENTION DEVICE:
4" SIZE

BOOSTER PUMP:
BOOSTER PUMP SHALL BE BY CLUSTER PUMP AND POWER. MODEL #:SMTW0225201S-1/47VFD
CONTACT MIKE PARLO AT 916-429-9729.

INLET PRESSURE: 20 PSI
OUTLET PRESSURE: 80 PSI
MIN/MAX WATER DEMAND: 190 GPM/50 GPM
POWER INPUT: 208V, 3 PHASE

MASTER VALVE ASSEMBLY:
COMPONENTS:
MASTER VALVE - 4" NORMALLY CLOSED GREENFIELD #2030P.
FLOW SENSOR - DATA INDUSTRIAL #530MM, 3" SIZE INSERT IN SADDLE
FLOW SENSOR TO BE CONNECTED TO AUTOMATIC CONTROLLER WITH HUNTER ICD-SEN SENSOR DECODER
MASTER VALVE TO BE CONNECTED TO AUTOMATIC CONTROLLER WITH HUNTER ICD-100 STATION DECODER

GATE VALVE:
TYPE:
LESMCO GATE VALVE WITH A NON-RISING STEM AND OPERATING NUT.
GATE VALVE INSTALLED IN A VALVE BOX WITH TOP OF BOX SET FLUSH TO FINISH GRADE
GATE VALVE TO BE LINE SIZE.

PRESSURE MAIN LINE:
TYPE:
ASTM D2241 SDR 21, 200 PSI, RUBBER GASKETED WITH LESMCO FITTINGS.
TRENCH DEPTH:
IN PLANTED AREAS: 24" MINIMUM COVER
UNDER PAVED AREAS: 24" MINIMUM COVER
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

LATERAL LINE:
TYPE:
PVC SCHEDULE 40, SOLVENT WELD ALL UNSIZED PIPE SHALL BE 3/4" SIZE.
TRENCH DEPTH:
IN PLANTED AREAS: 18" MINIMUM COVER
UNDER PAVED AREAS: 24" MINIMUM COVER
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

AUTOMATIC CONTROL VALVE:
HUNTER ICV

LAWN POP-UP ROTOR HEADS:
FULL CIRCLE
HUNTER I-40-04-SS-18
THREE QUARTER
HUNTER I-40-04-SS-15
HALF CIRCLE
HUNTER: I-40-04-SS-13
QUARTER CIRCLE
HUNTER I-40-04-SS-8

LAWN POP-UP SPRAY HEADS:
HUNTER: PROS-06-CV SERIES WITH HUNTER MP3000 ROTATING NOZZLES.
HALF AND QUARTER SPRAY PATTERNS

LAWN POP-UP SPRAY HEADS:
HUNTER PROS-06-CV SERIES WITH HUNTER MP2000 ROTATING NOZZLES.
HALF AND QUARTER SPRAY PATTERNS.

INDICATES CONTROL VALVE AND STATION NUMBER
INDICATES CONTROL VALVE SIZE
INDICATES GALLONS PER MINUTE

EXISTING TREE PROTECTION AREA:
THE PROTECTION AREA UNDER ANY EXISTING TREE THAT IS TO REMAIN IS DEFINED BY ITS DRIP LINE OR CANOPY COVER. WITHIN THIS AREA NO STORAGE OR PARKING WILL BE PERMITTED. ALL TRENCHING WILL BE PERFORMED BY HAND. DO NOT CUT ROOTS 1" IN DIAMETER OR LARGER. USE BORING PROCEDURES WHEN ENCOUNTERING ROOTS 1" SIZE AND LARGER. NO ROOTS ARE TO BE EXPOSED LONGER THAN 48 HOURS.

SPRINKLER IRRIGATION NOTES

1. COMPOSITE BASE SHEET: PROPOSED IMPROVEMENTS SHOWN ON DRAWINGS ARE SUPERIMPOSED ON A COMPOSITE BASE SHEET. THE COMPOSITE BASE SHEET IS A COMPILATION OF ARCHITECTURAL, ENGINEERING, AND OTHER DATA THAT IS PROVIDED. THE LANDSCAPE ARCHITECT SHALL NOT BE HELD LIABLE FOR OMISSIONS, INACCURACIES, OMISSIONS, OR ERRORS PERTAINING TO THE COMPOSITE BASE SHEET. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THESE DOCUMENTS. ANY DISCREPANCIES NEED TO BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM AND RESOLVED PRIOR TO CONTINUATION OF WORK.
2. DESIGN PRESSURE SHOWN ON PLANS HAS BEEN FURNISHED BY WATER COMPANY OR WATER DISTRICT SERVING SITE. VERIFY PRESSURE ON-SITE PRIOR TO THE INSTALLATION OF ANY SPRINKLER IRRIGATION EQUIPMENT. IF THERE IS A DISCREPANCY, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IN WRITING. NO ADJUSTMENTS CAN BE MADE BY LANDSCAPE ARCHITECT. FAILURE TO REPORT DISCREPANCIES AND CONTINUANCE OF WORK WILL RESULT IN ALL RE-DESIGN COSTS BEING CHARGED TO CONTRACTOR.
3. DETERMINE LOCATION OF UNDERGROUND UTILITIES. DAMAGE CAUSED BY INSTALLATION OF THIS WORK SHALL BE REPAIRED TO SATISFACTION OF GOVERNING AGENCY OR OWNER AT NO ADDITIONAL COST TO THE CONTRACT.
4. SPRINKLER OVER SPRAY SHALL NOT BE ALLOWED ON PUBLIC SIDEWALKS, BUILDING WALLS OR FENCES. MINIMUM OVERSPRAY MAY OCCUR IN PARKING AREAS. USE ADJUSTABLE NOZZLES WHEREVER POSSIBLE TO CONTROL SPRINKLER OVERSPRAY.
5. ALL LOCAL CODES AND ORDINANCES SHALL BE COMPLIED WITH. IF THERE IS A CONFLICT, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
6. TESTING:
   A. PRESSURE TEST ALL UNDERGROUND PIPING AS FOLLOWS:
      MAIN LINE - AT 100 PSI FOR 4 HOURS.
      LATERAL LINES - AT 100 PSI FOR 2 HOURS.
   B. COVERAGE TEST:
      NOTE: PRIOR TO REQUESTING COVERAGE TEST, INSURE ALL HEADS ARE SET PLUMB, NOZZLES ARE ADJUSTED PROPERLY AND SYSTEM HAS BEEN CHECKED FOR AUTOMATION.
      REQUEST OWNER'S REPRESENTATIVES PRESENCE ON-SITE WHEN SPRINKLER SYSTEM IS COMPLETELY INSTALLED AND FULLY AUTOMATIC. PROVIDE ADEQUATE PERSONNEL AT THIS MEETING TO ADJUST AND FINE TUNE SYSTEM TO SATISFACTION OF OWNER'S REPRESENTATIVE.
7. LAYOUT ALL WORK PRIOR TO TRENCHING OPERATIONS TO DETERMINE IF MINOR MODIFICATIONS OR ADJUSTMENTS WILL BE REQUIRED.
8. INSTALL ALL SPRINKLER HEADS PERPENDICULAR TO SLOPES OR GRADE.
9. CONTROL WIRE SHALL BE UF-14, COLOR FOR LEAD AND WHITE FOR COMMON. SPLICES SHALL BE PERMITTED AT VALVE BOX LOCATIONS ONLY.
10. PROVIDE AND INSTALL AUTOMATIC CONTROLLER AND UF-14 CONTROL WIRE. ELECTRICAL SUBCONTRACTOR SHALL PROVIDE 110V SERVICE AND SERVICE HOOKUP FROM POWER SOURCE TO AUTOMATIC CONTROLLER.
11. COORDINATE ALL WORK WITH OTHER TRADES SO PROGRESS OF WORK IS NOT INTERRUPTED AND CAN BE COMPLETED IN A TIMELY MANNER.
12. NO PLANTING SHALL BE STARTED UNTIL ALL SPRINKLER WORK HAS BEEN TESTED AND APPROVED IN PRESENCE OF OWNER'S REPRESENTATIVE.
13. FOR SPRINKLER IRRIGATION INSTALLATION DETAILS, SEE SHEET NO. L3.1.

30' 15' 0 30' 60'
SCALE: 1"= 30'-0"

HMC Architects
2485 Natomas Park Drive, Suite 655
Sacramento, CA 95833
Phone 916-325-1100
www.hmcarchitects.com

LANDSCAPE ARCHITECTURE AND PLANNING
MTW

Key Plan

Agency Approval

OPSC / ERP GRANT # 61/67439-00-0233 / 530-017

Project Title:
MARK HOPKINS ELEMENTARY SCHOOL
2016 ERP PROJECTS

SACRAMENTO CITY USD
5735 47TH AVENUE
SACRAMENTO, CA 95824

No.	Description	Date	No.	Description	Date
1	ADDENDUM #1	4/25/16			

Drawing Title:
LANDSCAPE IRRIGATION PLAN

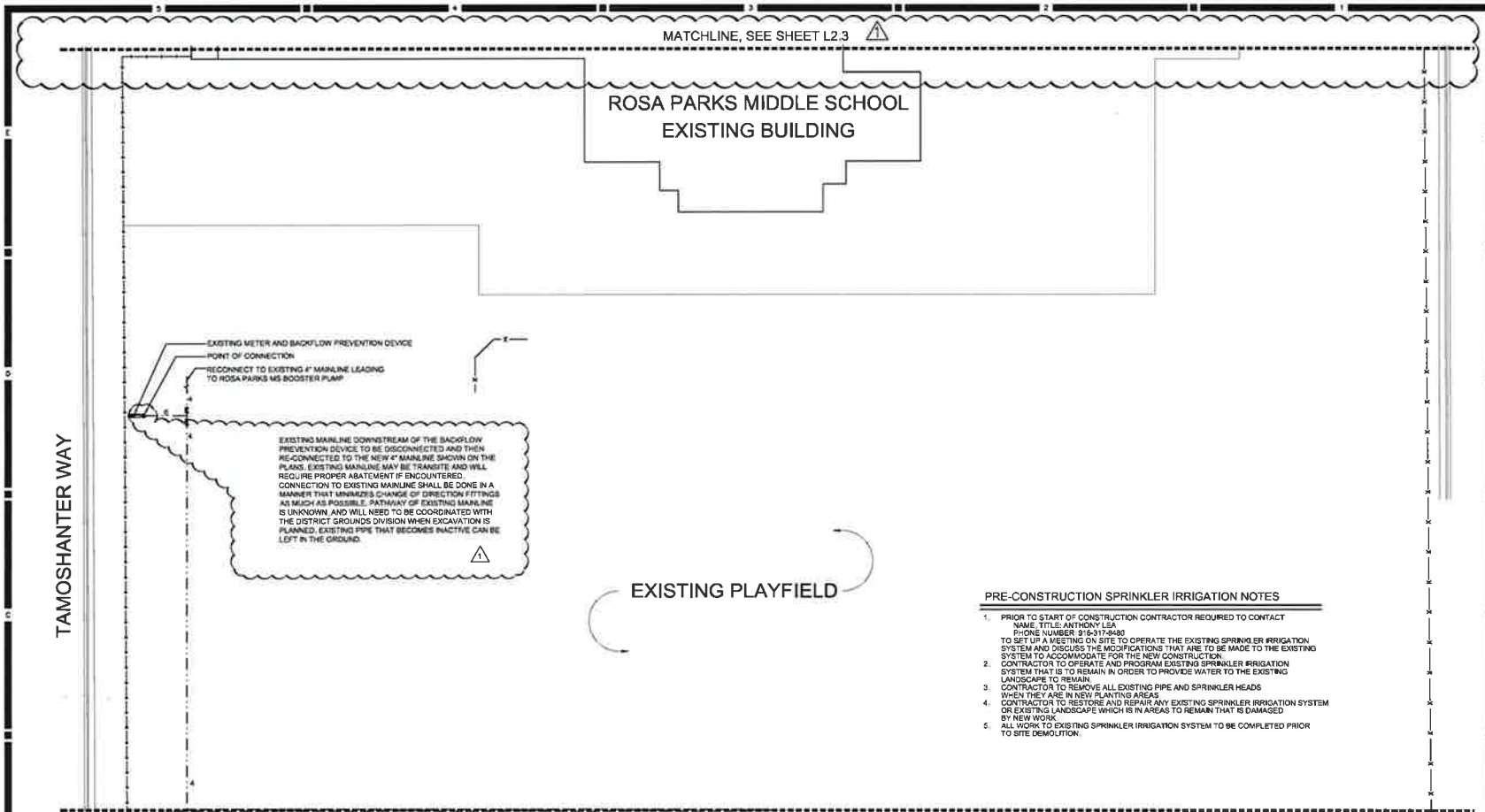
Architect's Seal: LICENSED ARCHITECT, REGISTERED PROFESSIONAL ENGINEER, NO. C-25647, STATE OF CALIFORNIA

Designed: MZ	Project No. 3180047.101
Drawn: KT	Scale:
QAQC: MZ	Drawing No. L2.1
Date: 03/25/2016	

Project Navigator ☐ I:__MTW Shared PROJECT\ACTIVE AutoCAD Files\16003-HC_Martinez\IN\TOCAD_16003\DRAWING\IAM\L_042516.dwg 4/25/2016 11:27 AM Peter

PLEASE RECYCLE

DSA SUBMITTAL



PRE-CONSTRUCTION SPRINKLER IRRIGATION NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR REQUIRED TO CONTACT
   NAME, TITLE: ANTHONY LEA
   PHONE NUMBER: 916-317-8480
   TO SET UP A MEETING ON SITE TO OPERATE THE EXISTING SPRINKLER IRRIGATION SYSTEM AND DISCUSS THE MODIFICATIONS THAT ARE TO BE MADE TO THE EXISTING SYSTEM TO ACCOMMODATE FOR THE NEW CONSTRUCTION.
2. CONTRACTOR TO OPERATE AND PROGRAM EXISTING SPRINKLER IRRIGATION SYSTEM THAT IS TO REMAIN IN ORDER TO PROVIDE WATER TO THE EXISTING LANDSCAPE TO REMAIN.
3. CONTRACTOR TO REMOVE ALL EXISTING PIPE AND SPRINKLER HEADS WHEN THEY ARE IN NEW PLANTING AREAS
4. CONTRACTOR TO RESTORE AND REPAIR ANY EXISTING SPRINKLER IRRIGATION SYSTEM OR EXISTING LANDSCAPE WHICH IS IN AREAS TO REMAIN THAT IS DAMAGED BY NEW WORK.
5. ALL WORK TO EXISTING SPRINKLER IRRIGATION SYSTEM TO BE COMPLETED PRIOR TO SITE DEMOLITION.

KEY / SPRINKLER IRRIGATION LEGEND

AUTOMATIC CONTROLLER:

AUTOMATIC CONTROLLER 'A':
HUNTER CONTROL SYSTEM - 48 STATION TWO WIRE
(ICM-HUS-960/LPP/ACC-CDN-LAN/ACC-WMN/WSSSCN/NOMAD-KIT/CDMP/TANK)
HUNTER ACC-960 IN STAINLESS TOP ENTRY ENCLOSURE WITH ETHERNET MODEM, WIRELESS SOLAR SYNC, REMOTE CONTROL KIT, AND HANDHELD DECODER PROGRAMMER

AUTOMATIC CONTROLLER 'B':
HUNTER CONTROL SYSTEM - 30 STATION CONVENTIONAL
(ICM-HUS-30/LPP/ACC-CDN-WMR/ACC-WMN/WSSSCN/TANK)
HUNTER ACC-30 IN STAINLESS TOP ENTRY ENCLOSURE WITH HARDWIRE KIT AND WIRELESS SOLAR SYNC

AUTOMATIC CONTROLLER 'C':
HUNTER CONTROL SYSTEM - 30 STATION CONVENTIONAL
(ICM-I-HUS-13/2300600/LPP/ACC-CDN-LAN/WSSSCN
HUNTER ACC-30 IN STAINLESS WALL MOUNT ENCLOSURE WITH ETHERNET MODEM AND WIRELESS SOLAR SYNC

COORDINATE 110V SERVICE AND POWER CONNECTION WITH ELECTRICAL SUB-CONTRACTOR. COORDINATE ETHERNET CONNECTION WITH THE ELECTRICAL SUB-CONTRACTOR.

SURGE PROTECTOR FOR AUTOMATIC CONTROLLER AND GROUNDING ROD/PLATE TO BE INSTALLED AS PER THE GROUNDING DETAIL.

CONTACT JIM MILLER SITE ONE GREENTECH, AT 925-451-1416 FOR PHONE CONFIRMATION TO HAVE DON FRANKLIN WITH HUNTER ON-SITE PRIOR TO INSTALLATION TO PROVIDE TRAINING AND PROPER INSTALLATION. CONTACT DON AT (916) 895-5431

POINT OF CONNECTION:

THIS SPRINKLER IRRIGATION SYSTEM IS DESIGNED TO OPERATE AT 80 PSI DYNAMIC WATER PRESSURE WITH A MINIMUM FLOW OF 190 GPM.

CONTRACTOR SHALL LOCATE EXISTING REDUCED PRESSURE DEVICE. CONNECT AT THIS POINT AND EXTEND AS INDICATED ON DRAWINGS.

EXISTING REDUCED PRESSURE BACKFLOW PREVENTION DEVICE:

4" SIZE

BOOSTER PUMP:

BOOSTER PUMP SHALL BE BY CUSTOM PUMP AND POWER MODEL #15MTM0252015-1/47VF3
CONTACT MIKE PARLO AT 916-428-8729.

INLET PRESSURE: 20 PSI
OUTLET PRESSURE: 80 PSI
MAXIMUM WATER DEMAND: 180 GPM/50 GPM
POWER INPUT: 208V, 3 PHASE

MASTER VALVE ASSEMBLY:

COMPONENTS:
MASTER VALVE = 4" NORMALLY CLOSED GRISWOLD #3000P.
FLOW SENSOR = DATA INDUSTRIAL #2000BP, 3" SIZE INSERT IN SADDLE

FLOW SENSOR TO BE CONNECTED TO AUTOMATIC CONTROLLER WITH HUNTER KCD-SEN SENSOR DECODER
MASTER VALVE TO BE CONNECTED TO AUTOMATIC CONTROLLER WITH HUNTER KCD-100 STATION DECODER

GATE VALVE:

TYPE:
LEEMCO GATE VALVE WITH A NON-RISING STEM AND OPERATING NUT.
GATE VALVE INSTALLED IN A VALVE BOX WITH TOP OF BOX SET FLUSH TO FINISH GRADE
GATE VALVE TO BE LINE SIZE.

PRESSURE MAIN LINE:

TYPE:
ASTM D2241 SDR 21, 200 PSI, RUBBER GASKETED WITH LEEMCO FITTINGS.
TRENCH DEPTH:
IN PLANTED AREAS: 24" MINIMUM COVER
UNDER PAVED AREAS: 24" MINIMUM COVER
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

LATERAL LINE:

TYPE:
PVC SCHEDULE 40, SOLVENT WELD ALL UNDERGROUND PIPE SHALL BE 3/4" SIZE.
TRENCH DEPTH:
IN PLANTED AREAS: 18" MINIMUM COVER
UNDER PAVED AREAS: 24" MINIMUM COVER
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

AUTOMATIC CONTROL VALVE:

HUNTER ICV

LAWN POP-UP ROTOR HEADS:

FULL CIRCLE
HUNTER: I-40-04-55-13
THREE QUARTER
HUNTER I-40-04-55-13
HALF CIRCLE
HUNTER: I-40-04-55-13
QUARTER CIRCLE
HUNTER I-40-04-55-13

LAWN POP-UP SPRAY HEADS:

HUNTER: PROS-08-CV SERIES WITH HUNTER MP3000 REMIRING NOZZLES
HALF AND QUARTER SPRAY PATTERNS.

LAWN POP-UP SPRAY HEADS:

HUNTER: PROS-08-CV SERIES WITH HUNTER MP3000 REMIRING NOZZLES
HALF AND QUARTER SPRAY PATTERNS.

INDICATES CONTROL VALVE AND STATION NUMBER
INDICATES CONTROL VALVE SIZE
INDICATES GALLONS PER MINUTE

EXISTING TREE PROTECTION AREA:

THE PROTECTION AREA UNDER ANY EXISTING TREE THAT IS TO REMAIN IS DEFINED BY ITS DRIP LINE OR CANOPY COVER. WITHIN THIS AREA NO STORAGE OR PARKING WILL BE PERMITTED. ALL TRENCHING WILL BE PERFORMED BY HAND. DO NOT CUT ROOTS 1" IN DIAMETER OR LARGER. USE SOFTNO PROCEDURES WHEN ENCOUNTERING ROOTS 1" SIZE AND LARGER. NO ROOTS ARE TO BE EXPOSED LONGER THAN 48 HOURS.

SPRINKLER IRRIGATION NOTES

1. COMPOSITE BASE SHEET: PROPOSED IMPROVEMENTS SHOWN ON DRAWINGS ARE SUPERIMPOSED ON A COMPOSITE BASE SHEET. THE COMPOSITE BASE SHEET IS A COMPILATION OF ARCHITECTURAL, ENGINEERING, AND OTHER DATA THAT IS PROVIDED. THE LANDSCAPE ARCHITECT SHALL NOT BE HELD LIABLE FOR CHANGES, INACCURACIES, OMISSIONS, OR ERRORS PERTAINING TO THE COMPOSITE BASE SHEET. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THESE DOCUMENTS. ANY DISCREPANCIES NEED TO BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM AND RESOLVED PRIOR TO CONTINUATION OF WORK.
2. DESIGN PRESSURE SHOWN ON PLANS HAS BEEN FURNISHED BY WATER COMPANY OR WATER DISTRICT SERVING SITE. VERIFY PRESSURE ON-SITE PRIOR TO THE INSTALLATION OF ANY SPRINKLER IRRIGATION EQUIPMENT. IF THERE IS A DISCREPANCY, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IN WRITING SO ADJUSTMENTS CAN BE MADE BY LANDSCAPE ARCHITECT. FAILURE TO REPORT DISCREPANCIES AND CONTINUANCE OF WORK WILL RESULT IN ALL RE-DESIGN COSTS BEING CHARGED TO CONTRACTOR.
3. DETERMINE LOCATION OF UNDERGROUND UTILITIES. DAMAGE CAUSED BY INSTALLATION OF THIS WORK SHALL BE REPAIRED TO SATISFACTION OF GOVERNING AGENCY OR OWNER AT NO ADDITIONAL COST TO THE CONTRACT.
4. SPRINKLER OVER SPRAY SHALL NOT BE ALLOWED ON PUBLIC SIDEWALKS, BUILDING WALLS OR FENCES. MINIMUM OVERSPRAY MAY OCCUR IN PARKING AREAS. USE ADJUSTABLE NOZZLES WHENEVER POSSIBLE TO CONTROL SPRINKLER OVERSPRAY.
5. ALL LOCAL CODES AND ORDINANCES SHALL BE COMPLIED WITH. IF THERE IS A CONFLICT, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
6. TESTING:
   A. PRESSURE TEST ALL UNDERGROUND PIPING AS FOLLOWS:
      MAIN LINE - AT 100 PSI FOR 4 HOURS.
      LATERAL LINES - AT 100 PSI FOR 2 HOURS
   B. COVERAGE TEST:
      NOTE: PRIOR TO PERFORMING COVERAGE TEST, INSURE ALL HEADS ARE SET PLUMB, NOZZLES ARE ADJUSTED PROPERLY AND SYSTEM HAS BEEN CHECKED FOR AUTOMATION.
      REQUEST OWNER'S REPRESENTATIVES PRESENCE ON-SITE WHEN SPRINKLER SYSTEM IS COMPLETELY INSTALLED AND FULLY AUTOMATIC. PROVIDE ADEQUATE PERSONNEL AT THIS MEETING TO ADJUST AND FINE TUNE SYSTEM TO SATISFACTION OF OWNER'S REPRESENTATIVE.
7. LAYOUT ALL WORK PRIOR TO TRENCHING OPERATIONS TO DETERMINE IF MINOR MODIFICATIONS OR ADJUSTMENTS WILL BE REQUIRED.
8. INSTALL ALL SPRINKLER HEADS PERPENDICULAR TO SLOPES ON GRADE.
9. CONTROL WIRE SHALL BE UF-14, COLOR FOR LEAD AND WHITE FOR COMMON. SPLICES SHALL BE PERMITTED AT VALVE FOR LOCATIONS ONLY.
10. PROVIDE AND INSTALL AUTOMATIC CONTROLLER AND UF-14 CONTROL WIRE. ELECTRICAL SUBCONTRACTOR SHALL PROVIDE 110V SERVICE AND SERVICE HOOKUP FROM POWER SOURCE TO AUTOMATIC CONTROLLER.
11. COORDINATE ALL WORK WITH OTHER TRADES SO PROGRESS OF WORK IS NOT INTERRUPTED AND CAN BE COMPLETED IN A TIMELY MANNER
12. NO PLANTING SHALL BE STARTED UNTIL ALL SPRINKLER WORK HAS BEEN TESTED AND APPROVED IN PRESENCE OF OWNER'S REPRESENTATIVE.
13. FOR SPRINKLER IRRIGATION INSTALLATION DETAILS, SEE SHEET NO. L3.1.

30' 15' 0 30' 60'
SCALE: 1"= 30'-0"

HMC Architects
2495 Natomas Park Drive, Suite 650
Sacramento, CA 95833
Phone 916-565-1100
www.hmcarchitects.com

LANDSCAPE ARCHITECTURE AND PLANNING
10411 Old Placerville Road
Suite 200
Sacramento, CA 95827
916.669.2900

MTW group

Key Plan

Agency Approval

OPSC / ERP GRANT # 61/67439-00-0233 / 530-017

Project Title:
MARK HOPKINS ELEMENTARY SCHOOL
2018 ERP PROJECTS

SACRAMENTO CITY USD
5735 47TH AVENUE
SACRAMENTO, CA 95824

No.	Description	Date	No.	Description	Date
1	ADDENDUM #1	5/23/18			

Drawing Title:
LANDSCAPE IRRIGATION PLAN

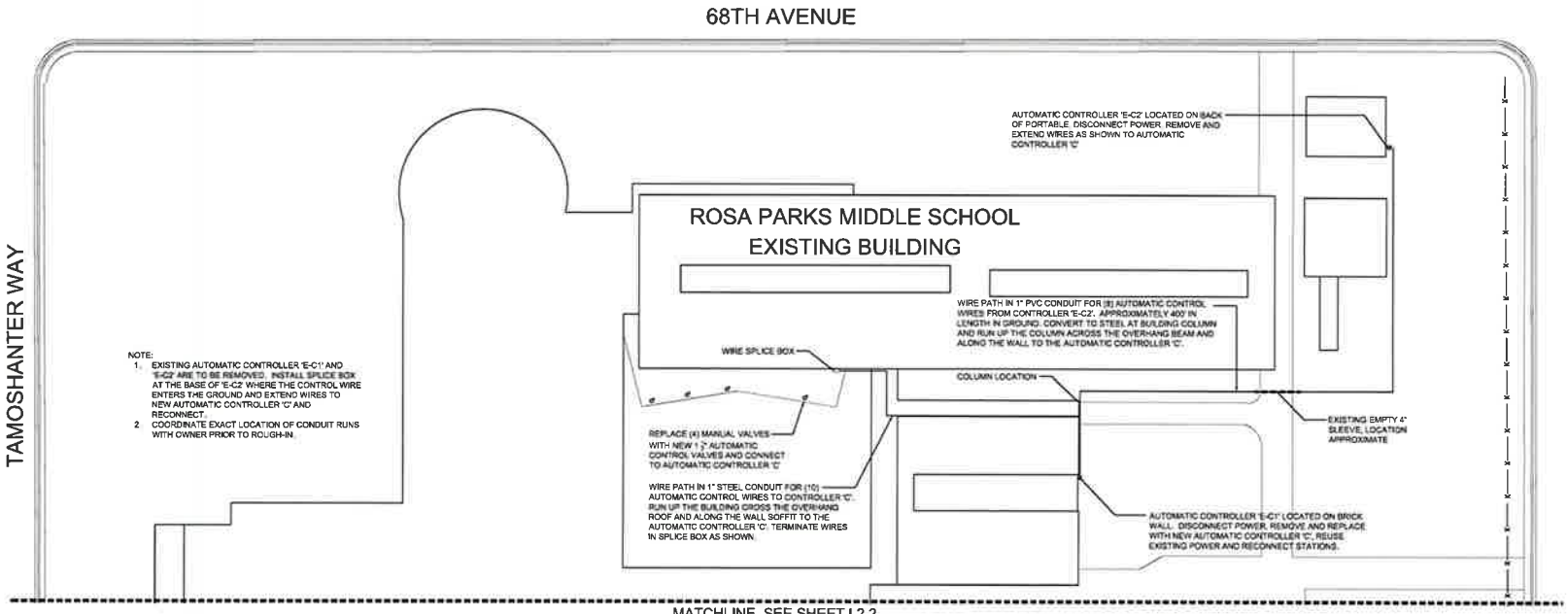
Architect's Seal

Designed: MZ	Project No. 31880047.101
Drawn: KT	Scale:
CHKD: MZ	Drawing No. L2.2
Date: 03/23/2018	

Project Navigator ☐ I:__MTW Shared PROJECT\ACTIVE AutoCAD Files\18003\MC_Work\spkline\AUTOCAD_18003\DRAWING\Add1_042518.dwg 4/25/2018 11:37 AM Peter

PLEASE RECYCLE

DSA SUBMITTAL



NOTE:
1. EXISTING AUTOMATIC CONTROLLER 'E-C1' AND 'E-C2' ARE TO BE REMOVED. INSTALL SPLICE BOX AT THE BASE OF 'E-C2' WHERE THE CONTROL WIRE ENTERS THE GROUND AND EXTEND WIRES TO NEW AUTOMATIC CONTROLLER 'C' AND RECONNECT.
2. COORDINATE EXACT LOCATION OF CONDUIT RUNS WITH OWNER PRIOR TO ROUGH-IN.

MATCHLINE, SEE SHEET L2.2

PRE-CONSTRUCTION SPRINKLER IRRIGATION NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR REQUIRED TO CONTACT
   NAME, TITLE: ANTHONY LEA
   PHONE NUMBER: 916-317-9480
   TO SET UP A MEETING ON SITE TO OPERATE THE EXISTING SPRINKLER IRRIGATION SYSTEM AND DISCUSS THE MODIFICATIONS THAT ARE TO BE MADE TO THE EXISTING SYSTEM TO ACCOMMODATE FOR THE NEW CONSTRUCTION.
2. CONTRACTOR TO OPERATE AND PROGRAM EXISTING SPRINKLER IRRIGATION SYSTEM THAT IS TO REMAIN IN ORDER TO PROVIDE WATER TO THE EXISTING LANDSCAPE TO REMAIN.
3. CONTRACTOR TO REMOVE ALL EXISTING PIPE AND SPRINKLER HEADS WHEN THEY ARE IN NEW PLANTING AREAS.
4. CONTRACTOR TO RESTORE AND REPAIR ANY EXISTING SPRINKLER IRRIGATION SYSTEM OR EXISTING LANDSCAPE WHICH IS IN AREAS TO REMAIN THAT IS DAMAGED BY NEW WORK.
5. ALL WORK TO EXISTING SPRINKLER IRRIGATION SYSTEM TO BE COMPLETED PRIOR TO SITE DEMOLITION.

KEY — SPRINKLER IRRIGATION LEGEND

AUTOMATIC CONTROLLER:
AUTOMATIC CONTROLLER 'A':
HUNTER CONTROL SYSTEM – 48 STATION TWO WIRE
(CAB-HUB-48D/LPP/ACC-CDM-LAN/ACC-HWM/WSSSEN/RCAMKIT-KIT/ICCHP/FAN18
HUNTER ACC-WMS IN STAINLESS TOP ENTRY ENCLOSURE, WITH ETHERNET MODEM, WIRELESS SOLAR SYNC, REMOTE CONTROL KIT, AND HANDHELD DECODER PROGRAMMER

AUTOMATIC CONTROLLER 'B':
HUNTER CONTROL SYSTEM – 30 STATION CONVENTIONAL
(CAB-HUB-30/PP/ACC-CDM-HWR/ACC-HWM/WSSSEN/FAN18
HUNTER ACC-30 IN STAINLESS TOP ENTRY ENCLOSURE WITH HARDWIRE KIT AND WIRELESS SOLAR SYNC

AUTOMATIC CONTROLLER 'C':
HUNTER CONTROL SYSTEM – 30 STATION CONVENTIONAL
(CAB-6-HUB-12/CDM2WIRE/LPP/ACC-CDM-LAN/WSSSEN
HUNTER ACC-30 IN STAINLESS WALL MOUNT ENCLOSURE WITH ETHERNET MODEM AND WIRELESS SOLAR SYNC

COORDINATE 110V SERVICE AND POWER CONNECTION WITH ELECTRICAL SUB-CONTRACTOR. COORDINATE ETHERNET CONNECTION WITH THE ELECTRICAL SUB-CONTRACTOR.

SURGE PROTECTOR FOR AUTOMATIC CONTROLLER AND GROUNDING ROD/PLATE TO BE INSTALLED AS PER THE GROUNDING DETAIL.

CONTACT JIM WELLER, SITE ONE GREENTECH, AT 805-451-1610 FOR PRICING. CONTRACTOR TO HAVE DON FRANKLIN WITH HUNTER ON-SITE PRIOR TO INSTALLATION TO PROVIDE TRAINING AND PROPER INSTALLATION. CONTACT DON AT (916) 889-9437.

POINT OF CONNECTION:
THIS SPRINKLER IRRIGATION SYSTEM IS DESIGNED TO OPERATE AT 80 PSI DYNAMIC WATER PRESSURE WITH A MINIMUM FLOW OF 190 GPM. CONTRACTOR SHALL LOCATE EXISTING REDUCED PRESSURE DEVICE. CONNECT AT THIS POINT AND EXTEND AS INDICATED ON DRAWINGS.

EXISTING REDUCED PRESSURE BACKFLOW PREVENTION DEVICE:
4" SIZE.

BOOSTER PUMP:
BOOSTER PUMP SHALL BE BY CUSTOM PUMP AND POWER, MODEL #15MTW02292015-1/4TVFD
CONTACT MIKE PARLO AT 818-429-9729.

INLET PRESSURE: 20 PSI
OUTLET PRESSURE: 80 PSI
MIN/MAX WATER DEMAND: 180 GPM/50 GPM
POWER INPUT: 208V, 3 PHASE

MASTER VALVE ASSEMBLY:
COMPONENTS:
(M) MASTER VALVE = 4" NORMALLY CLOSED CROSWOLD E3000P.
(F) FLOW SENSOR = DATA INDUSTRIAL #S2000B, 3" SIZE INSERT IN SADDLE

FLOW SENSOR TO BE CONNECTED TO AUTOMATIC CONTROLLER WITH HUNTER ICD-SEN SENSOR DECODER. MASTER VALVE TO BE CONNECTED TO AUTOMATIC CONTROLLER WITH HUNTER ICD-100 STATION DECODER

GATE VALVE:
TYPE:
LEMCO GATE VALVE WITH A NON-RISING STEM AND OPERATING NUT.
GATE VALVE INSTALLED IN A VALVE BOX WITH TOP OF BOX SET FLUSH TO FINISH GRADE.
GATE VALVE TO BE LINE SIZE

PRESSURE MAIN LINE:
TYPE:
ASTM D2241 SDR 21, 200 PSI, RUBBER GASKETED WITH LEMCO FITTINGS.
TRENCH DEPTH:
IN PLANTED AREAS: 24" MINIMUM COVER.
UNDER PAVED AREAS: 24" MINIMUM COVER.
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

LATERAL LINE:
TYPE:
PVC SCHEDULE 40, SOLVENT WELD ALL UNSIZED PIPE SHALL BE 3/4" SIZE.
TRENCH DEPTH:
IN PLANTED AREAS: 18" MINIMUM COVER.
UNDER PAVED AREAS: 24" MINIMUM COVER.
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

AUTOMATIC CONTROL VALVE:
HUNTER ICV

LAWN POP-UP ROTOR HEADS:
FULL CIRCLE
HUNTER I-40-04-55-18
THREE QUARTER
HUNTER I-40-04-55-15
HALF CIRCLE
HUNTER I-40-04-55-13
QUARTER CIRCLE
HUNTER I-40-04-55-8

LAWN POP-UP SPRAY HEADS:
HUNTER: PRS-06-CV SERIES WITH HUNTER MP3000 ROTATING NOZZLES.
HALF AND QUARTER SPRAY PATTERNS.

LAWN POP-UP SPRAY HEADS:
HUNTER: PRS-08-CV SERIES WITH HUNTER MP3000 ROTATING NOZZLES.
HALF AND QUARTER SPRAY PATTERNS.

INDICATES CONTROL VALVE AND STATION NUMBER
INDICATES CONTROL VALVE SIZE
INDICATES GALLONS PER MINUTE

EXISTING TREE PROTECTION AREA:
THE PROTECTION AREA UNDER ANY EXISTING TREE THAT IS TO REMAIN IS DEFINED BY ITS DRIP LINE OR CANOPY COVER. WITHIN THIS AREA NO STORAGE OR PARKING WILL BE PERMITTED. ALL TRENCHING WILL BE PERFORMED BY HAND. DO NOT CUT ROOTS 1" IN DIAMETER OR LARGER. USE BORING PROCEDURES WHEN ENCOUNTERING ROOTS 1" SIZE AND LARGER. NO ROOTS ARE TO BE EXPOSED LONGER THAN 48 HOURS

SPRINKLER IRRIGATION NOTES

1. COMPOSITE BASE SHEET: PROPOSED IMPROVEMENTS SHOWN ON DRAWINGS ARE SUPERIMPOSED ON A COMPOSITE BASE SHEET. THE COMPOSITE BASE SHEET IS A COMPILATION OF ARCHITECTURAL, ENGINEERING, AND OTHER DATA THAT IS PROVIDED. THE LANDSCAPE ARCHITECT SHALL NOT BE HELD LIABLE FOR CHANGES, INACCURACIES, OMISSIONS, OR ERRORS PERTAINING TO THE COMPOSITE BASE SHEET. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THESE DOCUMENTS. ANY DISCREPANCIES NEED TO BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM AND RESOLVED PRIOR TO CONTINUATION OF WORK.
2. DESIGN PRESSURE SHOWN ON PLANS HAS BEEN FURNISHED BY WATER COMPANY OR WATER DISTRICT SLIMING SITE. VERIFY PRESSURE ON-SITE PRIOR TO THE INSTALLATION OF ANY SPRINKLER IRRIGATION EQUIPMENT. IF THERE IS A DISCREPANCY, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IN WRITING. SO ADJUSTMENTS CAN BE MADE BY LANDSCAPE ARCHITECT. FAILURE TO REPORT DISCREPANCIES AND CONTINUANCE OF WORK WILL RESULT IN ALL RE-DESIGN COSTS BEING CHARGED TO CONTRACTOR.
3. DETERMINE LOCATION OF UNDERGROUND UTILITIES. DAMAGE CAUSED BY INSTALLATION OF THIS WORK SHALL BE REPAIRED TO SATISFACTION OF GOVERNING AGENCY OR OWNER AT NO ADDITIONAL COST TO THE CONTRACT.
4. SPRINKLER OVER SPRAY SHALL NOT BE ALLOWED ON PUBLIC SIDEWALKS, BUILDING WALLS OR FENCES. MINIMUM OVERSPRAY MAY OCCUR IN PARKING AREAS. USE ADJUSTABLE NOZZLES WHENEVER POSSIBLE TO CONTROL SPRINKLER OVERSPRAY.
5. ALL LOCAL CODES AND ORDINANCES SHALL BE COMPLIED WITH. IF THERE IS A CONFLICT, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
6. TESTING:
   A. PRESSURE TEST ALL UNDERGROUND PIPING AS FOLLOWS:
      MAIN LINE – AT 100 PSI FOR 4 HOURS.
      LATERAL LINES – AT 100 PSI FOR 2 HOURS.
   B. COVERAGE TEST:
      NOTE: PRIOR TO REQUESTING COVERAGE TEST, ENSURE ALL HEADS ARE SET PLUMB, NOZZLES ARE ADJUSTED PROPERLY AND SYSTEM HAS BEEN CHECKED FOR AUTOMATION.
      REQUEST OWNER'S REPRESENTATIVES PRESENCE ON-SITE WHEN SPRINKLER SYSTEM IS TO ADJUSTED / INSTALLED AND FULLY AUTOMATIC. PROVIDE ADEQUATE PERSONNEL AT THIS MEETING TO ADJUST AND FINE TUNE SYSTEM TO SATISFACTION OF OWNER'S REPRESENTATIVE.
7. LAYOUT ALL WORK PRIOR TO TRENCHING OPERATIONS TO DETERMINE IF MINOR MODIFICATIONS OR ADJUSTMENTS WILL BE REQUIRED.
8. INSTALL ALL SPRINKLER HEADS PERPENDICULAR TO SLOPES OR GRADE.
9. CONTROL WIRE SHALL BE UF-14, COLOR FOR LEAD AND WHITE FOR COMMON. SPLICES SHALL BE PERMITTED AT VALVE BOX LOCATIONS ONLY.
10. PROVIDE AND INSTALL AUTOMATIC CONTROLLER AND UF-14 CONTROL WIRE. ELECTRICAL SUBCONTRACTOR SHALL PROVIDE 110V SERVICE AND SERVICE HOOKUP FROM POWER SOURCE TO AUTOMATIC CONTROLLER.
11. COORDINATE ALL WORK WITH OTHER TRADES SO PROGRESS OF WORK IS NOT INTERRUPTED AND CAN BE COMPLETED IN A TIMELY MANNER.
12. NO PLANTING SHALL BE STARTED UNTIL ALL SPRINKLER WORK HAS BEEN TESTED AND APPROVED IN PRESENCE OF OWNER'S REPRESENTATIVE.
13. FOR SPRINKLER IRRIGATION INSTALLATION DETAILS, SEE SHEET NO. L2.1.

30' 15' 0 30' 60'
SCALE: 1"= 30'-0"

PLEASE RECYCLE

DSA SUBMITTAL

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LANDSCAPE ARCHITECTURE AND PLANNING
MTW group

Key Plan

Agency Approval

OPSC / ERP GRANT # 61/67439-00-0233 / 530-017

Project Title:
MARK HOPKINS ELEMENTARY SCHOOL
2016 ERP PROJECTS

SACRAMENTO CITY USD
5735 47TH AVENUE
SACRAMENTO, CA 95824

No.	Description	Date	No.	Description	Date
1	ADDENDUM #1	4/25/16			

Drawing Title:
LANDSCAPE IRRIGATION PLAN

Architect's Seal: REGISTERED LANDSCAPE ARCHITECT NO. C-29647 STATE OF CALIFORNIA

Designed: MZ	Project No. 3188047.101
Drawn: KT	Scale
CHKD: MZ	Drawing No. L2.3
Date: 02/25/2016	

DIVISION 26 – ELECTRICAL REQUIREMENTS

WORK INCLUDED:

A. Furnish and install all necessary labor, materials, devices, tools and equipment to perform and completely finish the work according to the intent of this specification, and the accompanying drawings. To wash, and install any incidental work, which also necessarily be inferred as required, and necessary to provide complete and workable systems.

GENERAL REQUIREMENTS AND CODES

A. Work and material shall be in full accordance with the following latest rules and regulations:
1. California Code of Regulations Title-24 including the California Electrical Code (CEC), California Building Code (CBC), and California Energy Code.
2. Title 8 of the California Code of Regulations
3. All applicable local codes.

RECORD DRAWINGS

A. Upon completion of Work, furnish Engineer with electronic files of complete plans in AutoCAD format on disk (CD). final version and format to be determined at time of submission. In addition provide (1) set of complete plans on reproducible vellums (not marked blueprints). Plans shall show all Work detailed under Contract. Include all changes including addendums, change orders, RFI changes, etc.

SUBMITTALS

A. Prior to commencement of Work, submit for approval in accordance with General Conditions of equipment and materials to be furnished. Submittals shall be bound and indexed and shall include a table of contents listing all equipment submitted including product description, manufacturer make and model number. Where a group or series of products are submitted, each item does not have to be listed, only the series need to be identified.

B. Shop drawings submittals shall be neat and professionally done using CAD (computer aided drafting). hand-drawn submittals will not be accepted. Shop drawings shall have sufficient information to clearly indicate work to be performed and be complete including device/equipment locations, wire sizes, wire types and number of wires, symbol list or legend, point-to-point connections, wiring diagrams, and equipment enclosure detail where needed. Shop drawings shall utilize the same size paper as the bid set of plans.

C. Substitutions:
1. Only one request for substitution will be considered on each item of material or equipment. Should the original submittal of a proposed substitution be rejected, the specified item shall be furnished.
2. Submit complete information on catalog data to show equality of equipment or material offered to that specified. Identify which product is being substituted in the specifications and/or the plans and provide analysis as indicating either it "Complies" or that it "Does Not Comply" and providing a reason.
3. Acceptance of a substitute is not to be considered a release from the Specifications. Any deficiencies in an item, even though approved, shall be corrected by the Contractor at his expense.
4. Responsibility for installation of approved substitution is included herein. Any changes required for installation of approved substituted equipment shall be made without additional cost to Owner.

PRODUCTS, MATERIALS, FABRICATION AND INSTALLATION

CONDUIT

A. Rigid Steel Conduit (RSC), (CEC Article 344): Standard weight, mild steel pipe, zinc coated on inside and outside of conduit and finished with a protective coating. Fittings such as couplings and connectors shall be steel finished type, subject to same requirements as for right steel conduit. Provide insulated connectors.

B. Electrical Metallic Tubing (EMT), (CEC Article 358): Cold rolled steel tubing with zinc coating on outside and a protective enamel coating on inside. Fittings shall be steel, connectors to be insulated, set screw type for indoor dry locations, compression type for all other applications.

C. Flexible Conduit Including Liquidtight (FMC, LFMC), (CEC Articles 348 & 350): Galvanized Steel with associate ground wire. Conduit shall be continuous with no couplings. Connectors to be insulated type Liquid-tight for outdoor applications.

D. PVC Conduit (CEC Article 352): Schedule 40, 90 degrees C, UL rated, composed of Polyvinyl Chloride, UL listed, conforming to NEMA Standards.

E. Surface Metal Raceway (SMR), (CEC Article 386): Wiremold or equal. Ivory color. UL Listed as a grounding conductor. Provide complete system fittings, elbows, boxes, etc.

F. Surface Nonmetallic Raceway (SNMR), (CEC Article 388): Wiremold or equal. Ivory color. UL Listed. Provide complete system fittings, elbows, boxes, etc.

G. All conduits above grade shall be rigid steel except that EMT may be used at the following locations:
1. In dry location in furred spaces, except in hazardous location.
2. Concealed above ceilings.
3. In partitions other than concrete or solid masonry.
4. For exposed work indoors above 8 ft in electrical/mechanical rooms, except in special locations prohibitive by Code.

H. PVC conduit shall be used below grade where in direct contact with earth. Provide 3 inches sand or fine earth material all around. Provide a ground wire in all PVC conduits. Cut trenches straight and true. Backfill to be hand material free of rubble, rubbish, and vegetation. Trenches shall be backfilled and compacted to 90% (per ASTM D1557) of maximum density at optimum moisture content in layers not to exceed 6" when compacted. Outside building foundation line, top of conduit to be 24" below finished grade. Inside foundation line, top of conduit to be below subgrade.

I. Run conduits concealed in areas having finished ceilings and in furred walls. Where conduit cannot be concealed and with permission of the Architect, surface metal raceway may be used.

J. Provide flexible connections of short length to equipment subject to vibration or movement and to all motors. Provide a separate ground conductor in all flexible connections. Lengths not to exceed 6 feet.

K. Raceway exposed, where allowed by architect, in finished spaces shall be an approved surface metal raceway.

L. Where conduit is not connected to an enclosure, provide with insulated end bushing. End bushing shall be metallic for metallic conduits, do not use plastic.

OUTLET BOXES

A. Outlet boxes shall be galvanized pressed steel type, minimum 4" sq. x 1.5" deep, with device ring and cover. Octagonal boxes for fixtures shall not be less than 4 inches.

WIRE

A. Wire shall be copper, manufactured by General Cable Co., General Electric Co., or equal. Wire insulation shall be THHN-2, XHHW-2, RHW-2, and THWN. Feeders #2 and larger shall use XHHW-2 or RHW-2.

B. Wire splices and joints for #10 AWG or smaller shall be twisted together, electrically and mechanically strong, and insulated with equivalent type insulated electrical spring connectors: Scotchlok, Ideal or equal. Threaded type wire nuts are not acceptable. Joints and connections for #8 AWG or larger shall be made with Burndy, T&B or approved equal, solderless tool applied pressure lugs and connectors. Underground splices shall utilize resin pour plastic mold, moisture proof, tough impact resistant insulation.

C. #12 AWG wire shall be minimum size wire used for lighting and power circuits. Motor control circuits may be #14 AWG except as marked on Drawings. Wires run in conduit shall contains to Code regulations as to number of wires and conduit size.

DISCONNECT SWITCHES

A. Heavy Duty Safety Switches with externally operated handle, pad-locking cover with cover interlock, rated 250 or 600 Volts AC of size and poles as required for application. NEMA-1 enclosure indoor dry locations, NEMA-3R outdoors and in damp and wet locations. Fused switches shall have fuses sized per equipment manufacturer requirements. Square D, Westinghouse, G.E., or equal. Label shall be engraved plastic secured with screws, and shall indicate equipment and circuit it is being fed from, ex "AC-1, FED FROM HA-11".

PULL LINE

A. Furnish and install pull line in all unused (empty) raceways. Pull line shall not rot or mildew.
1. Conduits up to 1.5": 1/8" diameter braided line of polypropylene with 200 lbs. tensile strength, IDEAL Jet-Line #530, or equal.
2. Conduits 2" or larger: 3/16" polypropylene pull rope with 800 lbs. tensile strength, IDEAL Pro-Pull or equal.

GROUND RODS

A. Ground rods shall be 3/4 in dia. x 10 ft. copper clad steel.

PANELBOARDS

A. Panelboards shall meet NEMA AB-1, PB-1, PB1.1, PB1.2. Panelboards shall be type NQOD, NCHB, I-Line, Power-R-Line, A-Series, and CDP as specified for secondary utilization voltage and phase. As manufactured by Square-D, Cutler-Hammer/Eaton, General Electric, or approved equal. Busses shall be copper. Provide with neutral base and copper ground bus. Series rated equipment are not acceptable. Panels shall have full height fully rated busbars. UBC/CBC Seismic Rated. UL Listed.
1. Panelboard types as indicated on the drawings shall be the minimum size and type. Provide a larger size and type of panelboard as necessary for the breakers and features/accessories as indicated.
2. Circuit breaker arrangement shall be per the panel schedule.

B. Circuit breakers shall be bolt-on type thermal magnetic, with trip-rating permanently marked on the handle. Where trip-rating is not marked on the handle, provide engraved label adjacent to the breaker indicating amperage rating. Multi-pole breakers shall be common trip type with single handle. Factory assembled and listed multi-pole breakers with handle tie shall be acceptable. All circuit breaker handles shall be equipped with padlocking tabs, "lock-off" device. All circuit breakers shall be fully rated to withstand the available short circuit current as designated on the drawings. Series rated equipment will not be acceptable.
1. Circuit breaker trip settings 300 amps and higher shall have Long-Time setting, STPU, STD, (STPU) not, PU settings. Breakers shall be solid state with field adjustable and replaceable trip rating plugs, on all the electronic trips.
2. Circuit breakers with trip settings 1200 amps and higher shall be solid state electronic type with full function trip units including LTPU, LTD, STPU, STD, Inst Pkp, Inst OFF, GFPU, GFD.

C. Enclosures shall be code gauge, galvanized metal with front trim and hinged door with lock mastertagged. Front trim shall be equipped with concealed trim clamps and concealed door hinges. Enclosures shall be rated NEMA-1 at dry indoor locations, and NEMA-3R where located outdoors in damp or wet locations. Lighting and appliance branch circuit Panelboards shall be maximum 20" wide and 5" deep. Panel trim and cabinet shall be finished ANSI-49 or ANSI-61 gray, except panel cabinets to be recessed are not required to be painted. Surface cabinets shall be without knockouts. Inside door shall have frame for circuit identification card. Fill out card, typewritten with list of circuits corresponding with the circuit number. Identification shall be specific with room designation, type of load, etc. (i.e., "Classroom 214 receptacles"). For distribution panels, provide engraved laminated labels for load served where identification card is not provided.

D. Panelboard submissions shall include a ladder diagram, physical and electrical data, numbering and trip rating of each circuit breaker.

E. Power panelboards label shall identify panel, minimum AIC rating, and equipment it is fed from, example as follows, "PANEL-XXX, MIN. 25,000 AIC, FED FROM ???". Where fed via a transformer, it shall read, "PANEL-XXX, MIN. 14,000 AIC, FED FROM ??? THRU TRANSF-???". Label shall be engraved plastic per section 26 05 53. 1/2 inch letters for panel identification.

F. At existing Panelboards where existing loads, circuits, circuit breakers, spaces etc. are changed or affected.
1. Update circuit directory where existing loads, circuits, circuit breakers, spaces etc. are changed or affected. Replace existing directory card with new card, fill out card, typewritten, with list of circuits corresponding with the circuit number. Identification shall be specific with room designation, type of load, etc. (i.e., "Classroom 214 receptacles"). For distribution panels, provide engraved laminated labels for load served where identification card is not provided.
2. Circuit breakers added shall match existing type and AIC rating of panel. Provide necessary hardware.

EQUIPMENT IDENTIFICATION LABELLING

A. Panelboards, motor switches, terminal cabinets, remote control switches, switchboard etc., shall be properly identified with a descriptive nomenclate. Nameplate shall be made of 1/32 inch laminated plastic with black background and white letters. Size of letters shall be 1/4 inch high for equipment in device box or boxes 12" or smaller, and 1/2 inch high for panelboard, terminal box, or larger items. Letters shall be machine engraved. Punched strip type nameplates and combinations in any form are not acceptable. Nameplate shall be attached with good heat machine screws (tapped into hard panel). Indicate type of equipment and equipment designation, ex. "PANEL-XXX", "MOTOR STATIC-XXXXD-XXX", "TRANSFORMER-XXX", "SIGNAL-XXX", "TV-XXX", "EF-1", "AC-1", etc.

ARC FLASH

A. Electrical equipment such as switchboards, panelboards, load centers, motor control centers, industrial control panels, meter centers shall be field marked to warn persons of potential electric arc flash hazards per CEC 110.16 and NFPA 70E Standard for Electrical Safety in the Workplace. Minimum label warning shall be as follows:

"DANGER
Arc Flash and Shock Hazard
Appropriate PPE Required
Do not operate controls or open doors without appropriate personnel protection equipment.
Failure to comply may result in injury or death."

GROUNDING

A. Ground Fittings shall be of approved manufactured type installed and connected to conform with Code requirements.

B. Neutral conductors and noncurrent-carrying parts of equipment at each installation shall be grounded in accordance with applicable Code. Ground conductor shall be copper having a current carrying capacity in accordance with the CEC.

C. All equipment cases, motor frames, etc., shall be completely grounded to satisfy requirements of CEC. Install bond wire in flexible conduit. Install copper bond wire, sized in accordance with CEC, in all non-metallic raceways and bond to all metallic parts using approved fittings.

D. Service ground conductor shall be connected to a "tiller" encased ground and bonded to the metallic cold water pipe system and to the metallic natural gas line.

E. Interior metallic cold water pipe system and other interior metallic piping systems shall be ground bonded to the building grounding system.

F. Each building shall be provided with a grounding electrode connected to the metallic enclosure of the building disconnecting means. Grounding electrode conductor shall be sized per CEC table 250-66.

G. Total ground resistance shall not exceed 25 ohms.

H. All connections shall be made with solderless connectors or molded fusion-welding process.

I. Equipment grounding conductors shall be insulated with a continuous green outer finish along its entire length. Conductors size #4 AWG and larger may be identified (with green electrical tape applied half-lapped) at each end and at every point where the conductor is accessible. Tape shall be applied from the point of entry to point of exit or termination.

J. Insulated grounded (neutral) conductors shall be identified with a continuous white outer finish along its entire length. Neutral conductors #4 AWG or larger can be identified by a distinctive white marking (applied half-lapped with white electrical tape) for the last 12 inches of each end.

K. Where equipment is 1000 Volts or above, fence grounding shall be provided with a ground rod at each fixed gate post and at each corner post. Attach #4 ground wire by exothermic weld to ground rod, and with compression ground post clamp to post. Each gate shall be bonded to its gatepost by flexible braided copper strap.

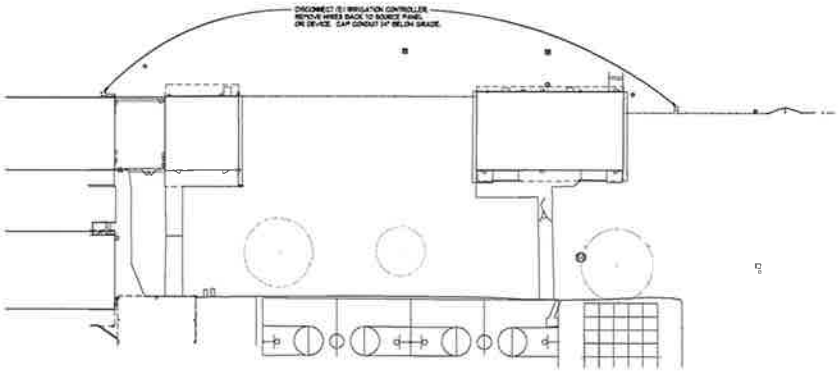
TESTS

A. Test all wiring and connections for continuity and grounds. Repair and retest all defects. Balance loads at panelboards.

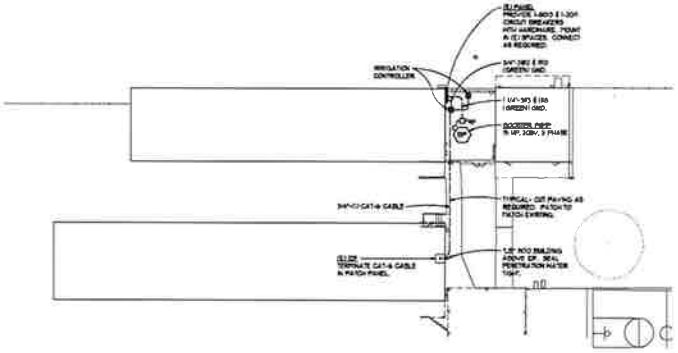
END

ELECTRICAL SYMBOLS LIST

- FLEXIBLE CONDUIT.
- CONDUIT CONCEALED IN CEILING OR WALL.
- CONDUIT CONCEALED BELOW FLOOR OR GRADE.
- DF FUSED DISCONNECT SWITCH, SIZE AND TYPE AS REQUIRED. PROVIDE FUSES AS RECOMMENDED BY EQUIPMENT MANUFACTURER.
- CONTROL EQUIPMENT, N.I.E.S. CONNECT AS REQUIRED.
- EQUIPMENT IDENTIFICATION TAG. N.I.E.S.) CONNECT AS REQUIRED, INCLUDING INSTALLATION AND CONNECTION OF REMOTE STARTERS.
- BP = BOOSTER PUMP
- EXISTING CONTROL EQUIPMENT TO BE REMOVED.
- EXISTING PANELBOARD.
- (R) EXISTING INTERMEDIATE DISTRIBUTION FACILITY.
- (E) ABBREVIATION FOR EXISTING.
- GND ABBREVIATION FOR GROUND.
- IDF ABBREVIATION FOR INTERMEDIATE DISTRIBUTION FACILITY.
- WP ABBREVIATION FOR WEATHERPROOF.



B / E1.1 DEMOLITION SITE PLAN
SCALE: 1" = 20'-0"



A / E1.1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'-0"

HMC Architects
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Phone 916-326-1100
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Consultant

Key Plan

Agency Approval

FILE NO.
CERTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL.
AC. ____ FLS. ____ SS. ____
DATE ____

Project Title:
MARK HOPKINS ELEMENTARY SCHOOL
2016 ERP PROJECTS
SACRAMENTO CITY USD
5700 4TH AVENUE
SACRAMENTO, CA 95819

No.	Description	Date	No.	Description	Date
1	Addendum #1	4/25/16			

Drawing Title: ELECTRICAL SITE PLAN

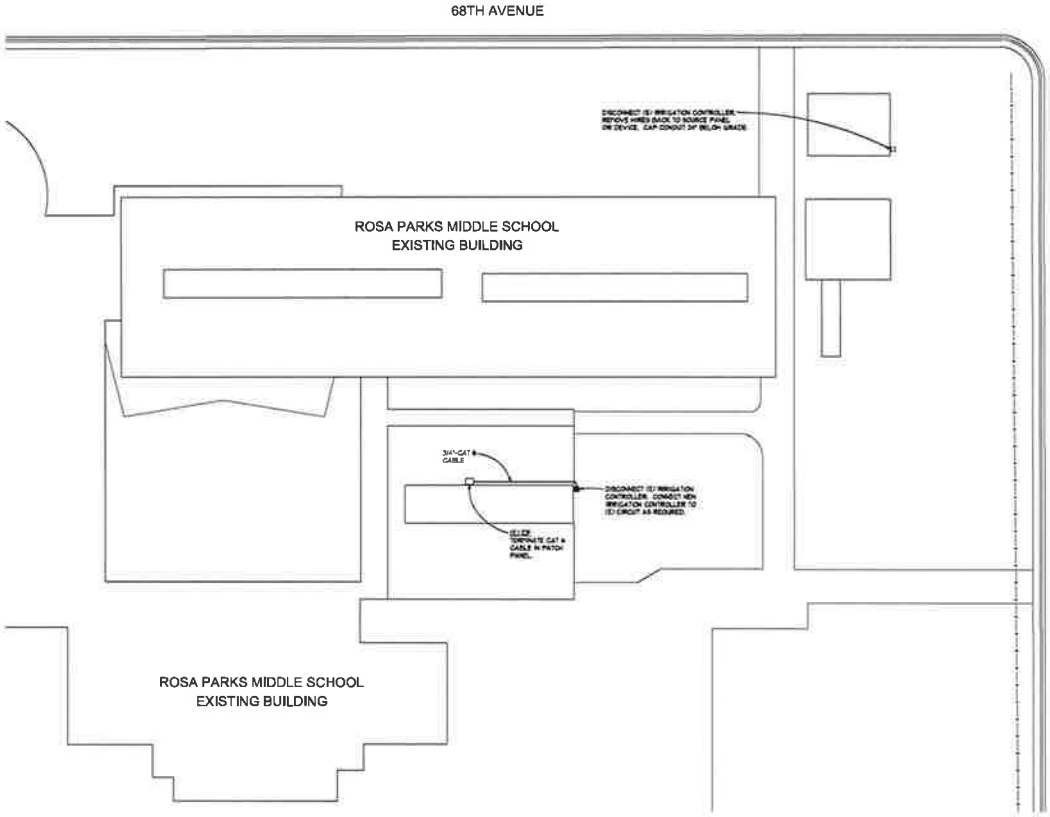
Architect's Seal

Designed: DY
Drawn: HK/DB
Checked: DY
Date: 03/28/2016
Project No. 3186047.101
Scale: AS NOTED

E1.1

PLEASE RECYCLE

DSA SUBMITTAL



A
E1.2
ROSA PARKS MIDDLE SCHOOL
ELECTRICAL SITE PLAN
SCALE: 1" = 30'-0"

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Consultant

Key Plan

Agency Approval

FILE NO.
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
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AC____ FLS____ SS____
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Project Title:
MARK HOPKINS ELEMENTARY SCHOOL
2016 ERP PROJECTS

SACRAMENTO CITY USD
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No.	Description	Date	No.	Description	Date
1	Addendum #1	4/25/16			

Drawing Title:
ROSA PARKS M.S.
ELECTRICAL SITE PLAN

Architect's Seal

Designed: DY	Project No. 3186047.101
Drawn: HM/DB	Scale: 1" = 30'-0"
CADD: DY	Drawing No. E1.2
Date: 03/28/2016	

PLEASE RECYCLE

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