CITY OF WATERTOWN, MASSACHUSETTS

MOXLEY PARK COURT IMPROVEMENTS



LIST OF DRAWINGS:

- GENERAL NOTES AND LEGEND
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- L-1 REMOVALS EROSION & SEDIMENTATION CONTROL PLAN
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LOCATION PLAN

JANUARY 2023



BOSTON, MASSACHUSETTS

Environment

Transportation

Energy

Facilities

PK

PK

CLF

BIT CONC

CONC

MRW

ELEC

NPV

(TYP)

RCP

CPP

ABAN

O MP

o TC

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& UP/LP#

SURVEY CONTROL POINT
PARKER KALON CONCRETE NAIL
TREE LINE
FENCE
CHAIN LINK FENCE
RETAINING WALL

B/

CHAIN LINK FENCE
RETAINING WALL
CURBING(TYPE)
BITUMINOUS CONCRETE
DUCTILE WARNING STRIP
CONCRETE
CONCRETE RETAINING WA

CONCRETE RETAINING WALL
MASONRY RETAINING WALL
UTILITY POLE
UTILITY POLE/LIGHT POLE
LIGHT POLE W/BASE
LIGHT POLE W/BASE
RISER
ELECTRICAL
GUY WIRE
HANDHOLE
HYDRANT

CONNECTION UNDETERMINED
RIM ELEVATION
INVERT ELEVATION
NO PIPE VISIBLE
TYPICAL
POLYVINYL CHLORIDE
REINFORCED CONCRETE PIPE
CORRUGATED PLASTIC PIPE
ABANDONED
METAL POST
TRASH CAN
CATCH BASIN
DRAIN MANHOLE
MANHOLE

SEWER MANHOLE
GUARD POST
GAS GATE
WATER GATE
OVERHEAD WIRE
NATURAL GAS LINE
DRAIN LINE MARKED
SEWER LINE MARKED
TELEPHONE LINE MARKED
ELEVATION
SPOT ELEVATION

INDEX CONTOUR INTERMEDIATE CONTOUR

DECIDUOUS TREE

EVERGREEN TREE

SHRUB

SURVEY NOTES:

1. COORDINATES, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83/CORS), BASED ON THE KeyNetGPS VRS NETWORK.

2. EXISTING CONDITIONS SURVEY WAS COMPLETED ON FEBRUARY 26, 2018 BY SURVEYING AND MAPPING CONSULTANTS AT 1.781.380.7766 325 WOOD ROAD, SUITE 109 BRAINTREE, MA 02184.

3. ELEVATIONS, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). BASED ON THE KeyNet VRS NETWORK.

 SUBSURFACE UTILITY LINES, AS SHOWN HEREON, WERE COMPILED ACCORDING TO AVAILABLE RECORD INFORMATION FROM THE REFERENCED COMPANIES AND PUBLIC AGENCIES, AND THEIR LOCATIONS ARE APPROXIMATE ONLY.

5. GENERALLY THE LINES IN THE PUBLIC AND PRIVATE WAYS ARE SHOWN AND THE LATERAL CONNECTIONS SERVICING INDIVIDUAL USERS ARE NOT SHOWN. BEFORE DESIGNING FUTURE CONNECTIONS, THE APPROPRIATE UTILITIES MUST BE CONSULTED.

6. BEFORE CONSTRUCTION, ALL UTILITIES, PUBLIC AND PRIVATE MUST BE NOTIFIED (SEE MASSACHUSETTS GENERAL LAWS, CHAPTER 82 SECTION 40.) CALL "DIG SAFE" 1 (888) 344-7233 HTTP://WWW.DIGSAFE.COM

7. PARCEL LINES AND ASSESSOR INFORMATION WERE COMPILED FROM INFORMATION PROVIDED BY THE CITY OF WATERTOWN ASSESSOR'S OFFICE.

SITE PREPARATION AND SOIL MANAGEMENT NOTES:

1. SITE ACCESS SHALL BE FROM BEMIS ST.

 CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES IMPACTING WORK AND INFORM THE ENGINEER WITHIN 24 HOURS UPON DISCOVERY OF ALL PIPES, CONDUITS, AND INFRASTRUCTURE NOT NOTED ON EXISTING CONDITIONS PLAN PRIOR TO CONTINUING WITH EXCAVATION ACTIVITIES.

 CONTRACTOR SHALL CALL DIG SAFE AT 1.888.344.7233 FOR NOTIFICATION AND APPROVAL OF EXCAVATION ACTIVITIES PRIOR TO CONSTRUCTION ACTIVITIES.

4. ALL AREAS OUTSIDE THE LIMIT OF WORK SHALL BE PROTECTED AT ALL TIMES INCLUDING BEMIS ST.

5. ALL EXCAVATED UNSUITABLE MATERIALS OR EXCAVATED MATERIALS DESIGNATED EXCESS BY THE ENGINEER SHALL BE REMOVED AND DISPOSED TO AN OFF-SITE LOCATION AS APPROVED BY THE ENGINEER. EXCAVATED MATERIALS SHALL BE DISPOSED IN ACCORDANCE WITH SPECIFICATIONS.

6. INSTALL INLET PROTECTION AND SEDIMENTATION BARRIERS PRIOR TO COMMENCEMENT OF WORK.

7. INSPECT INLET PROTECTION AND SEDIMENTATION BARRIERS WEEKLY AND AFTER ALL STORM EVENTS OF 1/2 INCH OR GREATER AND REPAIR AS NEEDED AND AS DIRECTED BY THE ENGINEER.

8. SEDIMENTATION BARRIERS SHALL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED.

9. ALL EXISTING PAVEMENT AND WALKWAYS TO BE PROTECTED THAT ARE DISTURBED BY THIS CONTRACT SHALL BE PROMPTLY REPAIRED IN A MANNER APPROVED BY ENGINEER IN ACCORDANCE WITH

10. UPON COMPLETION OF CONSTRUCTION ACTIVITIES INSPECT AND CLEAN OUT DRAINAGE SYSTEMS TO THE SATISFACTION OF THE ENGINEER.

11. CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR REVIEW BY THE ENGINEER PRIOR TO THE BEGINNING OF ALL CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE SWPPP ON SITE AT ALL TIMES. NPDES PERMIT NUMBER SHALL BE POSTED IN A POSITION TO BE PUBLICLY VISIBLE AT ALL TIMES.

EXISTING CONDITIONS AND REMOVALS NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY THROUGHOUT THE DURATION OF THE

2. ALL AREAS OUTSIDE OF THE LIMIT OF WORK SHALL BE PROTECTED

3. PROPERTY AND UTILITY LOCATION IS APPROXIMATE, CONTRACTOR SHALL FIELD VERIFY AND REPORT ANY DISCREPANCIES TO THE ENGINEER AND OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION

4. EXCAVATED MATERIAL SHALL BE STOCKPILED IN A LOCATION AND MANNER APPROVED BY THE ENGINEER. EXISTING TOPSOIL MAY BE REUSED AS LOAM BUT SHALL BE TESTED AND AMENDED AS SPECIFIED.

5. PRIOR TO REMOVAL AND DEMOLITION OF COURT CATCH BASINS, CONTRACTOR SHALL CONFIRM PIPE CONNECTIONS, SIZE AND INVERT ELEVATIONS, FOR INSPECTION BY CITY AND ENGINEER.

6. CONTRACTOR SHALL PROVIDE UP TO 300 LINEAR FEET OF VIDEO INSPECTION OF THE EXISTING STORM DRAIN SYSTEM. LOCATION TO BE DETERMINED AFTER THE INSPECTIONS HAVE BEEN CONDUCTED AND IDENTIFIED IN NOTES 5 AND 6 ABOVE.

GRADING AND DRAINAGE NOTES:

1. VERTICAL DATUM BASED ON BENCHMARKS SHOWN ON EXISTING CONDITIONS PLAN CHART, CONTRACTOR SHALL FIELD VERIFY ELEVATION OF BENCHMARKS PRIOR TO STAKING GRADES.

 CONTRACTOR SHALL NOTIFY ENGINEER OF ANY OBSTRUCTIONS ENCOUNTERED DURING EXCAVATION ACTIVITIES.

3. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BEYOND THE LIMIT OF WORK SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE IN A MANNER APPROVED BY THE ENGINEER.

4. PATHWAYS AND WALKWAYS SHALL HAVE A MAX. CROSS SLOPE OF 2% AND MAX. LONGITUDINAL SLOPE OF 5%.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF GRADE STAKES AS APPROVED BY THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR A FINAL FIELD CHECK OF FINISHED GRADES AS APPROVED BY THE ENGINEER PRIOR TO INSTALLATION OF FINAL PAVEMENT.

6. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM SLOPE OF 16" PER FOOT. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONTINUING WORK.

7. WHERE NEW PAVING MEETS EXISTING PAVING, MEET LINE AND GRADE OF EXISTING WITH NEW PAVEMENT.

3. CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY THE ENGINEER.

 ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS.

10. ADJUST ALL DRAINAGE AND SEWER STRUCTURE FRAMES AND GRATES/COVERS AS APPLICABLE TO MEET PROPOSED GRADES.

11. PROVIDE LOAM AND SEED AS SPECIFIED, IN ALL AREAS WITHIN LIMIT OF DISTURBANCE THAT ARE NOT PAVED, COVERED WITH STRUCTURES, OR ARE DESIGNATED PLANTING BEDS.

LAYOUT AND MATERIALS NOTES:

 EXISTING SURVEY MONUMENTS OR CONTROL POINTS SHALL BE FLAGGED AND PROTECTED THROUGHOUT THE CONSTRUCTION CONTRACT UNLESS OTHERWISE APPROVED BY THE ENGINEER. DAMAGED OR MISSING MONUMENTS OR CONTROL POINTS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

2. PAVEMENT LIMITS, LOCATIONS OF STRUCTURES, FENCE, WALLS, CURBS, PLANT MATERIALS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE ENGINEER BASED ON ACTUAL SITE CONDITIONS.

3. ALL DISTURBED AREAS NOT RECEIVING NEW BITUMINOUS CONCRETE OR CONCRETE PAVEMENT SHALL RECEIVE 6-IN LAYER LOAM AND SEED.

4. DIMENSIONS ARE TO FACE OF WALL, FACE OF CURB, EDGE OF PAVEMENT OR TO CENTERLINES UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

DESIGNED BY: ____ G. HOWARD

DRAWN BY: ____ A. MURRAY

SHEET CHK'D BY: ____ S. LANDGREN

CROSS CHK'D BY: ____ M. DODSON

APPROVED BY: ____ G. HOWARD

DATE DRWN CHKD REMARKS DATE: ____ JANUARY 2023

CDM Smith 75 State Street, Suite 701 Boston, MA 02109 Tel: (617) 452-6000



CITY OF WATERTOWN

MOXLEY PARK COURT IMPROVEMENTS

GENERAL NOTES AND LEGEND

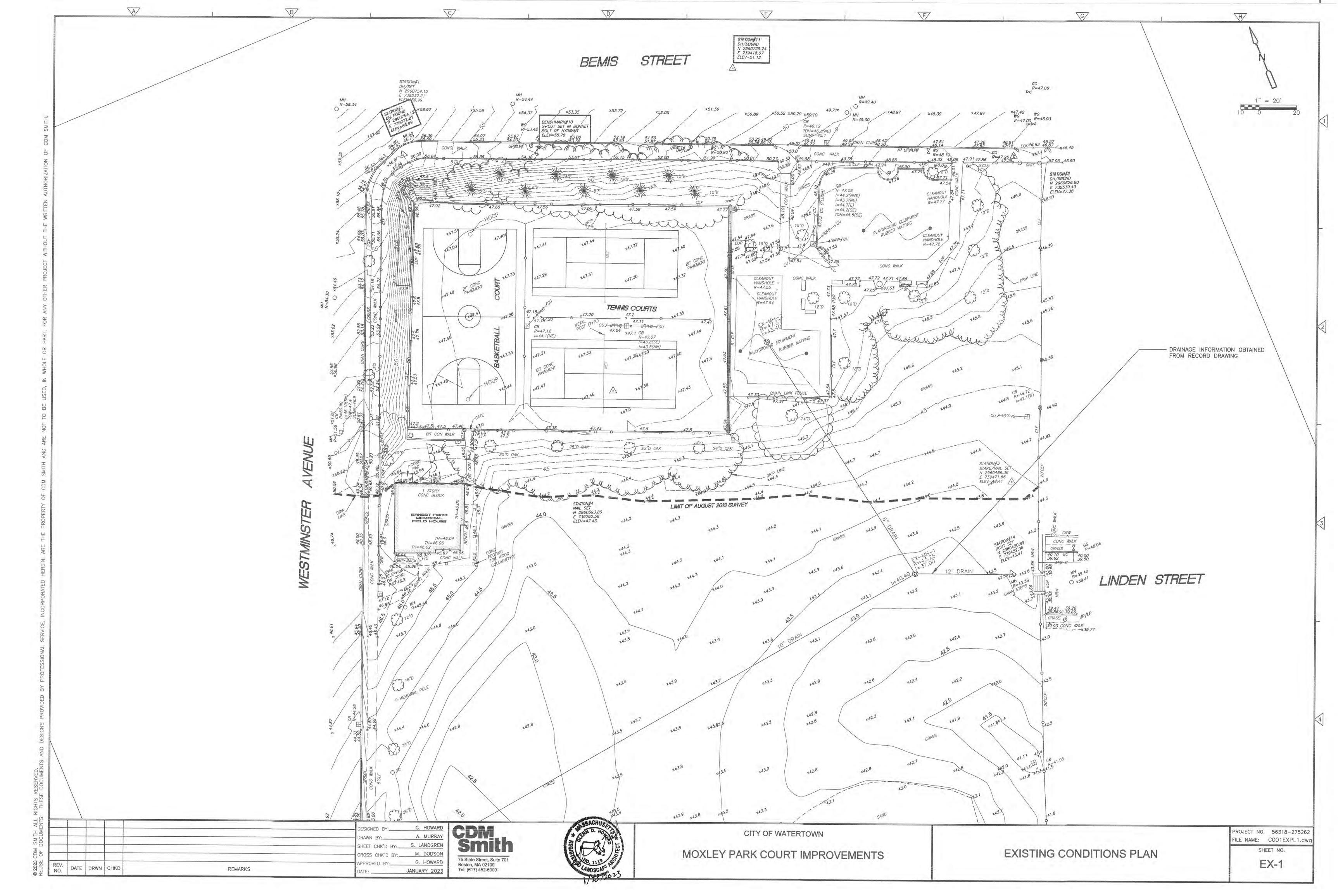
PROJECT NO. 56318-275262

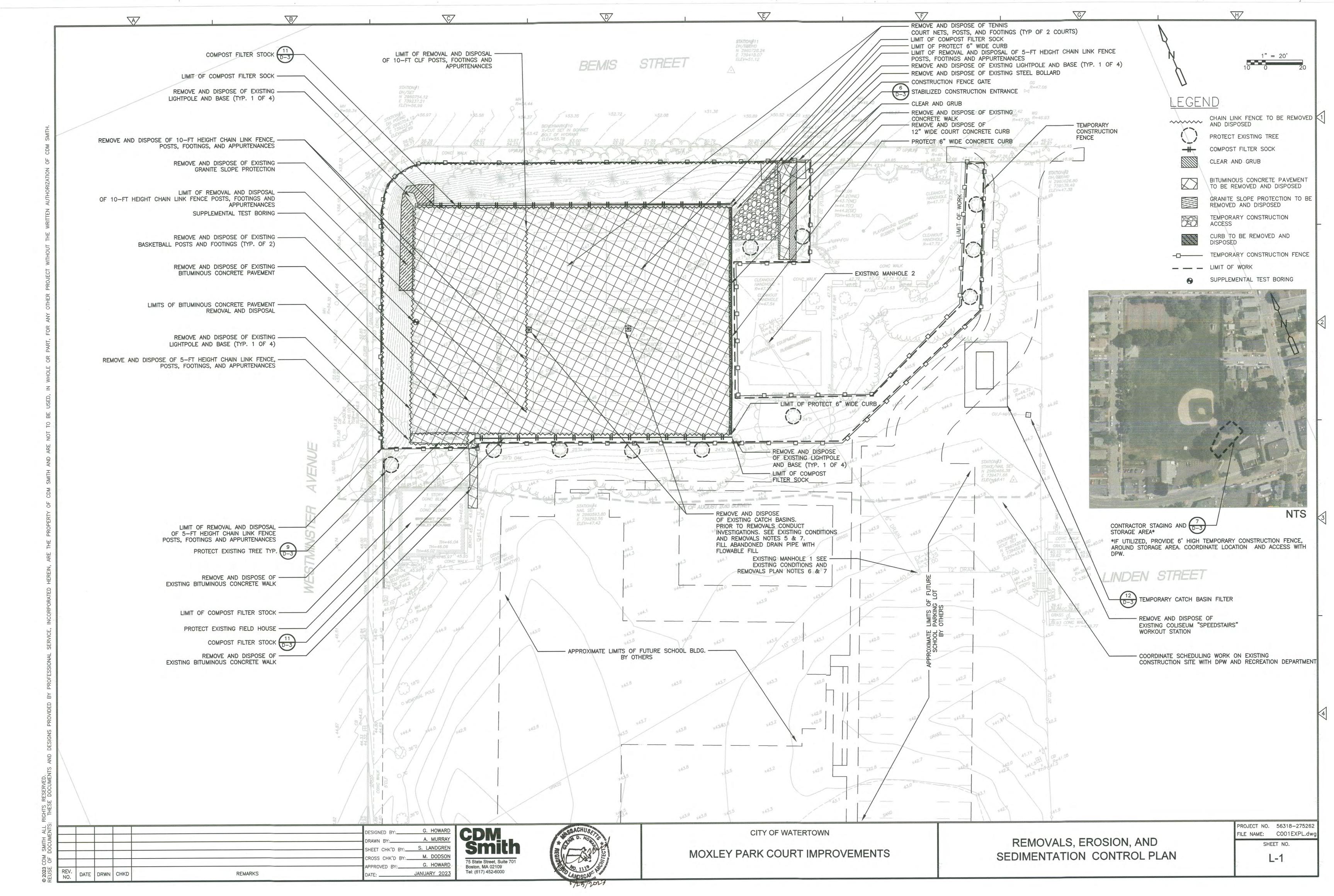
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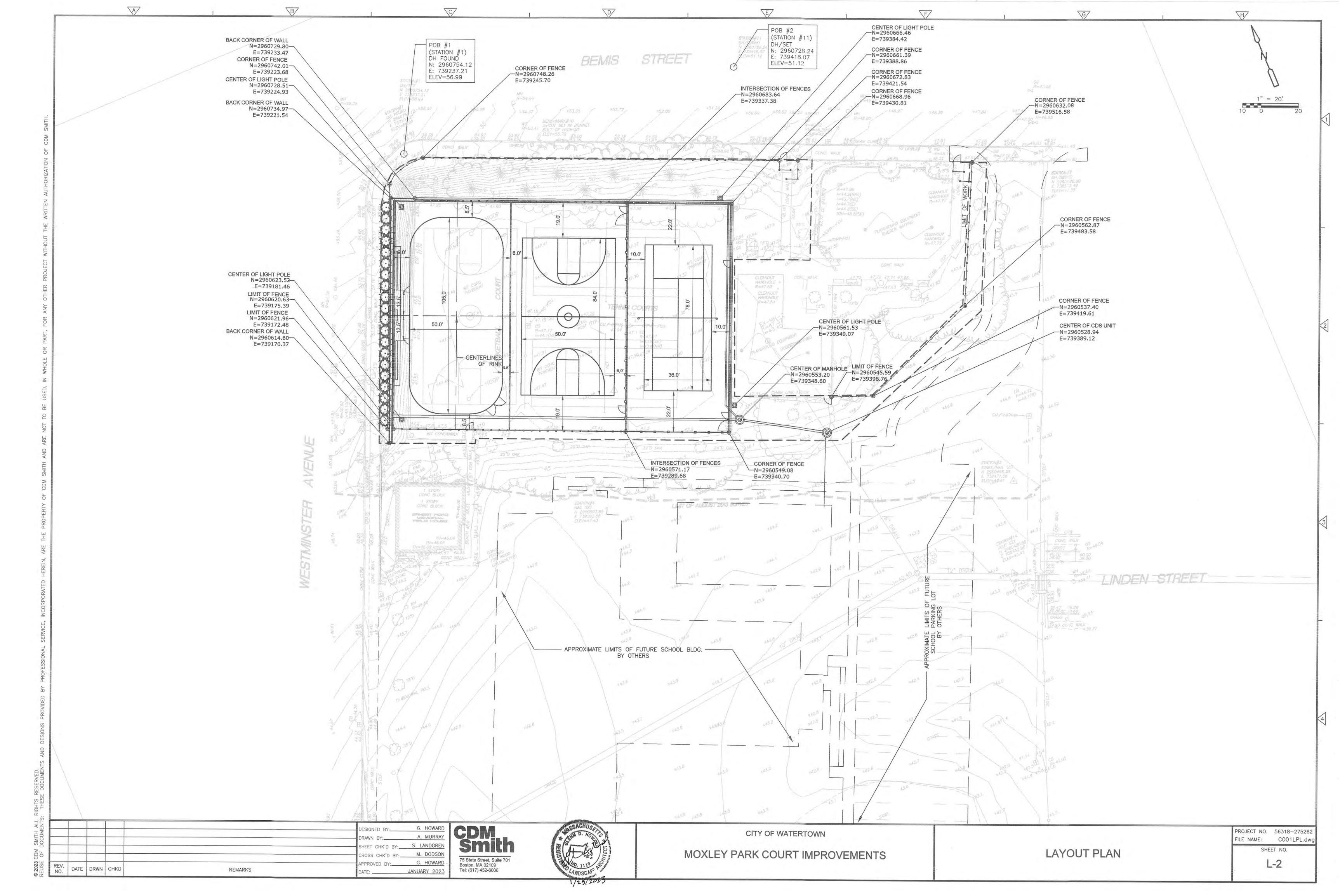
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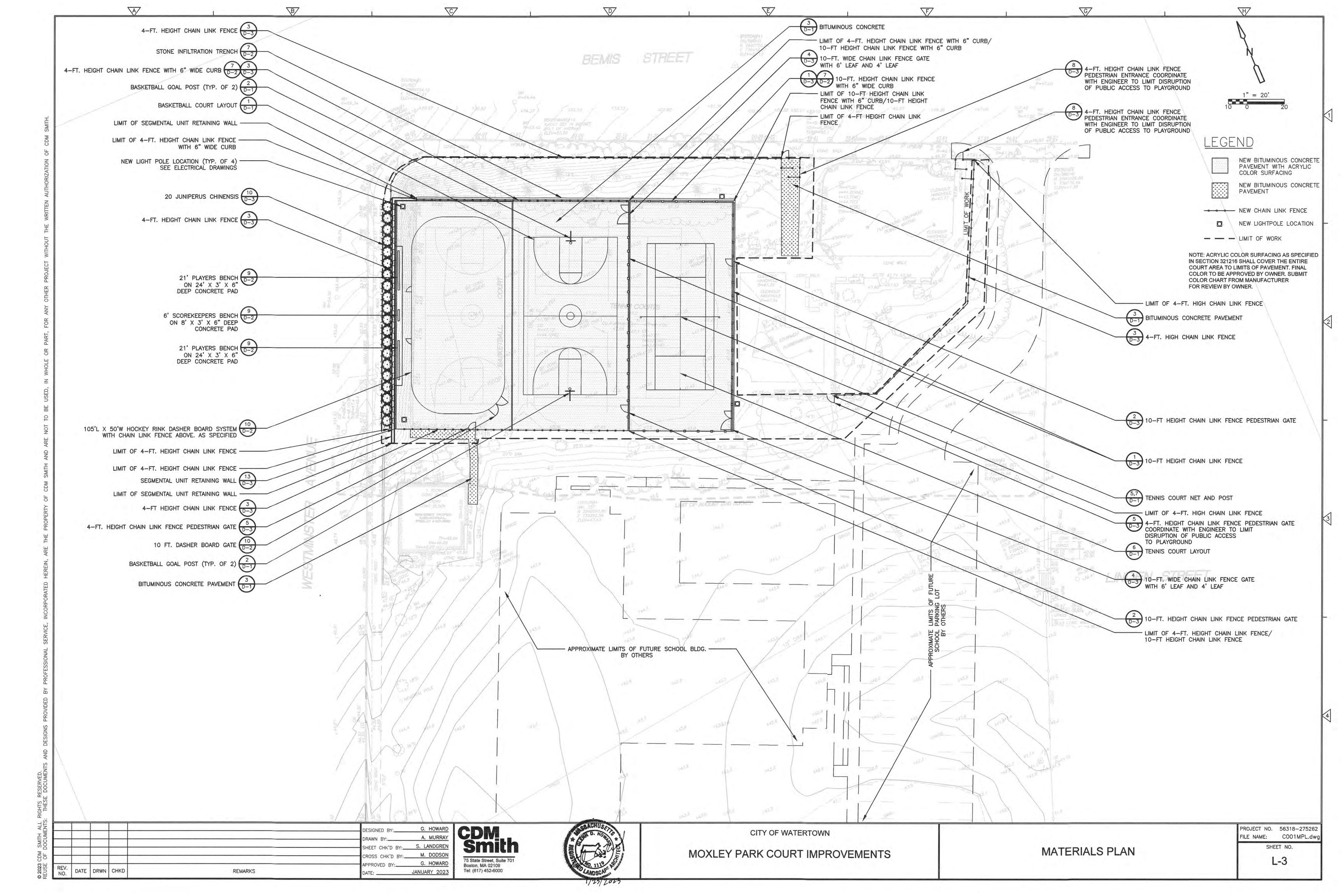
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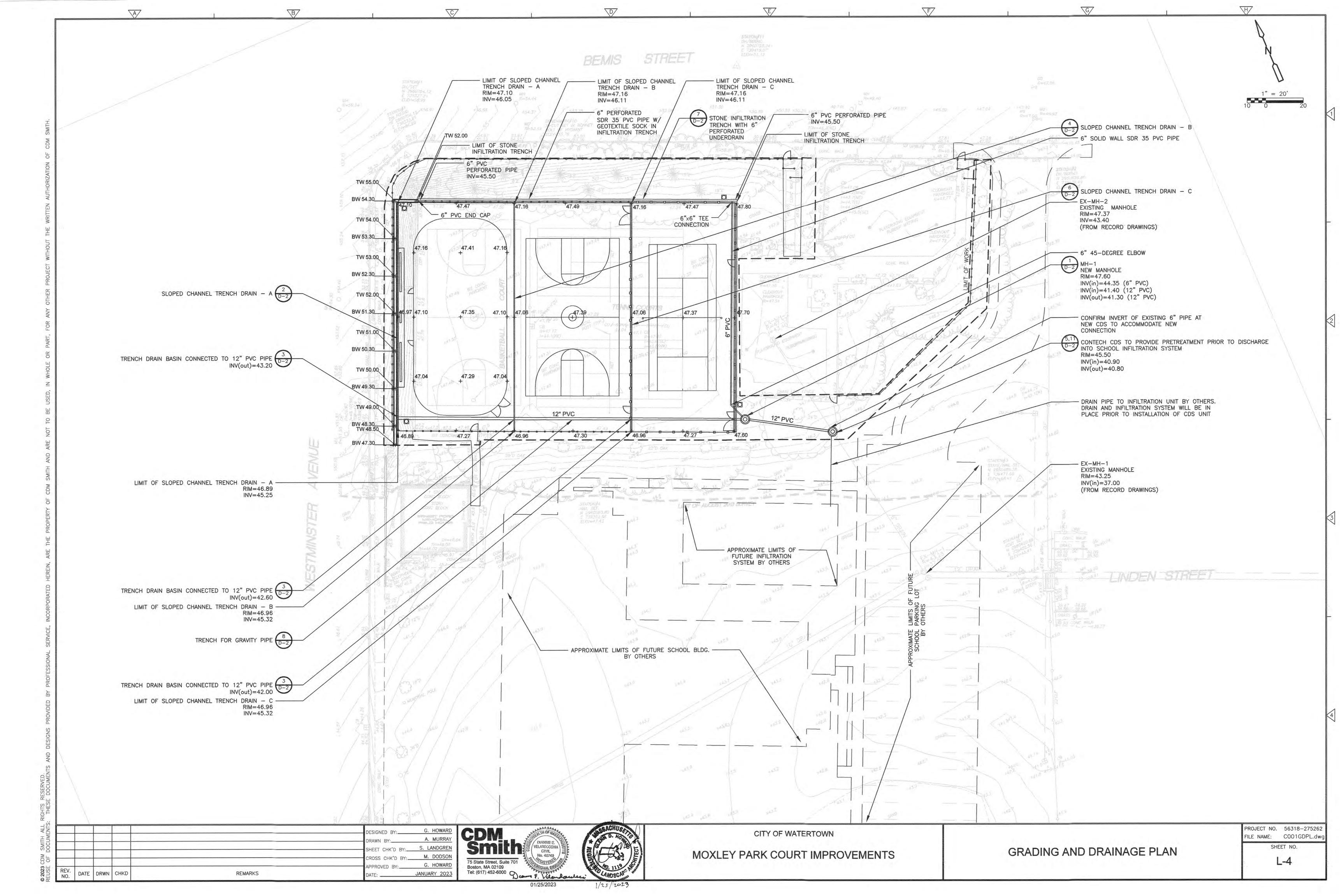
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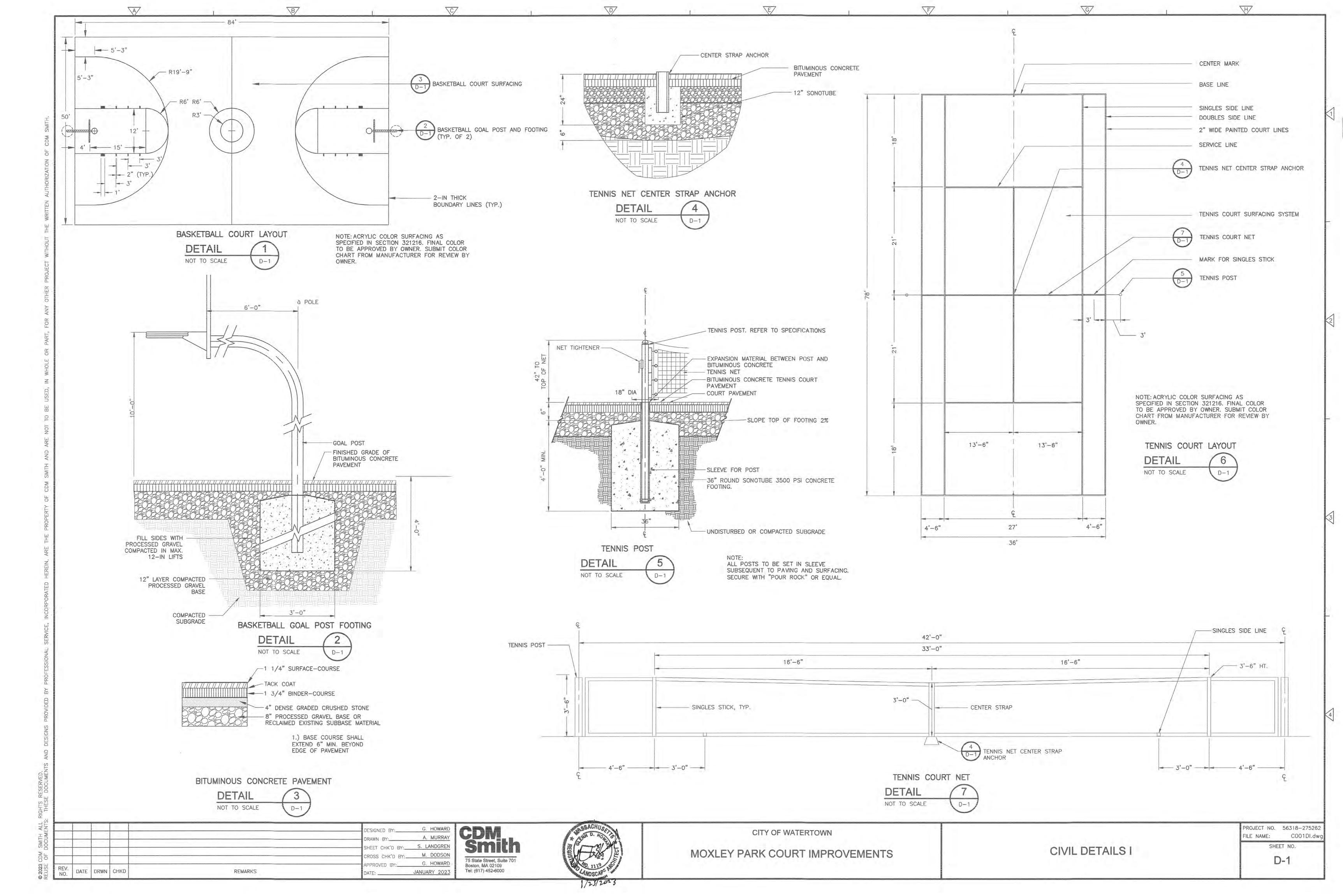


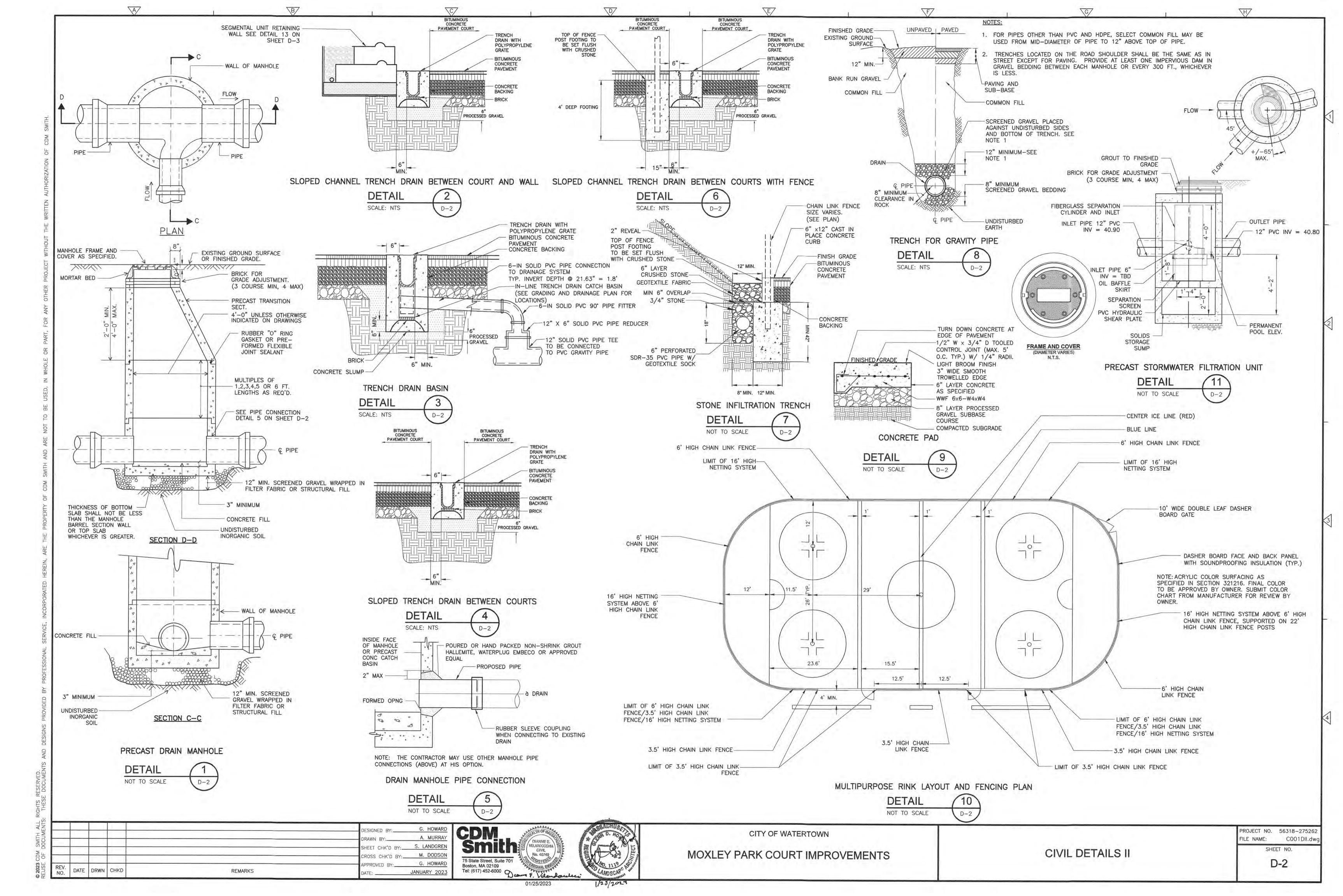


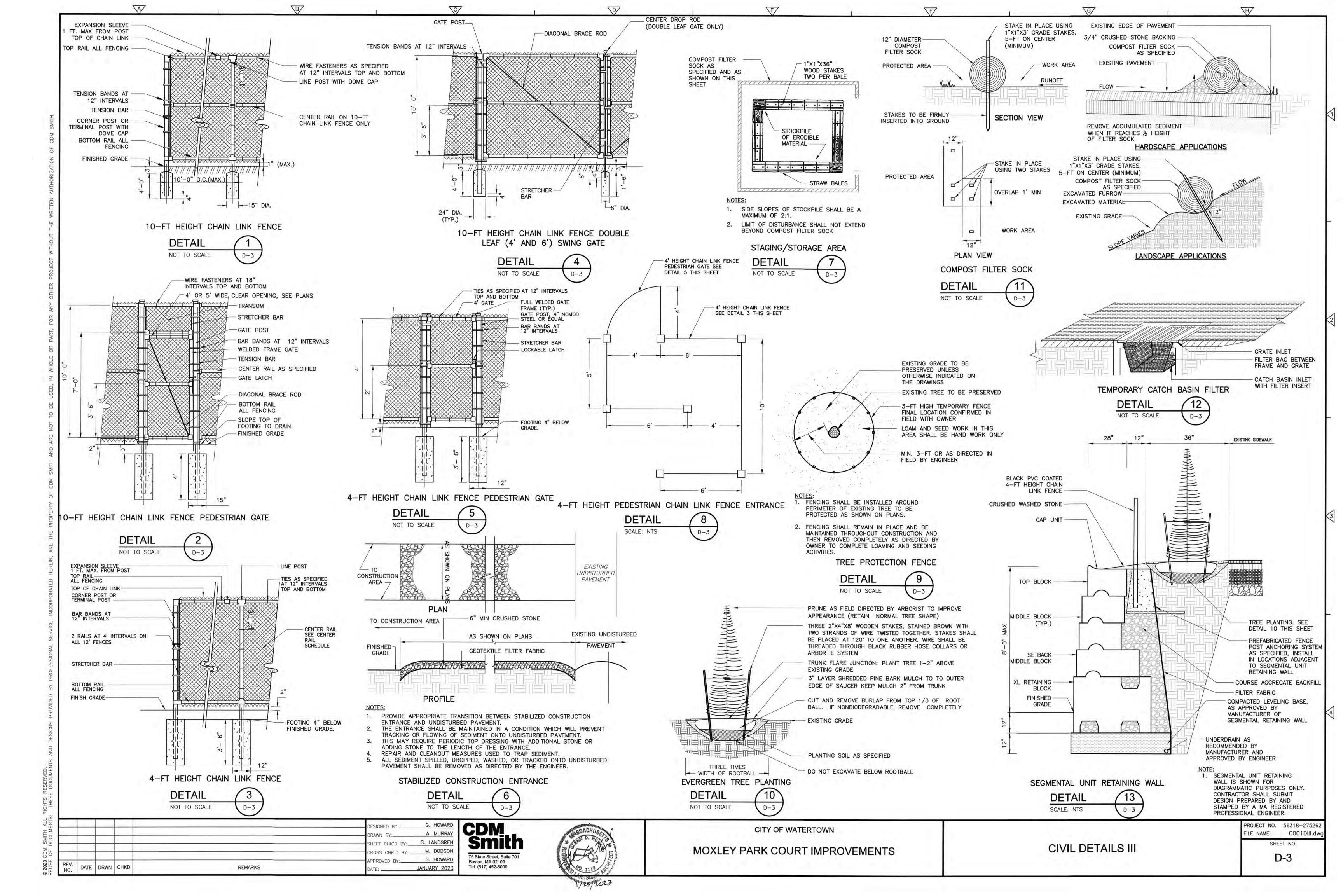












GENERAL NOTES:

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- 1. ELECTRICAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL LAYOUT OF WORK TO BE INSTALLED UNDER THIS CONTRACT WITHOUT ATTEMPTING TO SHOW ALL DETAILS. FURNISH LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DOCUMENTS.
- 2. COORDINATE WORK WITH OTHER TRADES AND THE OWNER.
- 3. MAINTAIN EXISTING PROCESS OPERATIONS. POWER INTERRUPTIONS TO ELECTRICAL EQUIPMENT SHALL BE AT OWNER'S CONVENIENCE WITH 72 HOURS MINIMUM NOTICE. EACH INTERRUPTION SHALL HAVE PRIOR WRITTEN APPROVAL.
- 4. FIELD VERIFY EXISTING UNDERGROUND ELECTRICAL CONDUIT, CONCRETE DUCT BANKS, MANHOLES, PULL BOXES, ETC. AND MECHANICAL PIPING. CONTRACTOR SHALL INCLUDE IN BID COSTS ASSOCIATED WITH RELOCATION OR REMOVAL OF UNDERGROUND EQUIPMENT AS REQUIRED BY THIS CONTRACT. USE DUE CARE IN CONGESTED AREAS TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES.
- 5. CONTRACTOR'S WORK SHALL INCLUDE COMPLETE TESTING OF EQUIPMENT AND WIRING INCLUDING MAKING MINOR CORRECTIONS, CHANGES, OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT. WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY; SUBSTANDARD WORK WILL BE REJECTED.
- 6. DO NOT SCALE ELECTRICAL DRAWINGS. REFER TO MECHANICAL, STRUCTURAL DRAWINGS, AND APPROVED MANUFACTURER'S SHOP DRAWINGS FOR EXACT LOCATION OF EQUIPMENT. EXCEPT WHERE DIMENSIONS ARE SHOWN, LOCATIONS OF EQUIPMENT, FIXTURES, OUTLETS, AND SIMILAR DEVICES ARE APPROXIMATE.
- 7. WORK SHALL COMPLY WITH NEC AND LOCAL CODES.
- 8. DO NOT SPLICE CONDUCTORS EXCEPT AS NOTED.
- 9. POWER AND CONTROL CONDUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR WIRE SIZED PER TABLE 250.122 OF THE NEC
- 10. COORDINATE SEQUENCE OF CONSTRUCTION WITH CIVIL, MECHANICAL, AND STRUCTURAL DISCIPLINES. PROVIDE TEMPORARY POWER AND CONTROL CIRCUITS AS REQUIRED TO MAINTAIN FACILITY OPERATION. VERIFY EXISTING UTILITIES IN AREA OF CONSTRUCTION. REFER TO CIVIL DRAWINGS FOR ADDITIONAL UNDERGROUND INFORMATION.
- 11. REPAIR, IN ACCORDANCE WITH SPECIFICATIONS, SIDEWALKS, WALLS, ROADWAYS, ETC. DISTURBED BY CONSTRUCTION ACTIVITIES WHETHER OR NOT SHOWN FOR REPAIR/REPAVING ON CIVIL DRAWINGS.
- 12. CONCEAL CONDUITS TO GREATEST EXTENT PRACTICABLE. CONDUITS RUN AT EXISTING STRUCTURES SHALL BE RUN EXPOSED.
- 13. WHERE LOCAL DISCONNECTS AND CONTROL PANELS ARE SHOWN ON PLAN VIEWS, LOCATIONS ARE APPROXIMATE. ADJUST LOCATION AS REQUIRED TO COMPLY WITH NEC ARTICLE 110 FOR WORKING CLEARANCES.
- 14. DO NOT INSTALL MAJOR CONDUIT RUNS THROUGH AREAS DESIGNATED FOR FUTURE STRUCTURES.

SUBMITTALS:

- 1. SUBMIT SHOP DRAWINGS FOR EQUIPMENT, MATERIALS AND OTHER ITEMS FURNISHED UNDER DIVISION 26.
- 2. SUBMIT CONDUIT SHOP DRAWINGS FOR YARD ELECTRICAL, WITHIN AND UNDER ROADS, BUILDINGS AND STRUCTURES PRIOR TO COMMENCING WORK. DO NOT POUR CONCRETE UNTIL ENGINEER HAS APPROVED THE ASSOCIATED SHOP
- 3. SUBMIT POWER SYSTEM STUDY IN ACCORDANCE WITH SECTION 26 05 73.
- 4. SUBMIT OPERATION AND MAINTENANCE MANUALS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
- 5. SUBMIT STARTUP/COMMISSIONING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
- 6. SUBMIT TESTING AND SERVICE REPORTS FOR EQUIPMENT AND MATERIALS FURNISHED UNDER DIVISION 26.
- 7. SUBMIT TRAINING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
- 8. SUBMIT RECORD DOCUMENTATION TO ACCURATELY SHOW COMPLETED INSTALLATION. INCLUDE MODIFICATIONS TO CONTRACT DOCUMENTS (ONE LINE POWER DIAGRAMS, EQUIPMENT ELEVATIONS, PANEL SCHEDULES, ELEMENTARY CONTROL DIAGRAMS, RISER DIAGRAMS, PLANS, CONDUIT AND DUCTBANK ROUTING, ETC) ALONG WITH ADDITIONAL DRAWINGS OR SKETCHES CREATED TO CONVEY COMPLETED INSTALLATION.

INTERPRETATION OF CONTRACT DOCUMENTS:

- 1. IF DURING PERFORMANCE OF WORK, THERE IS A CONFLICT, ERROR, OR DISCREPANCY BETWEEN OR AMONG CONTRACT DOCUMENTS AND LAWS AND REGULATIONS, PROVIDE THE HIGHER PERFORMANCE STANDARD UNLESS OTHERWISE DIRECTED BY
- 2. PRIORITY OF DOCUMENTS: FIGURED DIMENSIONS GOVERN OVER SCALED DIMENSIONS, DETAILED DRAWINGS GOVERN OVER GENERAL DRAWINGS, LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS, CHANGE ORDER DRAWINGS SUPERCEDE ORIGINAL CONTRACT DRAWINGS, AND CONTRACT DRAWINGS GOVERN SHOP DRAWINGS.
- 3. IN GENERAL, DRAWINGS DO NOT SHOW CONDUIT ROUTING. PLAN AND ROUTE CONDUITS IN COMPLIANCE WITH SPECIFICATIONS AND DRAWING DETAILS. COORDINATE INSTALLATION WITH OTHER TRADES AND ACTUAL SUPPLIED EQUIPMENT.
- 4. DUCTBANK ROUTING SHOWN ON ELECTRICAL SITE PLANS IS DIAGRAMMATIC IN NATURE AND MAY NOT INCLUDE INTERFERENCES THAT MAY BE PRESENT.
- 5. SEE ADDITIONAL NOTES ON ELECTRICAL LEGEND II SHEET.

ENCLOSURE TYPES:

PROVIDE THE FOLLOWING NEMA TYPE ELECTRICAL ENCLOSURES, UNLESS OTHERWISE NOTED:

- 1. NEMA 1 IN DRY, NON-PROCESS INDOOR LOCATIONS.
- 2. NEMA 12 IN "DUST" LOCATIONS SHOWN ON THE DRAWINGS.
- 3. NEMA 4X IN OUTDOOR LOCATIONS, ROOMS BELOW GRADE INCLUDING BASEMENTS AND BURIED VAULTS AND "DAMP" OR "WET" LOCATIONS SHOWN ON THE DRAWINGS.
- 4. NEMA 4X IN "CORROSIVE" LOCATIONS SHOWN ON THE DRAWINGS.
- 5. NEMA 7 AND LISTED FOR THE SPECIFIC NEC HAZARDOUS AREA CLASSIFICATION AS SHOWN ON THE DRAWINGS.

MATERIALS AND EQUIPMENT:

- 1. PROVIDE NEW MATERIALS AND EQUIPMENT UNLESS SPECIFICALLY NOTED OTHERWISE.
- 2. ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE LISTED BY UNDERWRITER'S LABORATORIES, INC., AND SHALL BEAR APPROPRIATE UL LISTING MARK OR CLASSIFICATION MARKING. EQUIPMENT, MATERIALS, ETC. UTILIZED NOT BEARING A UL CERTIFICATION SHALL BE FIELD OR FACTORY UL CERTIFIED PRIOR TO EQUIPMENT ACCEPTANCE AND USE.
- 3. PROVIDE MAJOR ELECTRICAL EQUIPMENT BY A SINGLE MANUFACTURER: I.E. UNIT SUBSTATIONS, SWITCHGEAR, MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, TRANSFORMERS, PANELBOARDS, ETC.

EQUIPMENT SIZE, HANDLING AND STORAGE:

- 1, COORDINATE WITH EQUIPMENT MANUFACTURER SHIPPING SPLITS TO PERMIT SAFE HANDLING AND PASSAGE OF EQUIPMENT TO FINAL INSTALLATION LOCATION.
- 2. COMPLY WITH MANUFACTURER'S INSTRUCTIONS FOR UPRIGHT EQUIPMENT ORIENTATION DURING TRANSPORTATION.
- 3. PROTECT EQUIPMENT FROM MECHANICAL INJURY, OR EXPOSURE TO MOISTURE, CHEMICALS, OR CORROSIVE GASES. DO NOT STORE ELECTRICAL EQUIPMENT OUTDOORS.
- 4. PROVIDE AND ENERGIZE TEMPORARY SPACE HEATERS IF REQUIRED TO CONTROL MOISTURE DURING STORAGE.

CUTTING AND PATCHING:

- 1. CUT AND PATCH IN A WORKMANLIKE MANNER AS REQUIRED TO INSTALL ELECTRICAL WORK.
- 2. CUTTING OF STRUCTURAL MEMBERS SUCH AS JOISTS, BEAMS, GIRDERS OR COLUMNS IS PROHIBITED.
- 3. PATCH SURFACES TO RESTORE TO ORIGINAL INTEGRITY (WATERPROOF OR FIREPROOF AS REQUIRED) AND APPEARANCE.

DEMOLITION AND DISPOSITION OF EQUIPMENT:

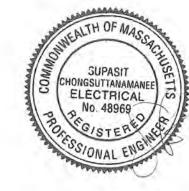
- 1. DRAWING PLANS SHOWING REMOVAL OF MAJOR MECHANICAL AND ELECTRICAL EQUIPMENT IS NOT INTENDED TO SHOW ALL COMPONENTS TO BE DEMOLISHED. NOT ALL PIPING, CONDUITS, DUCTS, EQUIPMENT, ANCILLARY DEVICES, ETC. ARE SHOWN. THE CONTRACTOR IS TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID.
- 2. UNLESS OTHERWISE SPECIFICALLY NOTED, REMOVE UNUSED EXPOSED CONDUIT AND SUPPORT SYSTEMS BACK TO SOURCE AND/OR POINT OF CONCEALMENT INCLUDING ABOVE ACCESSIBLE CEILING FINISHES. WIRING
- 3. CUT FLUSH WITH SLAB, CEILING, OR WALL ABANDONED CONCEALED CONDUIT. SUITABLY PLUG CONDUITS.
- 4. REPAIR AND RESTORE ADJACENT CONSTRUCTION AND FINISHES AFTER DEMOLITION IS COMPLETE.
- 5. MATERIAL AND EQUIPMENT INDICATED FOR REMOVAL OR DEMOLITION IS TO BECOME CONTRACTOR'S PROPERTY UPON REMOVAL, UNLESS NOTED OTHERWISE. REMOVED MATERIAL TO BE PROPERLY HANDLED AND DISPOSED.

CLEANING:

- 1. REMOVE ALL RUBBISH AND DEBRIS FROM INSIDE AND AROUND ELECTRICAL EQUIPMENT AND ENCLOSURES.
- 2. REMOVE DIRT, DUST OR CONCRETE SPATTER FROM INTERIOR AND EXTERIOR OF EQUIPMENT USING BRUSHES, VACUUM CLEANER OR CLEAN LINT-FREE RAGS. DO NOT USE COMPRESSED AIR.

DELEGATED DESIGN / PROFESSIONAL ENGINEERING SERVICES:

- 1. WHEN ENGINEERING SERVICES ARE SPECIFIED TO BE PROVIDED BY CONTRACTOR, CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER TO PERFORM THE SERVICES. ENGINEER SHALL BE LICENSED AT THE TIME SERVICES ARE PERFORMED AND LICENSED IN THE STATE IN WHICH PROJECT IS LOCATED. IF THE STATE ISSUES DISCIPLINE SPECIFIC LICENSES, ENGINEER SHALL BE LICENSED IN THE APPLICABLE DISCIPLINE. ENGINEER SHALL BE EXPERIENCED IN THE TYPE OF WORK BEING PERFORMED.
- 2. ENGINEERING WORK SHALL BE DONE ACCORDING TO THE APPLICABLE REGULATIONS FOR PROFESSIONAL ENGINEERS TO INCLUDE SIGNING, SEALING AND DATING DOCUMENTS.



ELECTRICAL

GENERAL NOTES

PROJECT NO. 56318-27526 FILE NAME: EOO1NFNT.DWG

SHEET NO. E-1

REMARKS DATE DRWN CHKD



MOXLEY PARK COURT IMPROVEMENTS

CITY OF WATERTOWN

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION	ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION	ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
\$\frac{\frac{1}{2}}{52}}\$		MEDIUM VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER CS=CONTROL SWITCH			METER * WM - WATTMETER WHM - WATTHOUR METER WHDM - WATTHOUR DEMAND METER WHDR - WATTHOUR DEMAND RECORDER PF - POWER FACTOR METER	— *		PILOT LIGHT, COLOR AS NOTED * R - RED G - GREEN B - BLUE W - WHITE A - AMBER
) FRAME TRIP	СВ	LOW VOLTAGE AIR OR MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED.			DMU — DIGITAL METERING UNIT TRANSDUCER AX — CURRENT TRANSDUCER WX — WATT TRANSDUCER WHX — WATTHOUR TRANSDUCER	- 5 *		PILOT LIGHT, PUSH-TO-TEST TYPE, COLOR AS NOTED ABOVE.
SIZE AMPS TYPE *		COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE NOTED: * FVR - FULL VOLTAGE REVERSING RVNR - REDUCED VOLTAGE NON-REVERSING RVAT - REDUCED VOLTAGE AUTOTRANSFORMER RVSS - REDUCED VOLTAGE SOLID STATE 2S1W - TWO SPEED, ONE WINDING 2S2W - TWO SPEED, TWO WINDING (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)			RELAY, NO. AS INDICATED 25 — SYNCHRONISM CHECK RELAY 27 — UNDERVOLTAGE RELAY 32 — DIRECTIONAL POWER RELAY 38 — BEARING PROTECTIVE DEVICE 40 — LOSS OF EXCITATION RELAY 42 — RUNNING CONTACTOR/PILOT RELAY 46 — REVERSE PHASE/PHASE BALANCE/CURRENT RELAY 47 — PHASE SEQUENCE VOLTAGE RELAY 49 — MACHINE OR TRANSFORMER THERMAL RELAY 50/51 — INSTANTANEOUS/TIME OVERCURRENT RELAY 50G — INSTANTANEOUS GROUND 51 — TIME OVERCURRENT RELAY	**RANGE SETPOINT **NOTC NOTC		TIME DELAY RELAY RANGE AS NOTED SETPOINT AS NOTED # NUMBER AS INDICATED ** TDE — TIME DELAY AFTER ENERGIZATION ON DELAY TDD — TIME DELAY AFTER DE—ENERGIZATION OFF DELAY NOTC — NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED NCTO — NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED
/*	마	NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE * AMPERE RATING NOTED IF OTHER THAN 30A (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)	- *-	*	51G - TIME OVERCURRENT RELAY 51G - TIME OVERCURRENT RELAY, GROUNDING RESISTOR TYPE 51N - TIME OVERCURRENT RELAY, RESIDUAL TYPE 51V - TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT 51X - AUXILIARY RELAY (TRIPS CB AND ALARMS)	NOTO NOTO		NOTO - NORMALLY OPEN, TIMED OPENING WHEN DE-ENERGIZED NCTC - NORMALLY CLOSED, TIMED CLOSING WHEN DE-ENERGIZED
*/	F	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, * AMPERE RATING AND FUSE SIZE AS NOTED * AMPERE RATING NOTED IF OTHER THAN 30A FUSE RATING (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)			59 - OVERVOLTAGE RELAY 60 - NEGATIVE SEQUENCE VOLTAGE RELAY 62 - TIME DELAY RELAY 63 - OVERPRESSURE RELAY 64 - GENERATOR FIELD GROUND RELAY 67 - AC DIRECTIONAL OVERCURRENT RELAY 74 - ALARM LATCHING RELAY 83 - AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86 - LOCKING-OUT RELAY		*- ## LS OR	# INDICATES INSTRUMENT TYPE DEFINED ON LOOP SHEETS OR P & ID ## INDICATES LOOP NO. LIQUID LEVEL (FLOAT) SWITCH
-\x	≥ P 2	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER, 1 POLE UNLESS OTHERWISE NOTED "P" INDICATES WITH PILOT LIGHT "2" INDICATES TWO POLE (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL			87 - DIFFERENTIAL PROTECTIVE RELAY B - SUFFIX INDICATES "BUS" G - SUFFIX INDICATES "GENERATOR" GF - GROUND FAULT ST - SHUNT TRIP T - SUFFIX INDICATES "TRANSFORMER"	-ofo-	PS OR	NORMALLY OPEN, CLOSES ON RISING LEVEL NORMALLY CLOSED, OPENS ON RISING LEVEL PRESSURE OR VACUUM SWITCH
-« »-	_	DRAWOUT TYPE EQUIPMENT OR DEVICE	— (*	7	X - SUFFIX INDICATES "AUXILIARY" SPECIAL CAPACITOR * SC - SURGE CAPACITOR	-020-		NORMALLY OPEN, CLOSES ON RISING PRESSURE
→	·	MEDIUM VOLTAGE CABLE TERMINATION	-m- (-*	_	PF - POWER FACTOR CORRECTION CAPACITOR TUNED POWER FACTOR CORRECTION CAPACITOR	-070-		NORMALLY OPEN, CLOSES ON DROPPING PRESSURE NORMALLY CLOSED, OPENS ON RISING PRESSURE
~~~	-	MEDIUM VOLTAGE AIR INTERRUPTER SWITCH	مام		PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED	-070-		NORMALLY CLOSED, OPENS ON DROPPING PRESSURE
~~~~	1 -	MEDIUM VOLTAGE FUSED AIR INTERRUPTER SWITCH FUSE RATING			PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN	-050-	TS OR (T) OR	TEMPERATURE SWITCH OR THERMOSTAT  NORMALLY OPEN, CLOSES ON RISING TEMPERATURE
≪□ >>	_	MEDIUM VOLTAGE FUSED MOTOR CONTROLLER	مآه	ES	EMERGENCY STOP PUSHBUTTON WITH RED MUSHROOM HEAD OPERATOR (MAINTAINED	-of-		NORMALLY OPEN, CLOSES ON DROPPING TEMPERATURE NORMALLY CLOSED, OPENS ON RISING
XFMR NO. 1 480V KVA KVA	Т	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED. UNLESS OTHERWISE NOTED ON THE SINGLE LINE DIAGRAMS, ALL DRY TYPE TRANSFORMERS SERVICING ADMINISTRATIVE AND	STOP START	PBL	START-STOP PUSHBUTTON CONTROL STATION (MOMENTARY CONTACT) WITH LOCKOUT DEVICE ON STOP	-0 <u>f</u> 0-		TEMPERATURE NORMALLY CLOSED, OPENS ON DROPPING TEMPERATURE
120/208V 3P, 4W * A TO 5		LABORATORY SPACES SHALL HAVE A K FACTOR OF 4. ISOLATION TRANSFORMERS SHALL HAVE A K-20 RATING CURRENT TRANSFORMER * QUANTITY	a To J	РВМ	START-STOP PUSHBUTTON CONTROL STATION, MAINTAINED CONTACT WITH LOCKOUT DEVICE ON STOP	-0_0-	FS OR	FLOW SWITCH (AIR, WATER, ETC.) NORMALLY OPEN, CLOSES ON INCREASED FLOW
* Y TO 120		A = PRIMARY AMPERES POTENTIAL TRANSFORMER * QUANTITY	OFF ON	s/s	OFF/ON SELECTOR SWITCH	-0-[0-	ZS OR	NORMALLY CLOSED, OPENS ON INCREASED FLOW POSITION (LIMIT) SWITCH
\bigcirc	G	V = PRIMARY VOLTAGE GENERATOR, RATINGS AND CONNECTIONS AS NOTED	L R (XO) (OX)	LR	LOCAL/REMOTE SELECTOR SWITCH	-040-		NORMALLY OPEN NORMALLY OPEN — HELD CLOSED
ATS S	_	AUTOMATIC OR MANUAL TRANSFER SWITCH NO.1 (ATS-1), (MTS-1) "N" INDICATES NORMAL OR PREFERRED SOURCE "S" INDICATES STANDBY OR ALTERNATE SOURCE 100A INDICATES CONTINUOUS CURRENT RATING			3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT O-OPEN X-CLOSED POSITION TOP MIDDLE BOTTOM CONTACT CONTACT	-040-	WS OR	NORMALLY CLOSED - HELD OPEN TORQUE SWITCH
100A +	*	VARIABLE SPEED DRIVE CONTROLLER * D.C. = D.C. DRIVE CONTROLLER SCR = SILICON CONTROLLED RECTIFIER	A B C* (X00) (OX0)	*	A X 0 0 B 0 X 0 C 0 0 X	-070- -078-		NORMALLY OPEN, CLOSES ON HIGH TORQUE NORMALLY CLOSED, OPENS ON HIGH TORQUE
≟ #ĸw		VFD = VARIABLE FREQUENCY DRIVE UNIT HEATER — ELECTRIC HEATING COIL AND FAN # — RATING	— o o (OOX)		NAMEPLATE (A/B/C) HOA — HAND/OFF/AUTO HOR — HAND/OFF/REMOTE LOR — LOCAL/OFF/REMOTE RSL — RAISE/STOP/LOWER	#		UTILIZED IN CONJUNCTION WITH OTHER CONTROL SCHEMATIC SYMBOLS TO DEPICT THE PHYSICAL LOCATION OF THE DEVICE # REPRESENTS LOCATION SEE LOCATION LEGEND ON DRAWING
	U	UNIT HEATER - GAS FIRED, STEAM OR WATER HEATING COIL AND FAN	GD/VF	GD/VF	TOA — TEST/OFF/AUTO GAS DETECTOR / VENTILATION FAILURE ALARM # INDICATES TYPE OF UNIT	+ +	-	CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED
5	M	MOTOR, NUMERAL INDICATES HORSEPOWER	42	#	1=MASTER, 2=REMOTE MOTOR STARTER COIL, NUMBER AS INDICATED TO	-		CONDUCTORS ELECTRICALLY CONNECTED
VS-VM *		VOLTMETER WITH SWITCH, 3 PHASE AMMETER WITH SWITCH, 3 PHASE	#) —(CR)—		DENOTE INTERLOCKING ONLY CONTROL RELAY COIL, NUMBER AS INDICATED	01/0		SOLENOID VALVE
*		AMMERIES WITH SWITCH, S FRASE	#			Y	X	
			DESIGNED BY: DRAWN BY: SHEET CHK'D B' CROSS CHK'D B	S. AASIF J. KLEINOT Y: N. HOLWAY S. JONG	CDM Smith		MOXLEY	CITY OF WATERTOWN PARK COURT IMPROVEMEN

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PPROVED BY

REMARKS

REV.

DATE DRWN CHKD

ONE LINE OR PLAN DESCRIPTION CONTROL DIAGRAM LIGHTNING ARRESTER -0 0-11 -GROUND OR GROUND ROD FUSE, AMPERE RATING AS NOTED ~______ HTR STRIP HEATER OR HEATING ELEMENT _____ INDUCTOR ___ TACHOMETER GENERATOR CONTACT, NORMALLY OPEN (NO) ___ ___ CONTACT, NORMALLY CLOSED (NC) -xOVERLOAD RELAY HEATER ---(*)---K = KEY INTERLOCK = ELECTRICAL INTERLOCK TERMINAL OR TEST BLOCK ___ RESISTANCE TEMPERATURE DETECTOR VE OR -___ VIBRATION DETECTOR DM DM DAMPER MOTOR ETM ELAPSED TIME METER MOTOR OPERATED VALVE OR GATE INDICATES LIMITS OF ELECTRICAL EQUIPMENT OR WIRING ENCLOSURE

> EXISTING NEW FUTURE WORK WORK **EXPANSION**

EXISTING, NEW OR FUTURE CONDITION DESIGNATION

- COMPARTMENT DESIGNATION (SEE MCC FRONT ELEVATION)

INDICATES CONDUIT IS ALL OR PARTIALLY LOCATED UNDERGROUND. CONDUIT SIZE SHOWN INDICATES THE SIZE WITHIN STRUCTURE.

MCP

SIZE T RVNR

UNDERGROUND CONDUIT SIZE IS SHOWN ON DUCT BANK SECTIONS. MCC1-1: (2) 3"C., 3#3/0, 1#2G DENOTES A QUANTITY OF TWO (2) 3-INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR, FROM NEMA SIZE 6 STARTER IN MCC-1 TO 250HP MOTOR LOAD.

MCC1-1A: 3/4"C., 7#14, 1#14G DENOTES ONE 3/4-INCH CONDUIT CONTAINING SEVEN NO. 14 AWG CONTROL CONDUCTORS AND 1 NO. 14 AWG GROUND CONDUCTOR.

MCC1-1 AND MCC1-1A: DENOTES CONDUIT IDENTIFICATION (ID) (TYPICAL)

 PROTECTIVE/CONTROL DEVICE AS SHOWN.

2. CONTROL/AUXILIARY DEVICES AT OR NEAR EQUIPMENT. EQUIPMENT SHALL BE INSTALLED AND WIRED AS REQUIRED BY EQUIPMENT FURNISHED AND/OR CONTROL DIAGRAM.

ELECTRICAL

LEGEND I

TYPICAL ONE LINE DIAGRAM SHOWING POWER AND CONTROL TO EQUIPMENT 1. IN GENERAL CONDUIT ROUTING FOR EQUIPMENT AND DEVICES IS NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS WHICH SHALL INCLUDE CONDUITS SHOWN ON ONE-LINE AND RISER DIAGRAMS AND HOME-RUNS SHOWN ON PLAN DRAWINGS. REFER TO SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.

TH

2. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.

3. SWITCHGEAR AND MOTOR CONTROL CENTER COMPARTMENT DESIGNATIONS AS INDICATED BELOW:

BLANK: NOT INTENDED FOR USE, PLATE

SPACE: EQUIPPED WITH REQUIRED BUS AND HARDWARE FOR THE FUTURE ADDITION OF BREAKERS AND/OR STARTERS WITHIN THE SIZE AND RANGE SHOWN

SPARE: CONTAINS A COMPLETELY INSTALLED BREAKER AND/OR STARTER OF SIZE AND TYPE INDICATED FOR FUTURE USE.

4. INTERPRETATION OF ELECTRICAL DRAWINGS: CIRCUIT IDENTIFICATION, ROUTING, AND SIZES OF CONDUITS AND WIRES ARE SHOWN ON THE FOLLOWING DRAWINGS:

A. ONE LINE POWER DIAGRAMS: POWER, CONTROL AND SIGNAL WIRING REQUIREMENTS FOR ELECTRICAL DISTRIBUTION EQUIPMENT AND UTILIZATION EQUIPMENT POWERED FROM SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS AND MAJOR POWER DISTRIBUTION PANELBOARDS ARE TYPICALLY SHOWN ON THE ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE AND QUANTITY FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT, AND SIZE OF THE GROUNDING ELECTRODE CONDUCTORS.

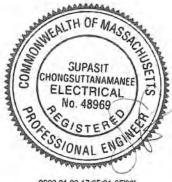
B. INSTRUMENTATION AND CONTROL RISER DIAGRAMS: POWER, CONTROL, SIGNAL AND DATA HIGHWAY WIRING REQUIREMENTS FOR INSTRUMENTS AND CONTROL DEVICES CONTROLLED/MONITORED FROM INSTRUMENTATION AND CONTROL PANELS SUCH AS RTUS, PLCS, TERMINAL CABINETS, AND REMOTE I/O PANELS ARE TYPICALLY SHOWN ON THE INSTRUMENTATION AND CONTROL ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE, QUANTITY AND TYPE FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT.

C. FLOOR PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS LOCATED WITHIN STRUCTURES, FLOOR PLANS SHOW THE LOCATION OF ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, UTILIZATION EQUIPMENT, INSTRUMENTS, ANCILLARY EQUIPMENT AND DEVICES AND THE ANTICIPATED PENETRATION LOCATIONS WHERE CONDUITS EXIT/ENTER THE STRUCTURE. HOMERUNS MAY ALSO BE SHOWN FROM MISCELLANEOUS EQUIPMENT NOT SHOWN ON A ONE LINE OR RISER DIAGRAM.

D. SITE PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS EXTERIOR TO STRUCTURES AND TO IDENTIFY THE SPECIFIC REQUIREMENTS OF THE UNDERGROUND CONDUITS OR DUCT BANKS, SITE PLANS SHOW THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS WITH SECTIONS INDICATING THE CONDUIT SIZE, ARRANGEMENT AND CIRCUIT ROUTING.

E. NOTE THAT CONDUIT SIZE WITHIN THE STRUCTURE IS INDICATED ON ONE-LINE DIAGRAM AND UNDERGROUND SIZE IS INDICATED ON DUCT BANK SECTIONS.

GENERAL NOTE THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.



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PROJECT NO. 56318-275262 FILE NAME: E002NFLG.DW SHEET NO. E-2

MOXLEY PARK COURT IMPROVEMENTS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DE	ESCRIPTION		ABBREVIATIONS (CONTINUED)
31111002	LIGHTING FIXTURE	¢	SINGLE POLE SWITCH "a" INDICATES FIXTURES CONTROLLED.	311111111111111111111111111111111111111	GROUND SYSTEM GRID OR LOOP, 36" BELOW FINISHED GRADE UNLESS	final contraction of the contrac	FIRE ALARM MASTER BOX	SOM TON	ELEV EM	ELEVATION EMERGENCY
A \bigcirc _b	"A" — FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "b" — CONTROLLED BY SWITCH "b"	\$ ₀			OTHERWISE NOTED.	立			ENCL EQUIP	ENCLOSURE OR ENCLOSED EQUIPMENT
A	"3" — CIRCUIT NUMBER	\$ _0	DOUBLE POLE SWITCH "a" INDICATES FIXTURES CONTROLLED.		EXOTHERMIC WELD CONNECTION	F 15	FIRE ALARM HORN, MOUNT UP	7.544	EWC EWH EX	ELECTRIC WATER COOLER ELECTRIC WATER HEATER EXISTING
^b	LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE	\$ _c	THREE WAY SWITCH "c" INDICATES FIXTURES CONTROLLED.	<u> </u>	3/4" x 10'-0" GROUND ROD. UNLESS SPECIFIED OTHERWISE. GROUND ROD TEST WELL STATION	F	FIRE ALARM STROBE, MOUNT UF 15 = CANDELA RATING	P 6'-8"	FO FU	FIBER OPTIC FUSE
AQ 3	WALL MOUNTED TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE	\$50	FOUR WAY SWITCH "a" INDICATES FIXTURES CONTROLLED.	0	(SEE DETAIL SHEET FOR REQUIREMENTS)	15 F	FIRE ALARM HORN AND STROBE 6'-8" 15 = CANDELA RATING	E LIGHT COMBINATION, MOUNT UP	GCP GEN	GENERATOR CONTROL PANEL GENERATOR
A 72X ³		\$ a	DIMMER SWITCH "a" INDICATES FIXTURES CONTROLLED		COMMUNICATION SYSTEMS	E	FIRE ALARM MANUAL PULL STAT	TION, MOUNT UP 4'-0"	G, GND GFI GRS	GROUND GROUND FAULT INTERRUPTER GALVANIZED RIGID STEEL
April 3	CROSS HATCH INDICATES LIGHTING FIXTURE THAT IS UNSWITCHED AND SHALL REMAIN ON AT ALL TIMES. NOTATIONS SAME AS ABOVE.	\$os	SINGLE POLE SWITCH "OS" INDICATES A PASSIVE INFRARED OCCUPANCY SENSOR DOUBLE POLE SWITCH	▼ ^K	TELEPHONE OUTLET FOR DESK TYPE HANDSET K = KEY SYSTEM	VSS	SPRINKLER VALVE SUPERVISORY	/ SWITCH	HACR HH	HEATING & AIR CONDITIONING HANDHOLE
A 23		\$ ² _{OS}	"OS" INDICATES PROGRAMMABLE OCCUPANCY SENSOR CAPABLE OF INBOARD/OUTBOARD SWITCHING	▼ K	TELEPHONE OUTLET FOR WALL TYPE HANDSET (MOUNT UP 4'-6") K = KEY SYSTEM	SFS	SPRINKLER FLOW ALARM SWITCH	Н	HT HID	HEIGHT HIGH INTENSITY DISCHARGE
X .	SHADED AREA INDICATES LIGHTING FIXTURE THAT IS EQUIPPED WITH EMERGENCY BACKUP POWER SOURCE. NOTATIONS SAME AS ABOVE.	\$ DT	SINGLE POLE SWITCH "DT" INDICATES DUAL TECHNOLOGY PROGRAMMABLE OCCUPANCY SENSOR CAPABLE OF SENSING MOTION AND SOUND	∇	PAGE/PARTY TELEPHONE OUTLET FOR DESK TYPE HANDSET	ED	FIRE ALARM BELL		HZ ID	HORSEPOWER HERTZ IDENTIFICATION
) b	DOLE MOUNTED AREA TYPE HOUTING FIVEURE MOTATIONS SAME AS	C3	LIGHTING CONTACTOR WITH NUMBER OF POLES AS INDICATED	₹	PAGE/PARTY TELEPHONE OUTLET FOR WALL TYPE HANDSET, MOUNT UP 4'-6"	Ø	WEATHERPROOF HI-INTENSITY FI	TIRE ALARM STROBE LIGHT WITH HORN	INSTR K	INSTRUMENT KILO (PREFIX)
A 3	POLE MOUNTED AREA TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE	TM	TIME SWITCH		PAGING SPEAKER, WALL MOUNTED H = HORN TYPE W = WIDE ANGLE TYPE	PIR	PASSIVE INFRARED DETECTOR		kcmil KVA	1000 CIRCULAR MILS KILOVOLT AMPERES
\varnothing^{A} \square^{3}	POLE MOUNTED ROADWAY TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE		PUSH BUTTON STATION		PAGING SPEAKER, WALL MOUNTED, BI-DIRECTIONAL, HORN TYPE W = WIDE ANGLE TYPE	□ R	SMOKE BEAM DETECTOR (RECEN	VER)	LA LTG	KILOWATTS LIGHTNING ARRESTER LIGHTING
L-IVI -	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LAMP HEADS "EM" — FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE)	TYPE A	INDICATES ALL LIGHTING FIXTURES WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE TYPE "A" UNLESS OTHERWISE NOTED. SEE LIGHTING FIXTURE SCHEDULE FOR TYPES	S	PAGING SPEAKER, FLUSH MOUNTED CEILING TYPE	□т	SMOKE BEAM DETECTOR (TRANS		LP LV	LIGHTING PANEL LOW VOLTAGE
(*)	"3" - SUPERVISORY CIRCUIT * - FIXTURE TAG #		LIGHTING PANELBOARD (LP-#)	S	PAGING SPEAKER, SURFACE MOUNTED CEILING TYPE	-	FIRE ALARM SMOKE DETECTOR F	REMOTE INDICATOR AND TEST SWITCH	MAX MCB	MAXIMUM MAIN CIRCUIT BREAKER
R-2	REMOTE EMERGENCY ADJUSTABLE WALL LIGHTING FIXTURE WITH TWO LAMP HEADS		SHOWN ON PLAN PER ACTUAL PANEL DIMENSIONS	VC	REMOTE WALL MOUNTED VOLUME CONTROL FOR CEILING SPEAKER, MOUNT UP 5'-0"			ABBREVIATIONS	MCC MCP MDP	MOTOR CONTROL CENTER MOTOR CIRCUIT PROTECTOR MAIN DISTRIBUTION PANEL
BU-1(*)	"R-2" - FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) * - HOME RUN TO BATTERY UNIT INDICATED. CONDUIT SHALL BE 3/4" AND CONTAIN (2) NO. 12 AWG BRANCH		POWER PANELBOARD (PP-#) OR DISTRIBUTION PANELBOARD (DP-#) SHOWN ON PLAN PER ACTUAL PANEL DIMENSIONS	A	PAGING SPEAKER AMPLIFIER ASSEMBLY		A	AMPS ALTERNATING CURRENT	MFR MH	MANUFACTURER MANHOLE
	CIRCUIT CONDUCTORS AND (1) NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE INDICATED.		LIGHTING CONTACTOR PANELBOARD (LCP-#) SHOWN ON PLAN PER ACTUAL PANEL DIMENSIONS	ТМ	TELEPHONE CABINET OR BACKBOARD AS NOTED		AFF AFG	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE	MIN MLO MTD	MINIMUM MAIN LUGS ONLY MOUNTED
A 3	COMBINATION BATTERY UNIT AND EXIT SIGN. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN.	* ~	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W * GFCI - GROUND FAULT CIRCUIT INTERRUPTER TYPE WP - WEATHERPROOF	P OR C	"C" - DATA INPUT/OUTPUT CABLE OUTLET "P" - PROCESS COMPUTER SYSTEM (CAT6 RJ-45 JACK)		AL AIC	ALUMINUM AMPERE INTERRUPTING CAPACITY	MTS MV	MANUAL TRANSFER SWITCH MEDIUM VOLTAGE
A 3	CEILING MOUNTED EXIT SIGN, NOTATIONS SAME AS ABOVE. WHEN USED, ARROW INDICATES DIRECTION OF EGRESS. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN. (DOUBLE FACE DOUBLE CHEVRONS SHOWN)	*←	XP — EXPLOSION PROOF T — TRANSIENT VOLTAGE SURGE SUPPRESSOR IC — ISOLATED GROUND 4 — CIRCUIT NUMBER	GD/VF	GAS DETECTOR/VENTILATION FAILURE ALARM, # INDICATES TYPE OF UNIT. 1 = MASTER, 2 = REMOTE		AMP ATS AUTO	AMPERE AUTOMATIC TRANSFER SWITCH AUTOMATIC	N NC NO	NEUTRAL NORMALLY CLOSED NORMALLY OPEN OR NUMBER
A 3	WALL MOUNTED EXIT SIGN, NOTATIONS SAME AS ABOVE. WHEN USED, ARROW INDICATES DIRECTION OF EGRESS. FILLED QUADRANT	* =	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W MOUNTED ABOVE COUNTER-TOP OR 42" AFF * NOTATIONS SAME AS ABOVE	B	GAS DETECTION/VENTILATION FAILURE WEATHERPROOF DUAL-LITE BEACON MOUNT TOP OF DEVICE UP 6'-8" A.F.F.		AUX AWG BKR	AUXILIARY AMERICAN WIRE GAUGE BREAKER	NTS OH OL	NOT TO SCALE OVERHEAD OVERLOAD
	REPRESENTS FACE SIDE OF SIGN. REMOTE EMERGENCY CEILING LIGHTING FIXTURE.	* 3 60 4w	SPECIAL PURPOSE RECEPTACLE * — VOLT RATING	G	GAS DETECTION/VENTILATION FAILURE HORN/STROBE MOUNT TOP OF DEVICE UP 6'-8" A.F.F.		BLDG C CB	BUILDING CONDUIT CIRCUIT BREAKER	PB PCP	PULL BOX PUMP CONTROL PANEL
RH-3 E) 3 BU-1(*)	"RH-3" — FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "3" — SUPERVISORY CIRCUIT * — HOME RUN TO BATTERY UNIT INDICATED. CONDUIT	60 9 4W	"3" — NUMBER OF POLES "60" — AMPERE RATING "4W" — 4 WIRES IN ADDITION TO GROUND	Ğ	GAS DETECTION/VENTILATION FAILURE HORN, MOUNT TOP OF DEVICE UP 6'-8" A.F.F.		CGD CKT	COMBUSTIBLE GAS DETECTOR CIRCUIT	PH PMH	PHASE POWER MANHOLE PANEL OR PANELBOARD
O ₃	SHALL BE 3/4" AND CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE INDICATED.	0 0	MULTI-OUTLET ASSEMBLY, SYMBOL DENOTES RECEPTACLE TYPE	<u>ज</u>	GAS DETECTION/VENTILATION FAILURE STROBE, MOUNT TOP OF DEVICE UP 6'-8" A.F.F.		CLB CLF	CURRENT LIMITING BREAKER CURRENT LIMITING FUSE CONTROL PANEL	PR PRI	PAIR PRIMARY
7.5	HOME RUN TO DESIGNATED EQUIPMENT, BRANCH CIRCUIT CONDUIT		FLUSH FLOOR OUTLET BOX WITH TYPE OUTLET INDICATED		SECURITY SYSTEMS		CPT CR	CONTROL PANEL CONTROL POWER TRANSFORMER CONTROL RELAY	PT PVC	POTENTIAL TRANSFORMER POLYVINYL CHLORIDE
	WITH 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE NOTED. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.	VV	UNDER FLOOR DUCT SYSTEM WITH TYPE OUTLETS INDICATED	SACP	SECURITY ALARM CONTROL PANEL		CS	CONTROL SWITCH/CONTROL STATION CURRENT TRANSFORMER	REQD QTY	RECEPTACLE REQUIRED QUANTITY
	CONDUIT CONCEALED IN WALL, IN SLAB ABOVE, OR ABOVE CEILING.		THREE CELL UNDER FLOOR DUCT SYSTEM JUNCTION BOX	DS	SECURITY ALARM DOOR SWITCH		cws	COPPER CONDUIT WALL SEAL DIRECT CURRENT	SA SEC	SURGE ARRESTER SECONDS OR SECONDARY
	CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND.	J OR O	JUNCTION BOX	♦	SECURITY ALARM KEY PAD		DIA DMU	DIAMETER DIGITAL METERING UNIT	SH SHH SPD	SHIELDED OR SPACE HEATER SIGNAL HANDHOLE SURGE PROTECTIVE DEVICE
	CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.	P	PULL BOX	\$ -	SECURITY SYSTEM CARD ACCESS READER		DN EC ELEC	DOWN EMPTY CONDUIT ELECTRICAL	SS	STAINLESS STEEL SOLENOID VALVE
*-	'X' INDICATES EXPLOSION PROOF CONDUIT SEAL FITTING.	ТС	TERMINAL CABINET	WS	SECURITY ALARM WINDOW SWITCH		ELLC	ELECTRICAL	SWBD	SWITCH SWITCHBOARD
DS 3334	CONCRETE ENCASED DUCTBANK. WIDTH VARIES, SEE DUCTBANK SECTION/DETAILS FOR REQUIREMENTS AND WIDTH	68	OCCUPANCY SENSOR	•	SECURITY ALARM MOTION DETECTOR		SHEET NO. WHERE DETAIL IS DRAWN		SWGR TC TEL	SWITCHGEAR TIME TO CLOSE OR TRAY CAI TELEPHONE
	CONDUIT STUBBED OUT AND CAPPED	(P)	PHOTOCELL	_CCTV	CLOSED CIRCUIT TV CAMERA	SYMBOL	WHERE THERE IS A DETAIL		TO TS	TIME TO OPEN TWISTED SHIELDED OR THERM
(2) 3"C.,	DENOTES A QUANTITY OF TWO (2) 3-INCH CONDUITS EACH CONTAINING THREE NO. 3/O AWG CONDUCTORS AND 1 NO. 2 AWG	ЕНН	ELECTRICAL HANDHOLE	PTZ	PAN, TILT, ZOOM CAMERA LENS CONTROLS	DETAI	L A		TYP UG	SWITCH TYPICAL UNDERGROUND
3#3/0, 1#2G	GROUND CONDUCTOR.	77777		GB	GLASS BREAK DETECTOR	$\frac{32}{1/4"} = 1$	SHEET NO	D. HERE AIL	UPS V	UNINTERRUPTIBLE POWER SUF
2-2/C#16 SH	DENOTES A QUANTITY OF TWO INSTRUMENT CABLES. EACH CABLE TO CONSIST OF TWO NO. 16 AWG CONDUCTORS TWISTED TOGETHER AND COVERED WITH A METALLIC SHIELD AND AN OVERALL PROTECTIVE	(////	INDICATED EQUIPMENT AND MATERIALS TO BE DEMOLISHED INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS		FIRE ALARM SYSTEMS	SYMBOL Y	WHERE DETAIL IS DRAWN	GENERAL NOTE	VA VFD W	VOLT AMPS VARIABLE FREQUENCY DRIVE WATTS, WIDTH, WITH, WIRE
	JACKET, REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED. SAME AS ABOVE EXCEPT CABLE TO CONSIST OF THREE NO. 16 AWG	DUST	INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 12 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.	(H) _R ²⁰⁰	FIRE ALARM HEAT DETECTOR 135 FIXED TEMPERATURE UNLESS OTHERWISE NOTED. "200" — 200 FIXED TEMPERATURE	<u>DETAI</u>	IL SYMBOL	THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.	WP XP XFMR	WEATHERPROOF EXPLOSION PROOF TRANSFORMER
2-3/C#16 SH	CONDUCTORS TWISTED, SHIELDED AND COVERED WITH AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.	DAMP	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR GASKETED AND	(2) ¹	"R" — FIXED TEMPERATURE RATE—OF—RISE TYPE FIRE ALARM SMOKE DETECTOR PHOTOELECTRIC TYPE UNLESS OTHERWISE NOTED.	_	SHEET NO. WHERE SEC			
(3) 4°C.	THREE 4-INCH CONDUITS	WET	SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.	② ^D	"I" — IONIZATION TYPE. FIRE ALARM DUCT SMOKE DETECTOR	SYMBOL	WHERE THERE IS A SECTION			
\sim	FLEXIBLE METAL CONDUIT "WHIP" (3/4"C., 2#12, 1#12G UNLESS OTHERWISE NOTED) FOR LIQUID TIGHT MOTOR CONNECTIONS	CORROSIVE	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR CORROSION RESISTANT CONSTRUCTION SUITABLE FOR USE IN A WELL OCATION	FACP	FIRE ALARM CONTROL PANEL	SECTI	ON 1			WEALTH OF MASS
×	'X' INDICATES CONDUIT SEAL FITTING IN OTHER THAN CODE REQUIRED LOCATIONS.		WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.	FV	FIRE ALARM VENTILATION PANEL WITH GRAPHIC PANEL	$\frac{02011}{1/4"} = 1$	-0" E-3 SHEET NO WHERE SE). ECTION		SUPASIT CHONGSUTTANAMANEE ELECTRICAL
	INDICATES MOTOR STARTER AND/OR MOTOR CONTROL EQUIPMENT WITHIN THE ENCLOSURE.		INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL CONFORM TO N.E.C. REQUIREMENTS FOR THE HAZARDOUS AREA CLASSIFICATION SHOWN.	FA	REMOTE FIRE ALARM ANNUNCIATOR PANEL		WHERE SECTION IS DRAWN			No. 48969 OFFICE OF THE PROPERTY OF THE PROPE
	'X' INDICATES CONDUIT SEAL FITTING IN OTHER THAN CODE REQUIRED LOCATIONS. INDICATES MOTOR STARTER AND/OR MOTOR CONTROL EQUIPMENT	CLASS I, DIV. 1	RESISTANT CONSTRUCTION SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED. INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL CONFORM TO N.E.C. REQUIREMENTS FOR THE	FV		1/4" = 1' SYMBOL	SHEET NO WHERE SE IS TAKEN	ELECTRICAL		

75 State Street, Suite 701 Boston, MA 02109 Tel: (617) 452-6000

REV. DATE DRWN CHKD

REMARKS

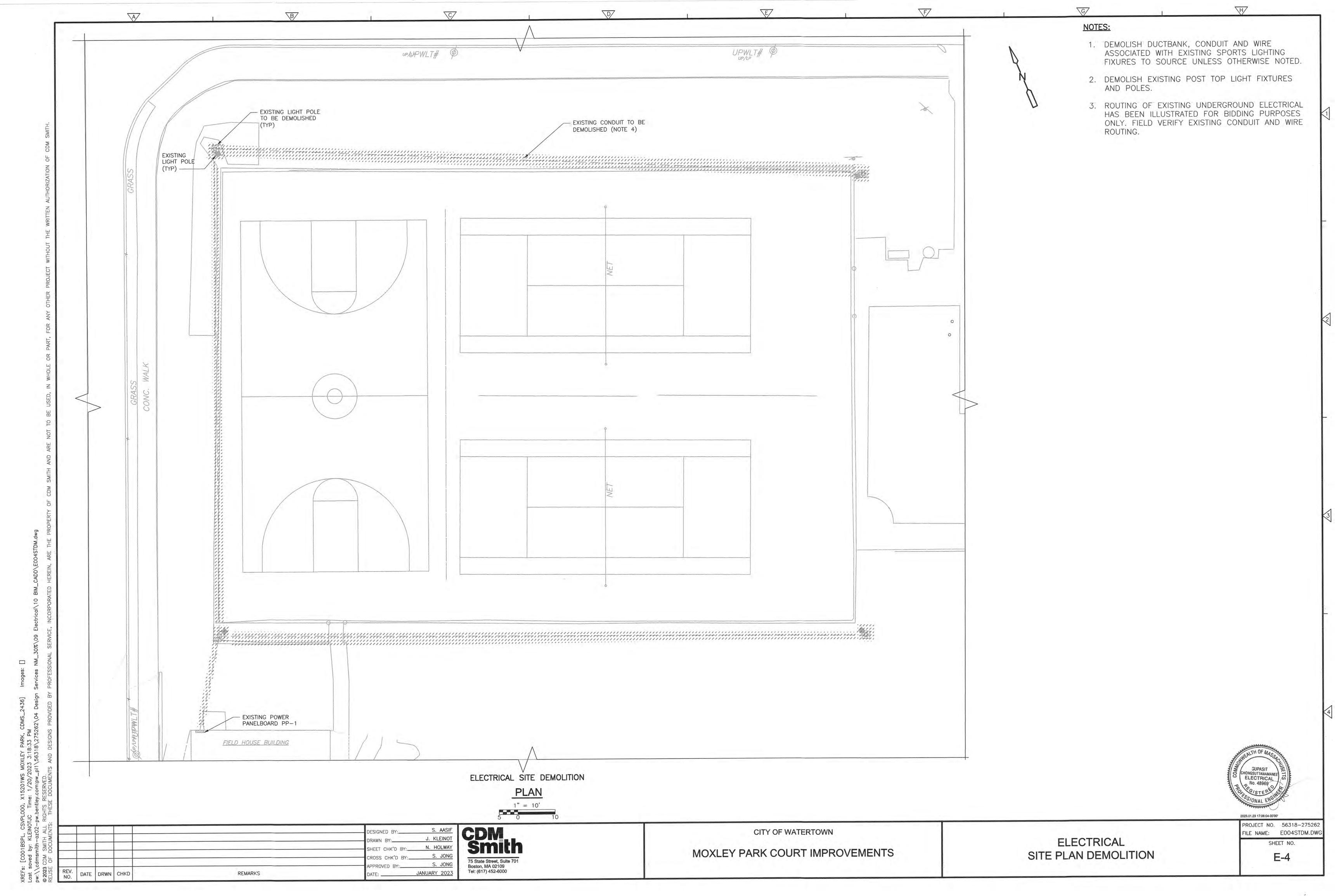
MOXLEY PARK COURT IMPROVEMENTS

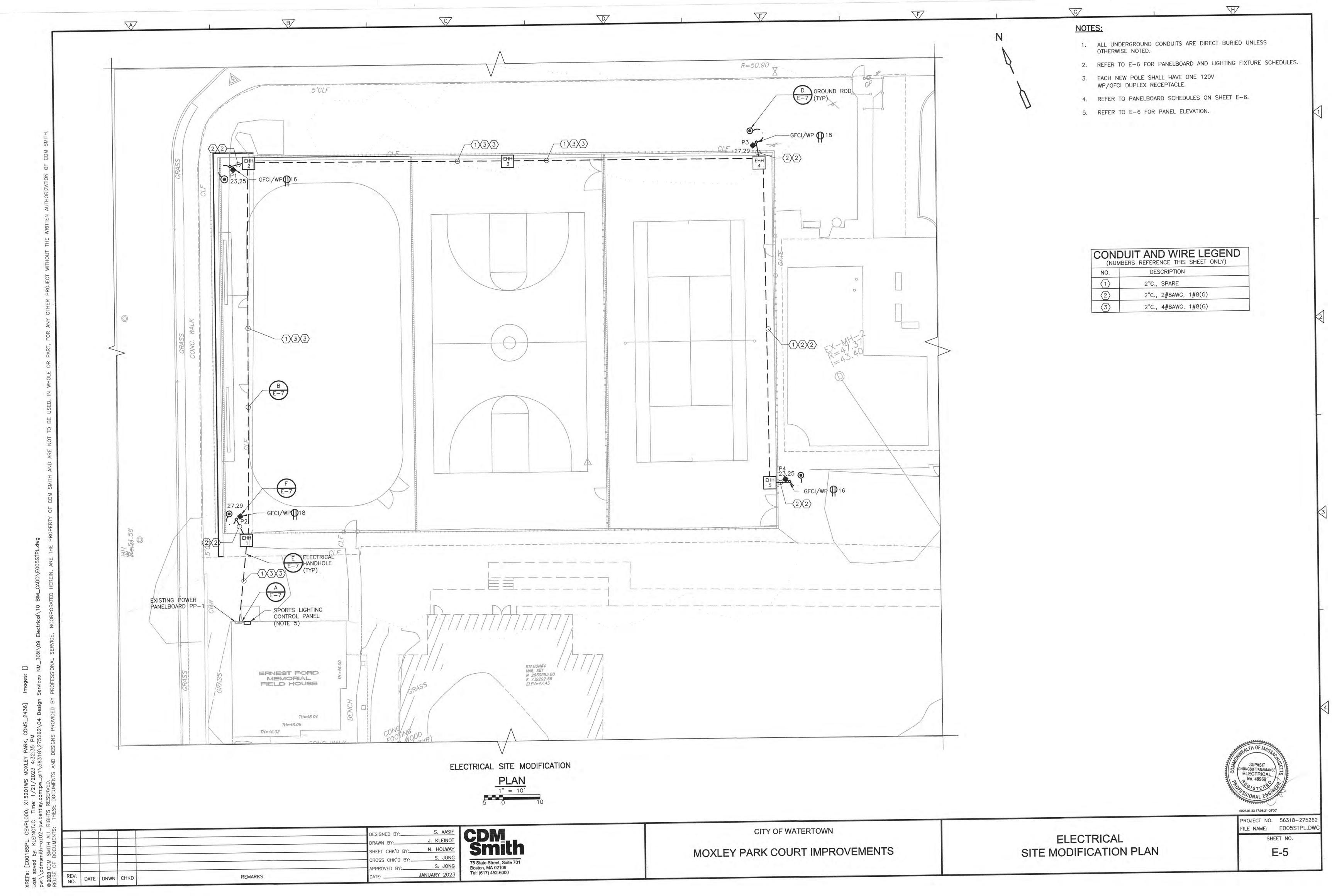
ELECTRICAL LEGEND II

SUPASIT
CHONGSUTTANAMANEE
ELECTRICAL
No. 48969
2023.01.23 17:05:46-05'00'

PROJECT NO. 56318-275262
FILE NAME: E003NFLG.DWG SHEET NO.

E-3

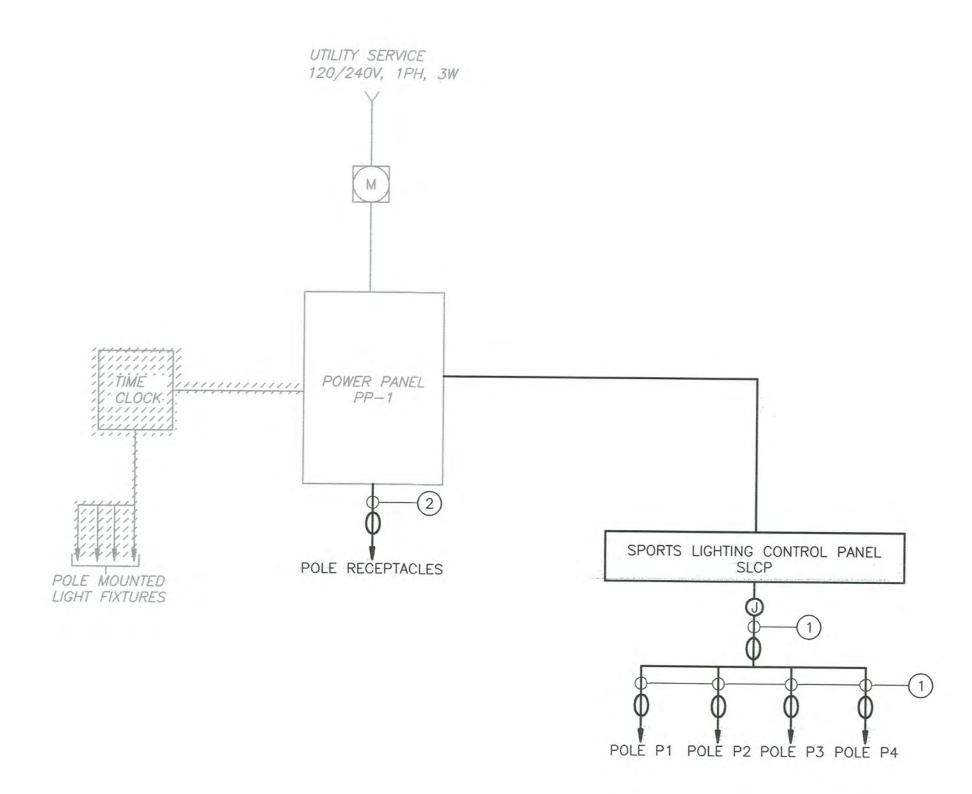




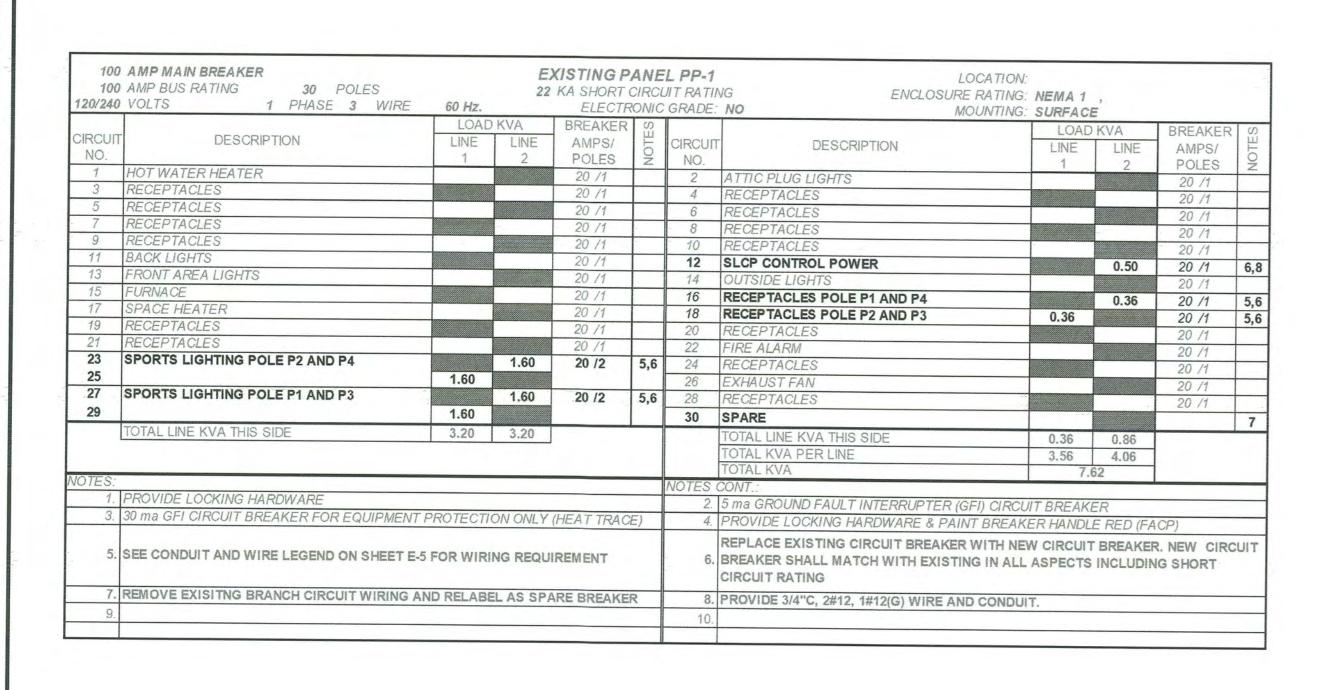
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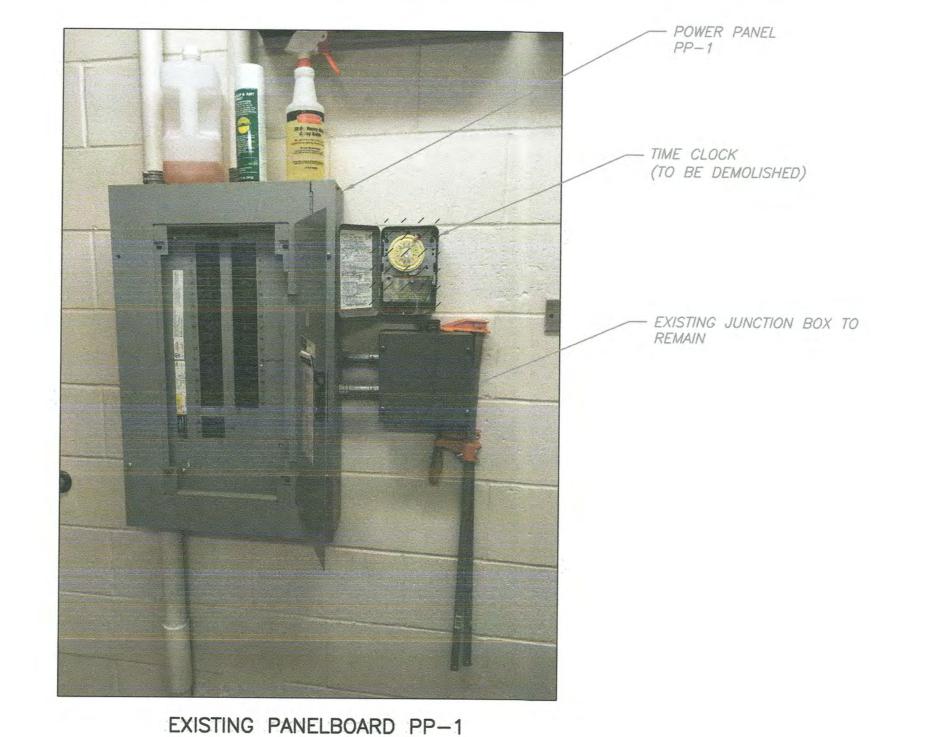
KEY NOTES:

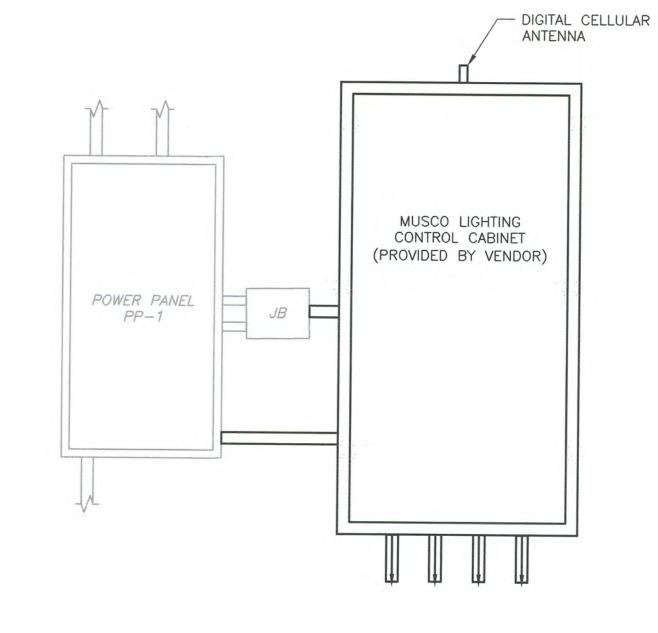
- 1) REFER TO E-5 FOR CONDUIT AND WIRE SIZES.
- 2 REFER TO PANEL SCHEDULE FOR CONDUIT AND WIRE SIZES.



ELECTRICAL
ONE LINE DIAGRAM







EXISTING PP-1

ELEVATION - MODIFICATION

N.T.S.

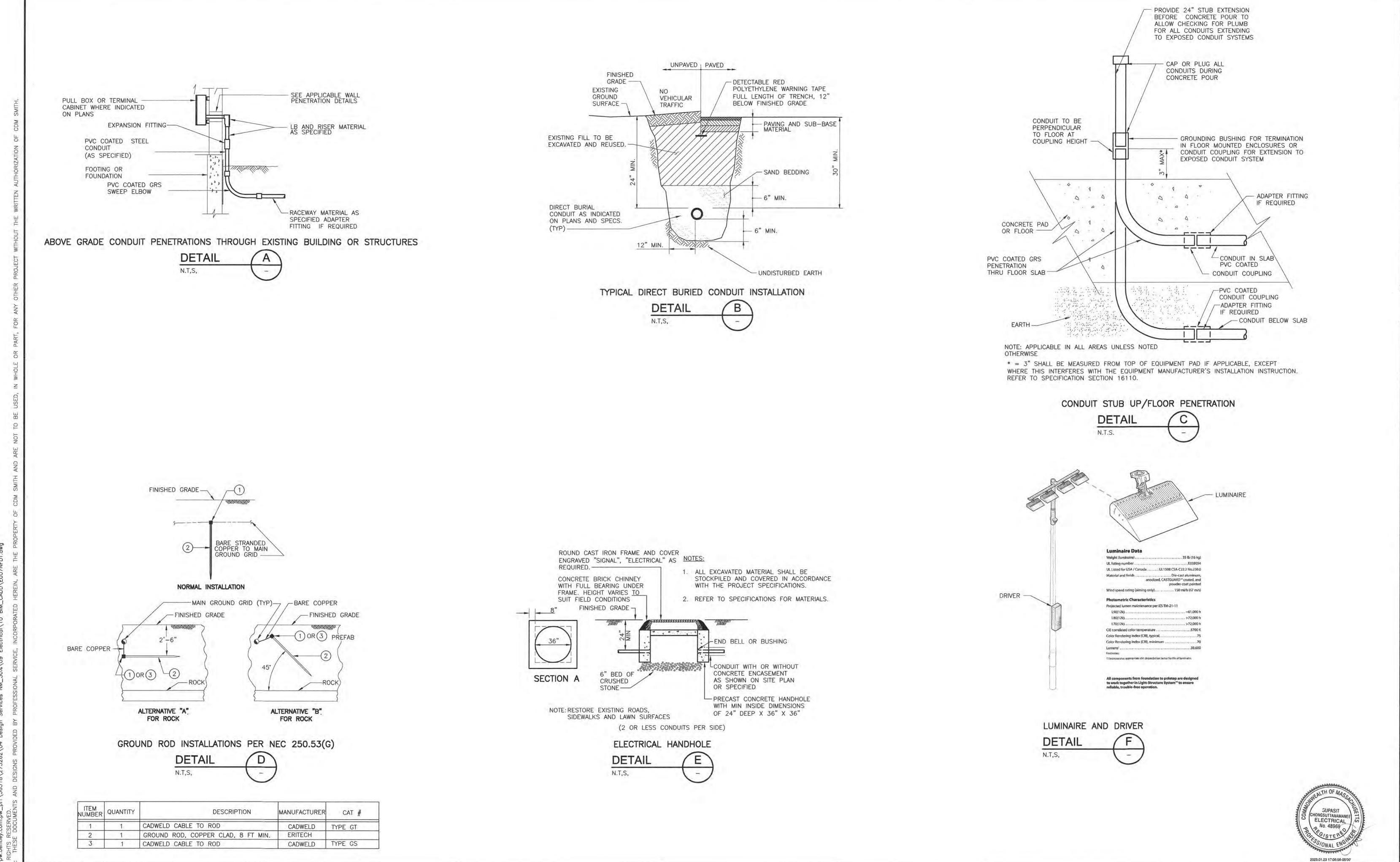
						LIG	HTING FIXT	TURE SCH	EDULE			
ID	POLE HEIGHT	GRADE ELEVATION		FIXTURE QTY	LUMINAIRE TYPE	WATTS (PER FIXTURE)	VOLTAGE	LUMENS	LIGHT	DESCRIPTION	MANUFACT	URER
P1	50'	4'	54'	4	TLC-LED-400	400W	240V	46,500	LED - 5700K - 75 CRI		MUSCO	
P2	50'	-	50'	4	TLC-LED-400	400W	240V	46,500	LED - 5700K - 75 CRI	SPORTS LIGHTING FIXTURES AND SYSTEM	MUSCO	
P3	50'	-	50'	4	TLC-LED-400	400W	240V	46,500	LED - 5700K - 75 CRI	(REFER SPECIFICATION SECTION 265619 REQUIREMENTS)	MUSCO	OR EQUAL
P4	50'	-	50'	4	TLC-LED-400	400W	240V	46,500	LED - 5700K - 75 CRI		MUSCO	



4		1				
					DESIGNED BY:	S. AASIF
	-	\Box			DRAWN BY:	J. KLEINOT
					SHEET CHK'D BY:	N. HOLWAY
					CROSS CHK'D BY:	S. JONG
REV. NO.	DATE	DDWN	CHKD		APPROVED BY:	S. JONG
NO.	NO. DATE	DKWN	CHKD	REMARKS	DATE:	JANUARY 2023

| Images: [IMG_2646] |10TJC Time: 1/20/2023 2:56:05 PM |2-pw.bentley.com:pw_p11\56318\275262 | RIGHTS RESERVED. | THESE DOCUMENTS AND DESIGNS P

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CITY OF WATERTOWN

MOXLEY PARK COURT IMPROVEMENTS

ELECTRICAL DETAILS

PROJECT NO. 56318-275262 FILE NAME: E007NFDT.DW SHEET NO.

E-7