CITY OF NEWTON

IN BOARD OF ALDERMEN

PUBLIC FACILITIES COMMITTEE REPORT

WEDNESDAY, JUNE 5, 2013

Present: Ald. Salvucci (Chairman), Lennon, Albright, Crossley, Danberg, and Laredo
Absent: Ald. Gentile and Lappin
Also present: John Daghlian (Associate City Engineer), Josh Morse (Interim Commissioner of Public Buildings)

#190-13 HPC WIRELESS petitioning for a grant of location to install 4" fiber optic cable duct bank in WEBSTER STREET from an existing pole to the Massachusetts Turnpike Property. (Ward 3) [05-01-13 @ 10:07]

ACTION: APPROVED 6-0

NOTE: Rich Pasciuto, Representative of HPC Wireless, presented the request for a grant of location to install underground fiber optic cable in new duct bank in Webster Street to provide better mobile telephone services. There is a large tower located on Massachusetts Turnpike authority property, which the fiber needs to reach to provide increased capacity to support mobile phones. The installation will begin at an existing utility pole near Webster Park to the driveway to the Massachusetts Turnpike Authority property.

The Department of Public Works has reviewed and recommended approval of the project. The City is reconstructing Webster Street this construction season and would like HPC Wireless to complete all of its work as soon as possible so the street reconstruction is not delayed.

The public hearing was opened and no one spoke for or against the petition. A Committee member questioned whether the project would improve cell service in the Waban area around Cold Spring Park. Mr. Pasciuto stated that the above project would not affect cell service in the Waban area but there are Sprint upgrade projects planned in that area of the City to improve coverage and increase capacity. However, the upgrades would only improve service for residents that subscribe to Sprint for service. With that, Ald. Crossley moved approval, which carried unanimously.

REFERRED TO PUBLIC FACILITIES AND FINANCE COMMITTEES

#211-13 HIS HONOR THE MAYOR requesting authorization to appropriate and expend the sum of two hundred seventy-five thousand dollars ($275,000) from bonded indebtedness to fund accessibility improvements at the Lower Falls Community Center. 05/28/13 @ 3:51 PM]

ACTION: APPROVED 6-0

NOTE: Interim Public Buildings Commissioner Josh Morse presented the request for $275,000 for accessibility improvements at the Lower Falls Community Center. The total project cost is $300,000, which includes $25,000 for design that was previously approved by the Board of Aldermen. The attached project budget breakdown provides further detail on the costs for the accessibility improvements.

The proposed improvements include renovations to all bathrooms, the addition of a vertical lift between the main floor and the gym, replacement of the water bubbler, hardware replacement, signage and other minor improvements. The community and city groups heavily use the Lower Falls Community Center and it is a polling location as well. It will be a benefit to all users when the building is accessible. Commissioner Morse presented the attached plans at the meeting. Once the accessibility improvements are done, the building will be complete in terms of capital improvements.

Accessibility improvements related to building renovations are triggered when the renovation of a building results in 33% increase to the valuation of the property within a three-year period. There have been improvements to the Lower Falls Community Center over the past three years that have triggered the accessibility requirement. Once the work is complete, the building will meet all the accessibility requirements under the Architectural Access Board standard.

The project was sent out to bid and three contractors bid on the project. Two bidders came in below the estimated cost of the project. The bid results are attached. The project was awarded to Barbato Construction, as the low bidder. The Public Buildings Department has worked with Barbato Construction a number of times and has been pleased with their work.

Ald. Danberg moved approval, which carried unanimously.

REFERRED TO PUBLIC FACILITIES AND FINANCE COMMITTEES

#212-13 HIS HONOR THE MAYOR requesting authorization to transfer the sum of sixty-five thousand dollars ($65,000) from the Public Buildings Department Full-time Salaries Account and appropriate the sum of thirty-five thousand dollars from Free Cash to fund the purchase of vehicles for the Public Buildings Department. [05/28/13 @ 3:50 PM]

ACTION: APPROVED 6-0

NOTE: Interim Public Buildings Commissioner Josh Morse presented the request for $100,000 to purchase two vans and two cars at auction. The Public Buildings Department will also be purchasing one natural gas pick-up truck. Over the past year, the department has lost three vehicles that were considered not worth repairing and surplused. A fourth vehicle will require replacement in the very near future as it will not pass inspection without extensive repairs like the replacement of a rotted frame.

The Commissioner explained that the purchase is being funded through a combination of $35,000 from Free Cash and $65,000 from unexpended salary funds within the Public Buildings

Department due to vacant positions. The new vehicles will not go home with employees overnight.

Commissioner Morse explained that the City would be looking at using natural gas vehicles in the future. The cost of natural gas fuel is less expensive and it burns cleaner than gasoline. The Committee requested further information on natural gas vehicles.

Ald. Laredo moved approval of the item, which carried unanimously.

REFERRED TO PROGRAMS & SERV. AND PUBLIC FACILITIES COMMITTEES

#315-12 ALD. FULLER, RICE AND GENTILE of the Angier School Building Committee providing updates and discussion on the Angier School Building project as it develops through the site plan approval process. [10-02-12 @ 3:37PM]

ACTION: HELD 6-0

NOTE: The item was held without discussion.

Respectfully submitted,

Anthony J. Salvucci, Chairman

#211-13

Lower Falls Community Center Accessibility Project Budget Breakdown

Construction	$ 263,164.00
Contingency(4.3%)	$ 11,836.00
Total Funding Reques t	$ 275,000.00
Design(previously approved)	$ 25,000.00
Total Project Cost	$300,000.00

City of Newton, Massachusetts
Purchasing Department
Comparison of Bids

INVITATION FOR BID #13-75
Lower Falls Community Center Accessibility Upgrades

Bid Opening Time: 10:30 AM, May 3, 2013
Public Buildings - Maciej Konieczny

BIDDERS	Barbato Construction	Seaver Construction	EaglePoint Builders
Lower Falls Community Center Accessibility Upgrades	**$244,464.00**	**$247,000.00**	**$297,321.00**
Alternate 1	*$8,800.00*	*$6,200.00*	*$5,763.00*
Total with Alternate 1	*$253,264.00*	*$253,200.00*	*$303,084.00*
Alternate 2	*$9,900.00*	*$10,200.00*	*$12,250.00*
Total with Alternate 1 & 2	*$263,164.00*	*$263,400.00*	*$315,334.00*

Award Recommended to:

_____ _____
Chief Procurement Officer *Date*

_____
Alternate 1

_____
Alternate 2

_____ _____
Department Head *Date*

_____ _____
***Mayor* or his designee** Date

Notes Regarding Specific Bids

#211-13

CITY OF NEWTON, MASSACHUSETTS
PURCHASING DEPARTMENT
COMPARISON OF BIDS

INVITATION #13-75

Filed Sub Bidders - Lower Falls Community Center

Filed Sub Bid Opening: April 26, 2013 at 10:30 am
Project Manager: Maciej Konieczny

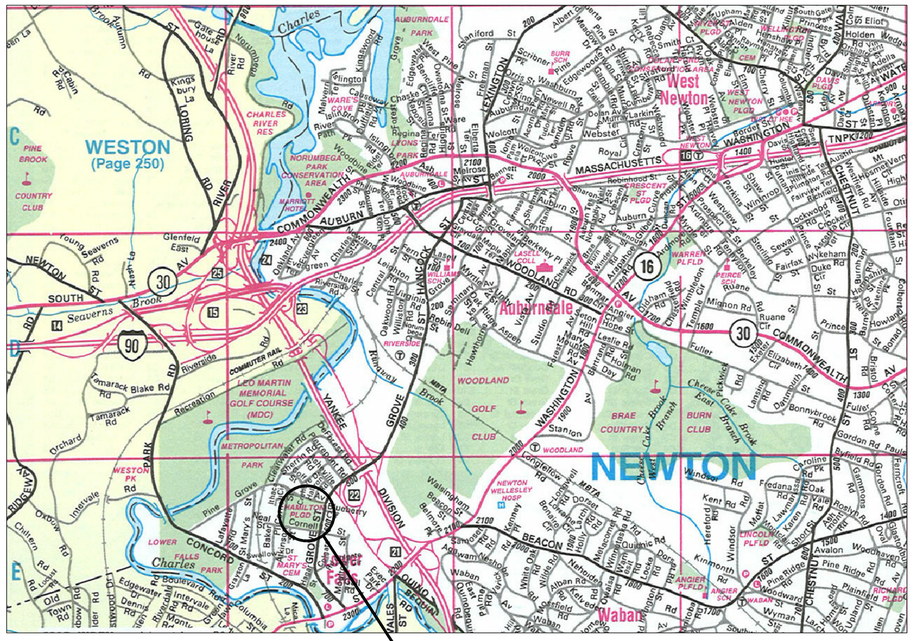
Company Name of Filed Sub Bidders	Base Bid	5% Bid Dep.	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Addendum	Bid Form Sign	Elig. Cert.	Update Stmnt	may be used by any general bidder except	may be used by the following general bidders
ELECTRICAL												
Young Electrical Services	$28,758.00	Y	$1,163.00				1	Y	Y	Y		
Company Name and Address of Filed Sub Bidders	**Base Bid**	**5% Bid Dep.**	**Alt. 1**	**Alt. 2**	**Alt. 3**	**Alt. 4**	**Addendum**	**Bid Form Sign**	**Elig. Cert.**	**Update Stmnt**	**may be used by any general bidder except**	**may be used by the following general bidders**
PLUMBING												
P.J. Dionne Co., Inc.	$32,000.00	Y	$4,900.00				1,2	Y	Y	Y		
Robert W. Irvine & Sons	$32,000.00	Y	$3,200.00	$1,800.00			1,2	Y	Y	Y		

#211-13

LOWER FALLS COMMUNITY CENTER
ACCESSIBILITY IMPROVEMENTS

545 GROVE STREET
NEWTON LOWER FALLS, MA 02462

LOCATION PLAN



LIST OF DRAWINGS

GENERAL
T1.1 TITLE SHEET

ARCHITECTURAL
D1 DEMOLITION - FLOOR PLAN
A1 NEW WORK - FLOOR PLAN
A2 ENLARGED FLOOR PLANS AND ELEVATIONS
A3 ENLARGED PLANS AND SECTIONS
A4 REFLECTED CEILING PLAN, DOOR SCHEDULE AND DETAILS

STRUCTURAL
S0 GENERAL NOTES
S1 PARTIAL FLOOR PLAN AND SECTIONS
S3 PARTIAL ROOF PLAN AND SECTIONS

PLUMBING
P1.O PLUMBING LEGEND
PD2.0 PLUMBING FIRST FLOOR DEMOLITION PLAN
P2.0 PLUMBING FIRST FLOOR PLAN

MECHANICAL
H1 HVAC FIRST FLOOR PLAN

ELECTRICAL
ED1.0 EXISTING & DEMOLITION PLAN-FIRST FLOOR
E1.0 ELECTRICAL LEGEND AND DETAILS
E2.0 NEW POWER, LIGHTING & FIRE ALARM PLAN
E3.0 ELECTRICAL SCHEDULES

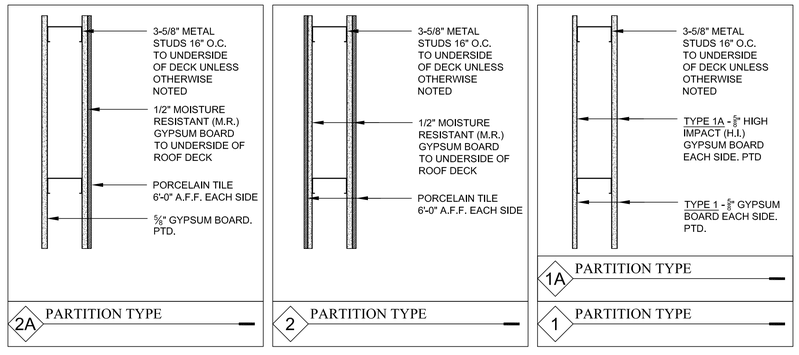
PREPARED BY:

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.

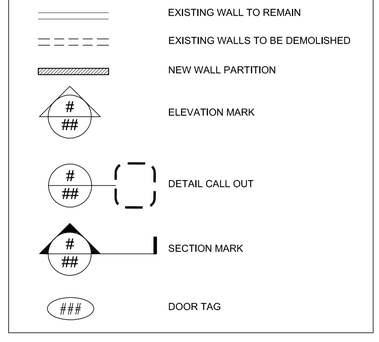
6 THIRTEENTH STREET
CHARLESTOWN NAVY YARD
CHARLESTOWN, MA 02129
Office: 617-241-2807

STRUCTURAL ENGINEERS
SOUZA, TRUE & PARTNERS, INC.
653 MT. AUBURN STREET
WATERTOWN, MA 02472
Office: 617-926-6100

MEP ENGINEERS
CSI ENGINEERS
999 Broadway, Suite 206
Saugus, MA 01906
Office: 781-233-4808



LEGEND & SYMBOLS



KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.
6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
617-241-2857 (F)

Designed By: Daniel P. Bradford

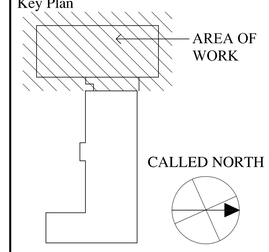
Drawn By: E.L. / T.K.

Checked By: Daniel P. Bradford

REV	DATE	DESCRIPTION

Stamp:

Key Plan



Lower Falls Community Center Accessibility Improvements
545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

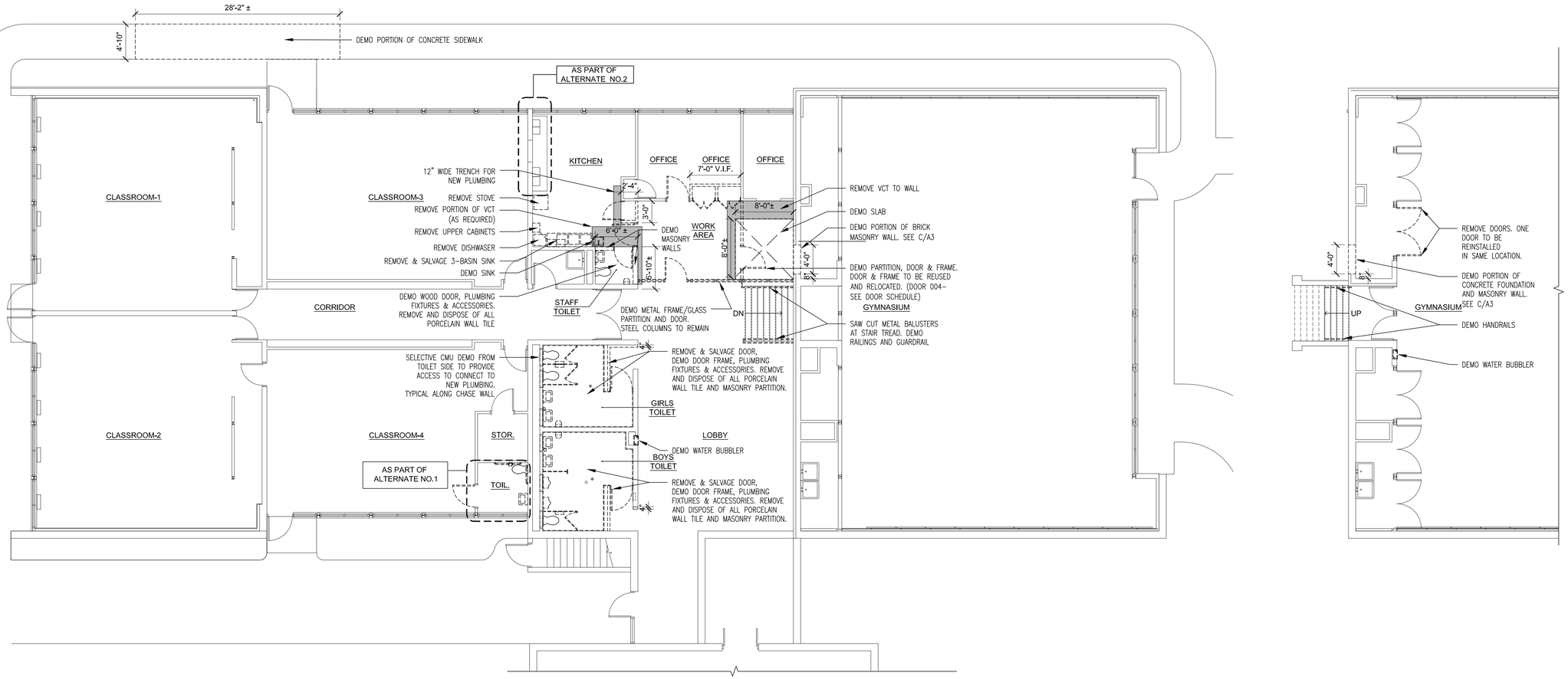
TITLE SHEET

Job No.: S116911-H

Date: 4-4-13

Drawing No. T1

BID DOCUMENTS



B / D1 DEMO WORK PLAN-FIRST FLOOR
SCALE: 1/8"=1'-0"

A / D1 DEMO WORK PLAN-LOWER GYM
SCALE: 1/8"=1'-0"

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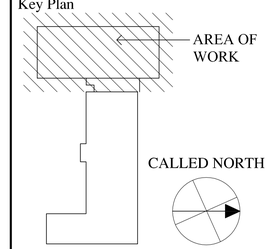


Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

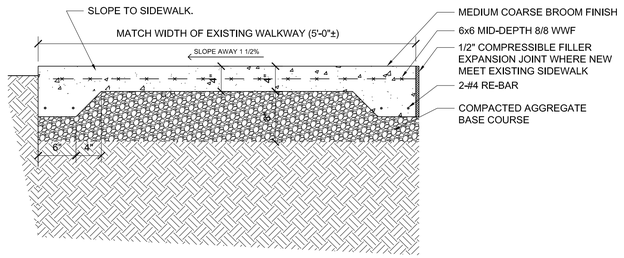
DEMOLITION FLOOR PLANS

Job No.: S116911-H

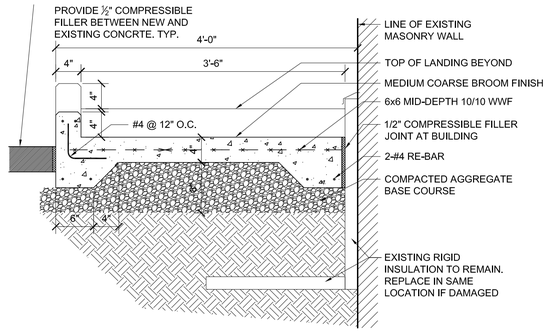
Date: 4-4-13

Drawing No. D1

BID DOCUMENTS



2 A1 CONCRETE SIDEWALK
SCALE: 1"=1'-0"



1 A1 CONCRETE SLOPE SECTION
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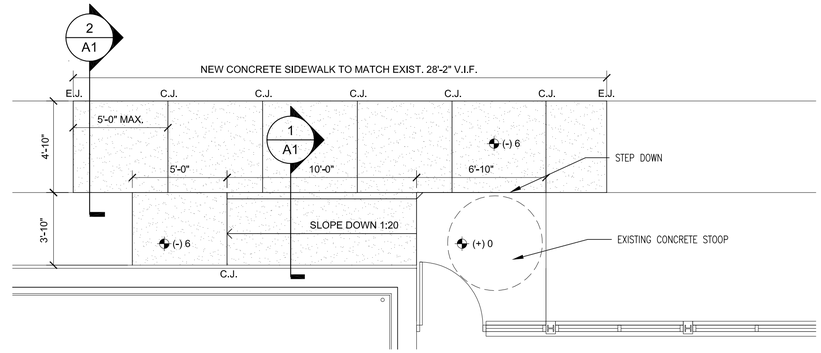
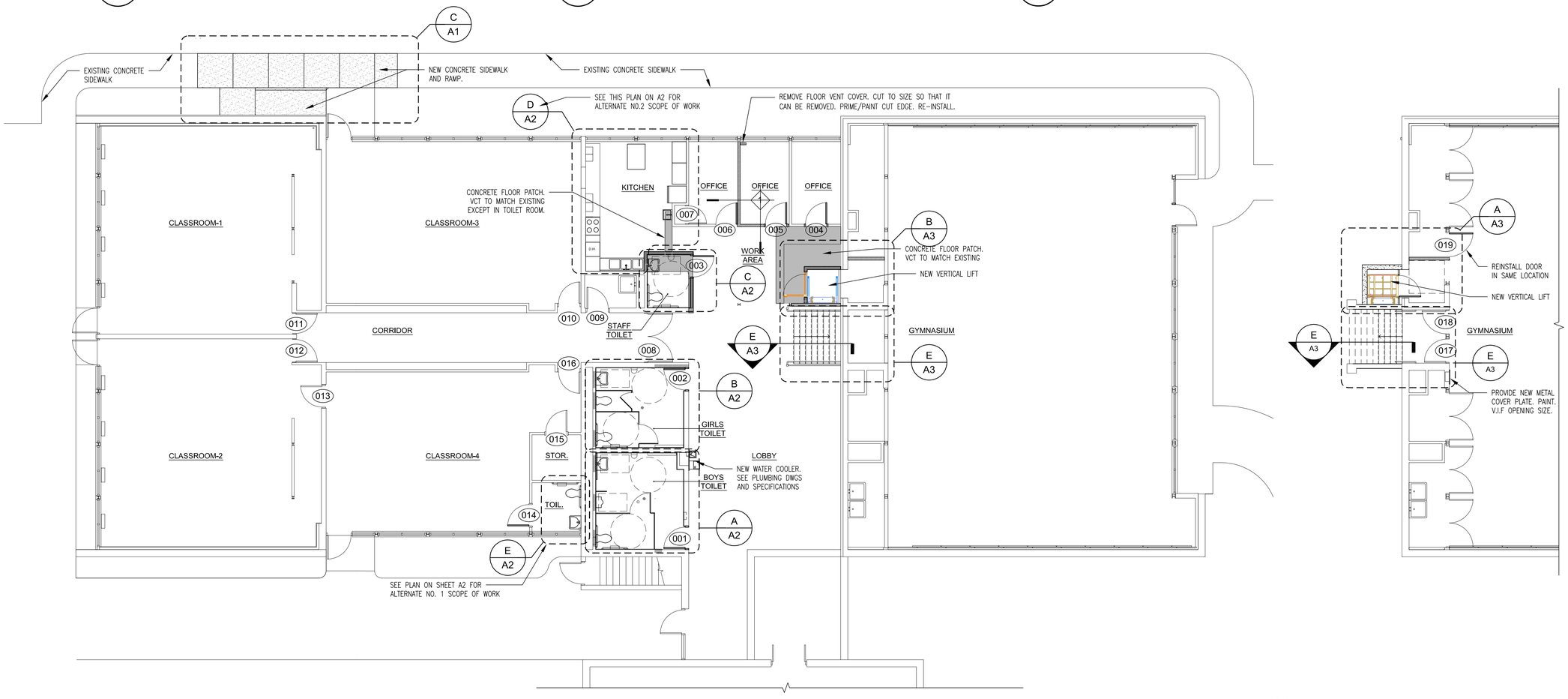


C A3 NEW CONCRETE SLOPE & SIDEWALK PLAN
SCALE: 1/4"=1'-0"



A A1 NEW WORK PLAN-UPPER LEVEL (LOBBY)
SCALE: 1/8"=1'-0"

B A1 LOWER LEVEL (GYM) PLAN
SCALE: 1/8"=1'-0"

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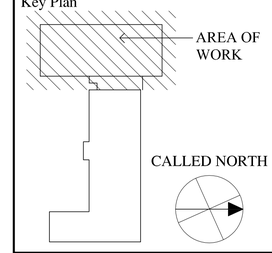


Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

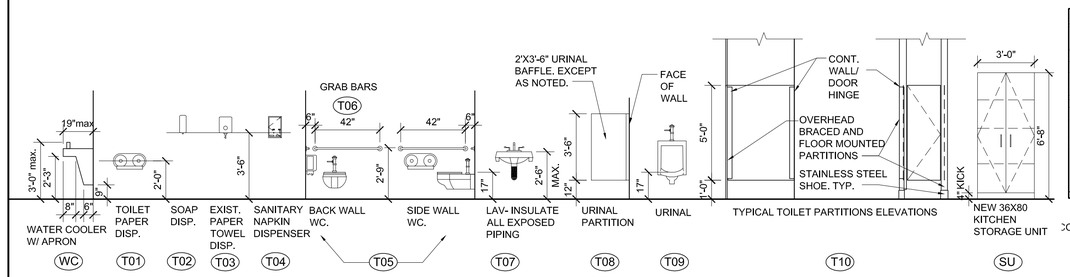
NEW WORK FLOOR PLANS

Job No.: S116911-H

Date: 4-4-13

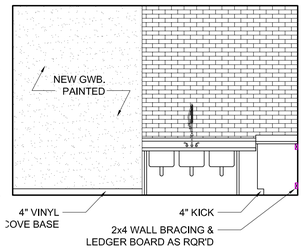
Drawing No. A1

BID DOCUMENTS



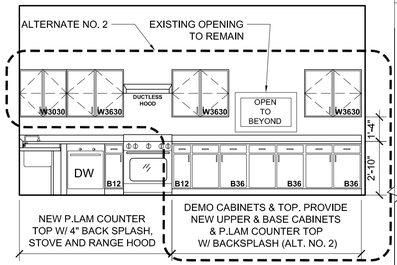
10 / A2 GENERAL NOTES AND ACCESSORIES

SCALE: 1/4"=1'-0"



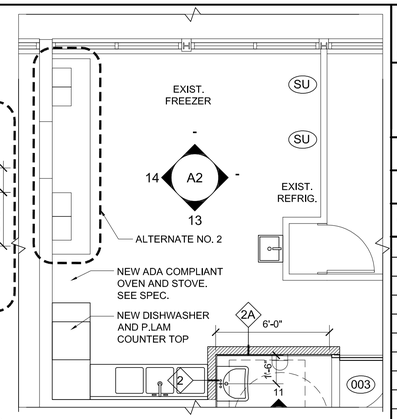
13 / A2 KITCHEN

SCALE: 1/4"=1'-0"



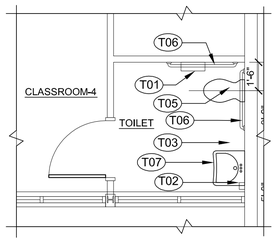
14 / A2 KITCHEN

SCALE: 1/4"=1'-0"



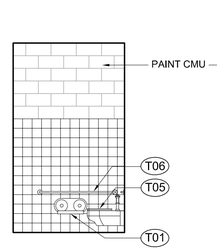
D / A2 KITCHEN PLAN

SCALE: 1/4"=1'-0"



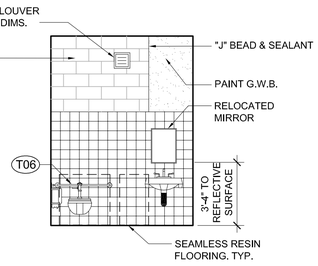
E / A2 ALTERNATE NO. 1 CLASSROOM-4 TOILET

SCALE: 1/4"=1'-0"



9 / A2 STAFF TOILET

SCALE: 1/4"=1'-0"



10 / A2 STAFF TOILET

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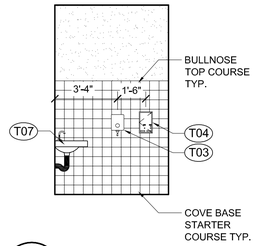
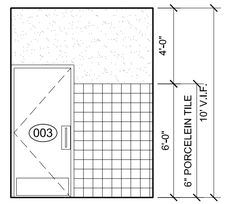


11 / A2 STAFF TOILET

SCALE: 1/4"=1'-0"



12 / A2 STAFF TOILET

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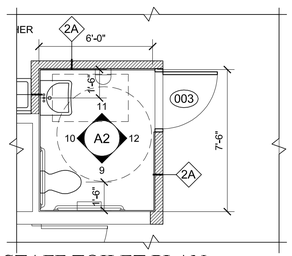
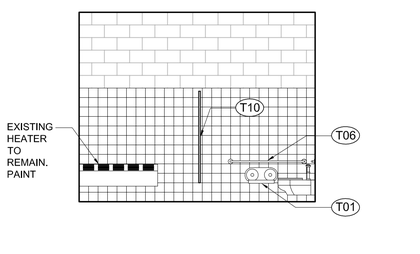


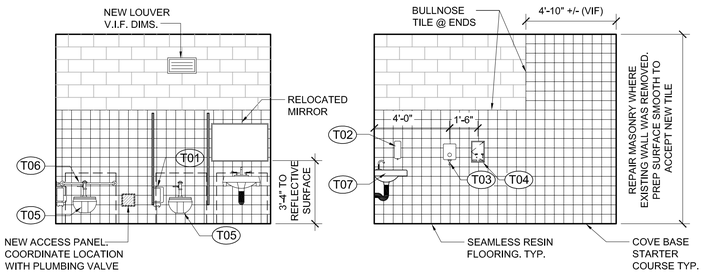
C / A2 STAFF TOILET PLAN

SCALE: 1/4"=1'-0"



5 / A2 GIRLS TOILET

SCALE: 1/4"=1'-0"

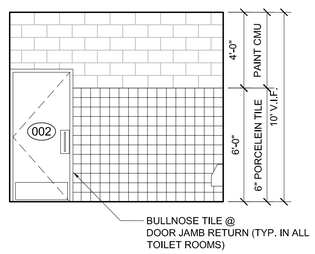


6 / A2 GIRLS TOILET

SCALE: 1/4"=1'-0"

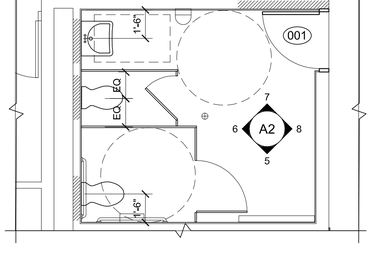
7 / A2 GIRLS TOILET

SCALE: 1/4"=1'-0"



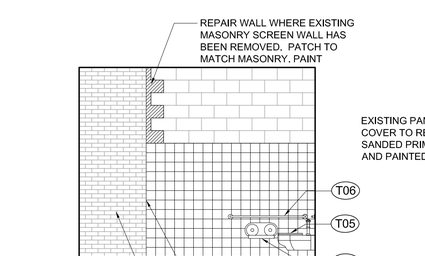
8 / A2 GIRLS TOILET

SCALE: 1/4"=1'-0"



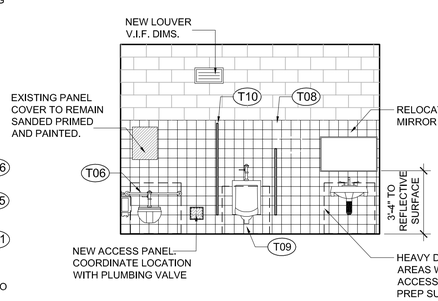
B / A2 GIRLS TOILET PLAN

SCALE: 1/4"=1'-0"



1 / A2 BOYS TOILET

SCALE: 1/4"=1'-0"



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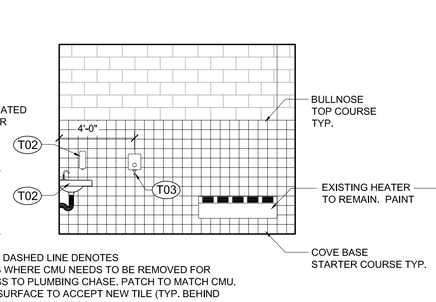

3 / A2 BOYS TOILET

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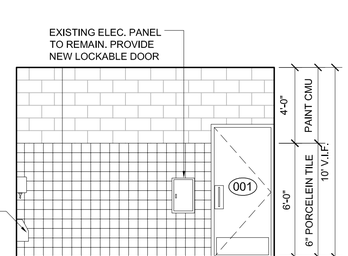
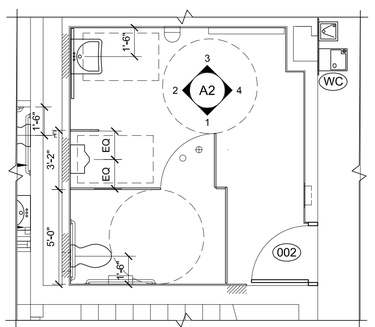


4 / A2 BOYS TOILET

SCALE: 1/4"=1'-0"



A / A2 BOYS TOILET PLAN

SCALE: 1/4"=1'-0"

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.
6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
617-241-2857 (F)

Designed By: Daniel P. Bradford

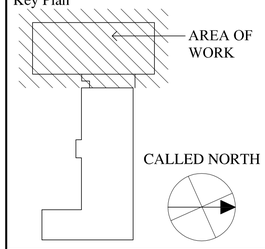
Drawn By: E.L. / T.K.

Checked By: Daniel P. Bradford

REV	DATE	DESCRIPTION

Stamp:

Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

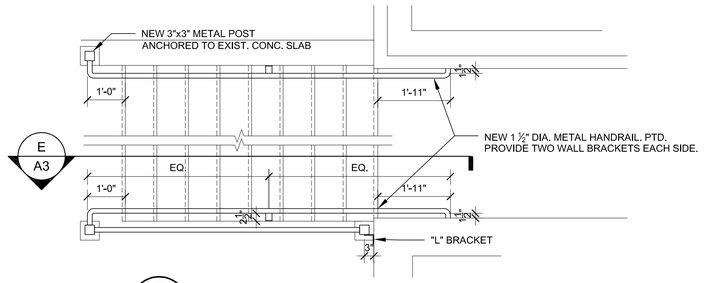
ENLARGED FLOOR PLANS AND ELEVATIONS

Job No.: S116911-H

Date: 4-4-13

Drawing No. A2

BID DOCUMENTS



F A3 **STAIR PLAN**
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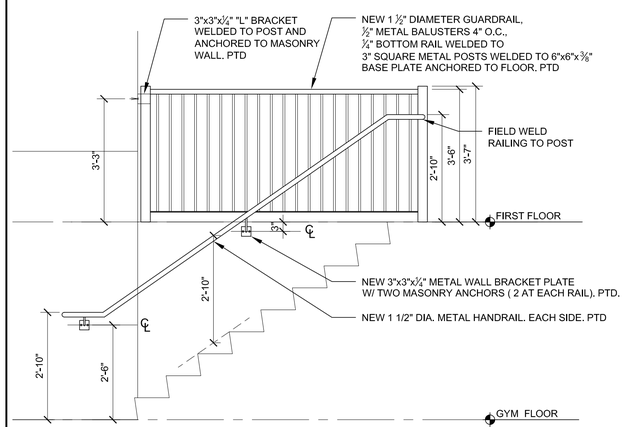

E A3 **STAIR SECTION**
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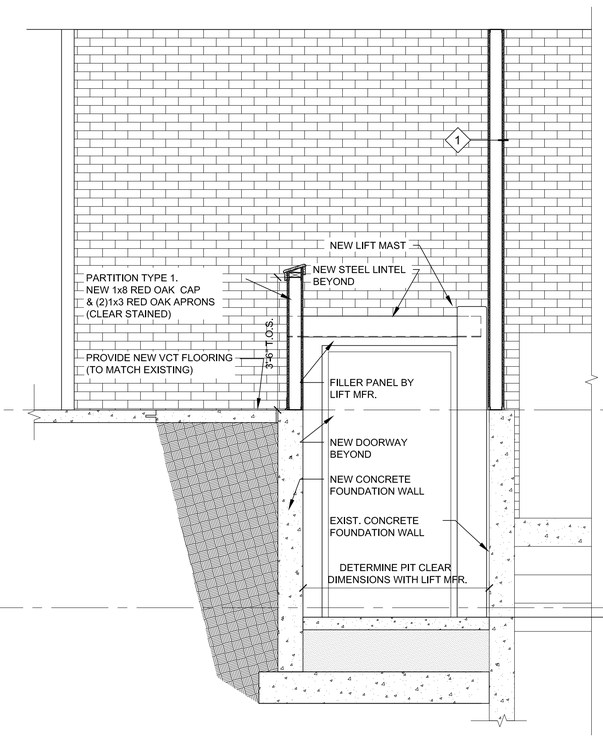

D A3 **NEW LIFT - SECTION B-B**
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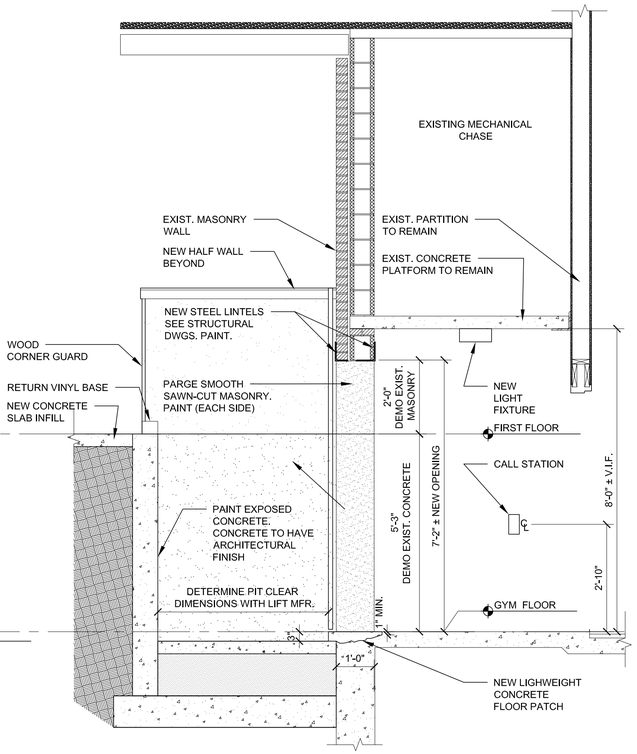

C A3 **NEW LIFT - SECTION A**
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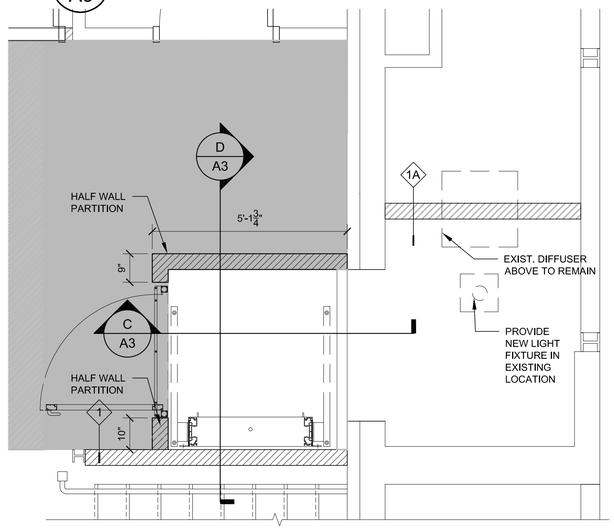
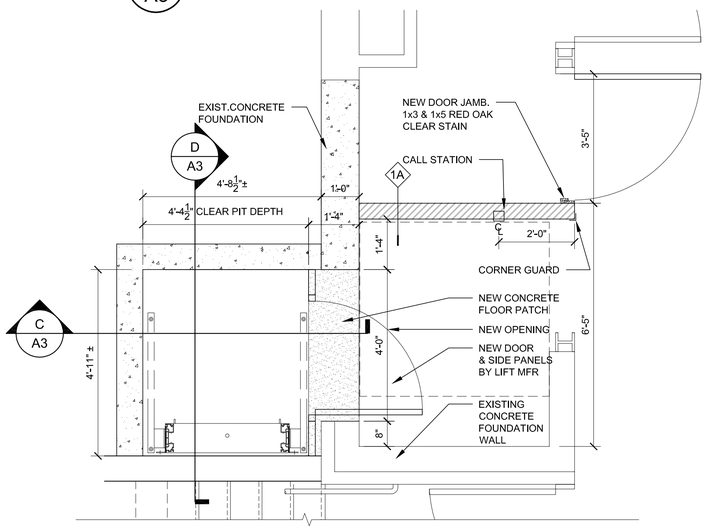


B A3 **NEW LIFT @ MAIN LEVEL**
SCALE: 1/2"=1'-0"



A A3 **NEW LIFT @ GYMNASIUM LEVEL**
SCALE: 1/2"=1'-0"

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.
6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
617-241-2857 (F)

Designed By: Daniel P. Bradford

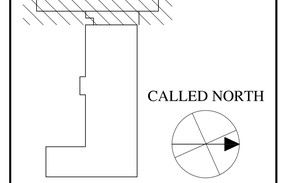
Drawn By: E.L. / T.K.

Checked By: Daniel P. Bradford

REV	DATE	DESCRIPTION

Stamp:

Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

LIFT PLANS,
SECTIONS
& DETAILS

Job No.: S116911-H

Drawing No. A3

Date: 4-4-13

BID DOCUMENTS

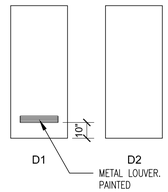
DOOR AND FRAME SCHEDULE

MARK	DOOR SIZE WD	SIZE HGT	SIZE THK	MATL	EL	GLAZING	LOUVER WD	LOUVER HGT	FRAME MATL	FRAME EL	DETAIL HEAD	DETAIL JAMB	DETAIL SILL	FIRE RATING LABEL	HARDWARE SET NO	HARDWARE KEYSIDE RM NO	NOTES
001	3'-0"	7'-0"	1-3/4"	WD	D1	-	24"	4"	HM	F1	4/A4	3/A4	2/A4	-	1	-	
002	3'-0"	7'-0"	1-3/4"	WD	D1	-	24"	4"	HM	F1	4/A4	3/A4	2/A4	-	1	-	
003	3'-0"	7'-0"	1-3/4"	WD	D1	-	-	-	HM	F1	4/A4	3/A4	2/A4	-	2	-	1" UNDERCUT
004	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	3	-	NOTE 1 & 2
005	3'-0"	7'-0"	1-3/4"	WD	D2	-	-	-	HM	F1	4/A4 *	4/A4 SIM	4/A4 SIM	-	3	-	(*) NO ACT
006	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	3	-	NOTE 1 & 3
007	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	4	-	
008	PR 3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	-	-	
009	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	-	-	
010	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	5	-	
011	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	5	-	
012	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	5	-	
013	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	5	-	
014	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	2	-	
015	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	4	-	
016	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	5	-	NOTE 1 & 3
017	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	-	-	
018	3'-0"	7'-0"	1-3/4"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	-	-	
019	3'-6"	7'-0"	1-1/2"	EXIST	EXIST	-	-	-	-	-	-	-	-	-	6	-	SEE NOTE IN PLAN

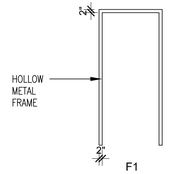
NOTES

1. REMOVE EXISTING LOCKSET AND INSTALL NEW LOCKSET.

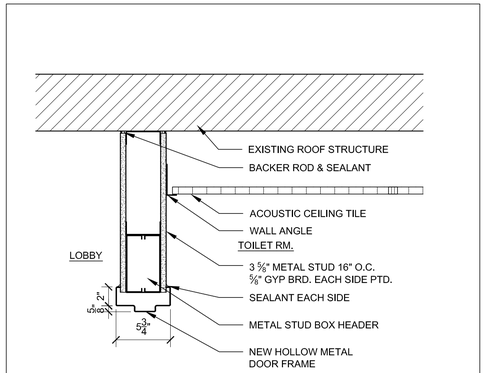
2. EXISTING DOOR & FRAME RELOCATED.
3. EXISTING DOOR TO BE REMOVED AND RE-INSTALLED IN SAME OPENING WITH REVERSED SWING AS SHOWN IN PLAN. PATCH HOLES IN FRAME. PAINT FRAME.



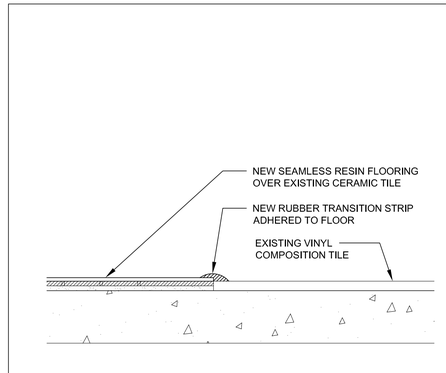
DOOR ELEVATIONS
SCALE: 1/4"=1'-0"



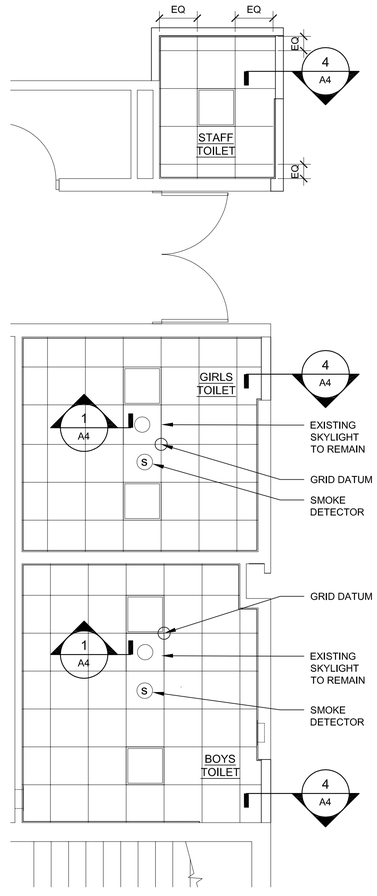
DOOR FRAME ELEVATIONS
SCALE: 1/4"=1'-0"



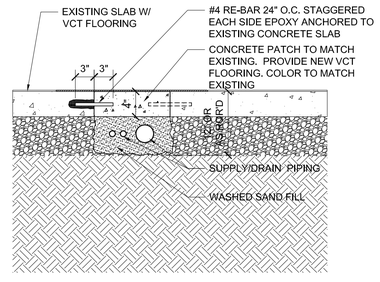
4/A4 HEAD DETAIL
SCALE: 1/2"=1'-0"



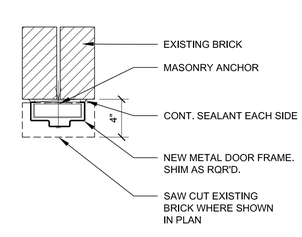
2/A4 FLOOR TRANSITION @ TOILET ROOMS
SCALE: 1/2"=1'-0"



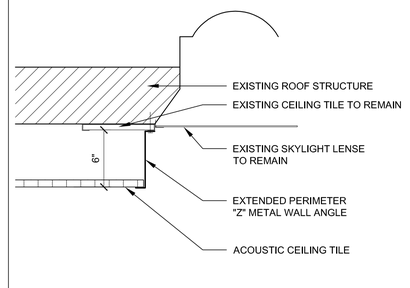
A/A4 RCP-TOILET ROOMS
SCALE: 1/2"=1'-0"



5/A4 PIPE TRENCH/ FLOOR PATCH DETAIL
SCALE: 1/2"=1'-0"



3/A4 JAMB DETAIL
SCALE: 1/2"=1'-0"



1/A4 RCP-TOILET ROOMS
SCALE: 1/2"=1'-0"

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.

6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
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Designed By: Daniel P. Bradford

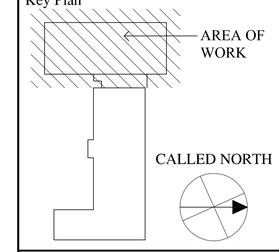
Drawn By: E.L. / T.K.

Checked By: Daniel P. Bradford

REV	DATE	DESCRIPTION

Stamp:

Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:
REFLECTED CEILING PLAN & DETAILS, DOOR SCHEDULE AND ALTERNATES

Job No.: S116911-H

Date: 4-4-13

Drawing No. A4

BID DOCUMENTS

GENERAL NOTES

GENERAL:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, LANDSCAPE, AND SHOP DRAWINGS.
2. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
3. SHOP DRAWINGS FOR REINFORCING STEEL (INCLUDING ALL ACCESSORIES), AND NEW STEEL LINTELS SHALL BE SUBMITTED TO THE ARCHITECT AND A STAMPED ACCEPTANCE RECEIVED BEFORE FABRICATION CAN PROCEED. ERECTION SHALL BE EXECUTED FROM ACCEPTED SHOP DRAWINGS ONLY.
4. UNLESS OTHERWISE NOTED, DETAILS SHOWN ON ANY DRAWINGS ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.
5. U.O.N. = UNLESS OTHERWISE NOTED.
6. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND/OR ELEVATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
7. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY SHORING AND BRACING FOR THE BUILDING DURING THE ENTIRE CONSTRUCTION / RENOVATION PERIOD.
8. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS (UNLESS NOTED OTHERWISE) OF THE FOLLOWING BUILDING CODES AND STANDARDS:
   - A. INTERNATIONAL BUILDING CODE 2009.
   - B. MASSACHUSETTS STATE BUILDING CODE, 8TH EDITION.
   - C. "AISC" - CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES
   - D. "ACI 318" - BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
9. (e) DESIGNATION INDICATES AN EXISTING STRUCTURAL ELEMENT.

DESIGN LOADS: (PER 2009 INTERNATIONAL BUILDING CODE AND MSBC)

1. BUILDING ROOF LOADS

   A. LIVE LOAD (SNOW) (PER SECTION 1608.0):

   P_G = 55 PSF
   P_f = 38 PSF
   C_e = 0.9
   C_t = 1
   I = 1.1

   B. ROOFING AND INSULATION: 10 PSF

   C. SERVICES: 5 PSF

   D. CEILING (WHERE THEY OCCUR): 3 PSF

   E. STRUCTURE: ACTUAL WEIGHTS OF MATERIALS

2. PAVING SLABS (SLABS-ON-GRADE)

   A. LIVE LOAD

   TYPICAL AREAS: 100 PSF

3. WIND LOADING: (PER CHAPTER 34)
4. SEISMIC (PER CHAPTER 34); LEVEL 2 WORK
5. SOIL LOADS

   A. EQUIVALENT FLUID PRESURE ON FOUNDATION WALLS:
   RIGID WALLS 60 PCF
   FLEXIBLE WALLS 40 PCF
   B. PASSIVE EARTH PRESSURE COEFFICIENT: 3.0
   C. FRICTION COEFFICIENT: 0.50
   D. UNIT WEIGHT OF BACKFILL: 135 PCF

FOUNDATION:

1. WHERE SHOWN ON THE DRAWINGS, NEW FOUNDATIONS SHALL BEAR ON NATURAL UNDISTURBED SOIL OR ON WELL-COMPACTED STRUCTURAL FILL OVER THE NATURAL SOIL LAYER. THE DESIGN BEARING VALUE FOR ALL FOOTINGS SHALL BE 2 TSF.
2. THE ESTIMATED ELEVATION OF THE BOTTOM OF EACH EXISTING FOOTING IS INDICATED THUS (0'-0").
3. NO BACKFILL SHALL BE PLACED AGAINST FOUNDATION WALLS RETAINING EARTH UNLESS WALLS ARE SUFFICIENTLY BRACED TO PREVENT MOVEMENT OR STRUCTURAL DAMAGE AND THE SLAB-ON-GRADE IS PLACED.
4. FOR TYPICAL NEW SLAB-ON-GRADE CONSTRUCTION AND WHERE INDICATED, PROVIDE A 15-MIL VAPOR BARRIER OVER A WELL-COMPACTED AND PREPARED SUBGRADE.
5. REMOVE ALL UNSUITABLE SOIL AND REPLACE WITH CLEAN STRUCTURAL FILL, WHERE REQUIRED.
6. WHERE REQUIRED BENEATH PAVING SLABS OR FOOTINGS, STRUCTURAL FILL SHALL BE COMPACTED IN 12 INCH LAYERS TO AT LEAST 98 PERCENT OF THE MAXIMUM DRY DENSITY. STRUCTURAL FILL IS REQUIRED FROM THE TOP OF THE BEARING STRATUM TO THE BOTTOM OF THE PAVING SLAB.
7. THE DESIGN AND EXECUTION OF ALL TEMPORARY EARTH RETENTION SYSTEMS DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

CONCRETE: (CAST-IN-PLACE)

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. ALL CONCRETE SHALL BE NORMAL WEIGHT (150 PCF MAXIMUM), EXCEPT "LEAN" CONCRETE, WHERE INDICATED, SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.
2. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 (DEFORMED), AND SHALL BE FREE FROM LOOSE RUST AND SCALE.
3. LAP ALL CONTINUOUS BARS 48 BAR DIAMETERS (MINIMUM).
4. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A185 (WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 70 KSI). LAP 2 SQUARES AT ALL JOINTS AND TIE @ 3'-0" ON CENTER.
5. CLEAR CONCRETE PROTECTION FOR REINFORCING: (UNLESS OTHERWISE NOTED).
   - A. FOUNDATION WALLS (AND OTHER CONCRETE ELEMENTS EXPOSED TO EARTH): 2"
   - B. SLABS-ON-GRADE: 1½" FROM TOP (U.O.N.)
   - C. MAT SLABS: 2" FROM TOP; 3" FROM BOTTOM
6. NO BARS SHALL BE CUT OR OMITTED IN THE FIELD BECAUSE OF SLEEVES, DUCT OPENINGS OR RECESSES. BARS MAY BE MOVED ASIDE WITHOUT CHANGE IN LEVEL WITH THE APPROVAL OF THE ARCHITECT.
7. NO PIPES SHALL PASS THROUGH CONCRETE WITHOUT THE PERMISSION OF THE ARCHITECT. STEEL PIPE SLEEVES SHALL BE PROVIDED AND SPACED A MINIMUM OF THREE PIPE DIAMETERS APART. ALL OTHER SLEEVE LOCATIONS MUST BE SUBMITTED FOR REVIEW.
8. ALL CONDUIT SHALL RUN ABOVE BOTTOM REINFORCING, BELOW TOP REINFORCING, AND INSIDE WALL REINFORCING. LINES OF CONDUIT SHALL BE SPACED NOT CLOSER THAN THREE CONDUIT DIAMETERS ON CENTER. MAXIMUM SIZE OF CONDUIT IN SLAB SHALL BE EQUAL TO 1/3 OF THE SLAB OR WALL THICKNESS.
9. ALL KEYS SHALL BE 2" BY 4" WITH BEVELED SIDES (UNLESS OTHERWISE NOTED).
10. HORIZONTAL CONSTRUCTION JOINTS SHALL BE AS INDICATED ON THE DRAWINGS.
11. DETAILS NOT SHOWN ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI DETAILING MANUAL 315.
12. SUPPORT BARS FOR SLAB REINFORCING SHALL BE #5 OR GREATER, AND SHALL BE SPACED NOT MORE THAN 4'-0" O.C. SUPPORT BARS AND ENDS OF MAIN REINFORCING BARS SHALL NOT EXTEND MORE THAN 1'-6" PAST THE OUTERMOST CHAIR OR SUPPORT BAR.
13. ALL REINFORCING ACCESSORIES FOR EXPOSED SURFACES SHALL HAVE UPTURNED LEGS AND BE PLASTIC DIPPED AFTER FABRICATION. ACCESSORIES FOR REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE ACI, LATEST EDITION.
14. ALL DOWELS FOR WALL REINFORCEMENT SHALL MATCH LAPPING BAR SIZE AND SPACING, U.O.N.
15. ALUMINUM CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
16. SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5000 SQUARE FEET OF SURFACE AREA FOR SLABS AND WALLS.
17. CONCRETE SHALL BE CAST MONOLITHICALLY, EXCEPT AS INDICATED ON THE DRAWINGS.

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL MATERIALS, WORKMANSHIP, AND DETAILS SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN" AND AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES". STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

   STRUCTURAL STEEL ANGLES.....ASTM A36, U.N.O.

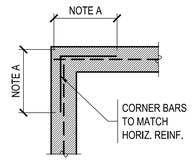
2. ALL NEW STRUCTURAL STEEL FRAMING SHALL BE PRIMED, UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY MATERIAL IN ORDER TO PROPERLY CONNECT/ATTACH NEW LIFT FRAMING. THE SIZE AND LOCATION OF ALL NEW LIFT SUPPORT MEMBERS, AND ASSOCIATED CONNECTIONS, AND ANY REQUIRED INSERTS, SHALL BE DETERMINED AND PROVIDED BY THE LIFT MANUFACTURER.

EXISTING CONSTRUCTION:

1. ALL INFORMATION RELATING TO THE EXISTING STRUCTURAL CONDITIONS HAS BEEN DERIVED FROM THE FOLLOWING STRUCTURAL DRAWINGS:

   ADDITION TO THE HAMILTON SCHOOL NEWTON LOWER FALLS, MASSACHUSETTS, PREPARED BY EDWARD K. TRUE, DATED SEPTEMBER 27, 1957 (DRAWINGS S1 AND S2).

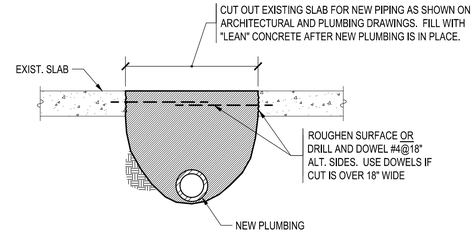
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND MEMBER SIZES AS INDICATED ON THE DRAWINGS, IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL TEMPORARY BRACING, SHORING, AND EARTH RETENTION SYSTEMS, AS REQUIRED, TO PREVENT DANGER TO PERSONS AND PROPERTY.
4. ANY DIMENSION NOTED (±) ON PLAN SHALL BE COORDINATED AND VERIFIED BY THE CONTRACTOR, IN THE FIELD, PRIOR TO THE COMMENCEMENT OF WORK.



CORNER

NOTE A: REFER TO LAP SPLICE LENGTH

TYPICAL CONCRETE WALL DETAILS



TYPICAL DETAIL AT NEW PLUMBING UNDER EXISTING SLAB

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.
6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
617-241-2857 (F)

Designed By:

Drawn By: CY

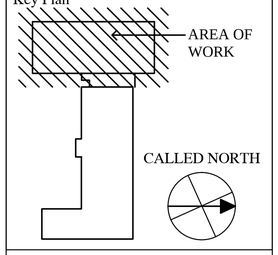
Checked By: JAY

REV	DATE	DESCRIPTION

Stamp:

SOUZA, TRUE AND PARTNERS, INC. STRUCTURAL ENGINEERS
265 Winter Street, Third Floor, Waltham, MA 02451
Tel: 617-926-6100

Key Plan



Lower Falls Community Center Accessibility Improvements
545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

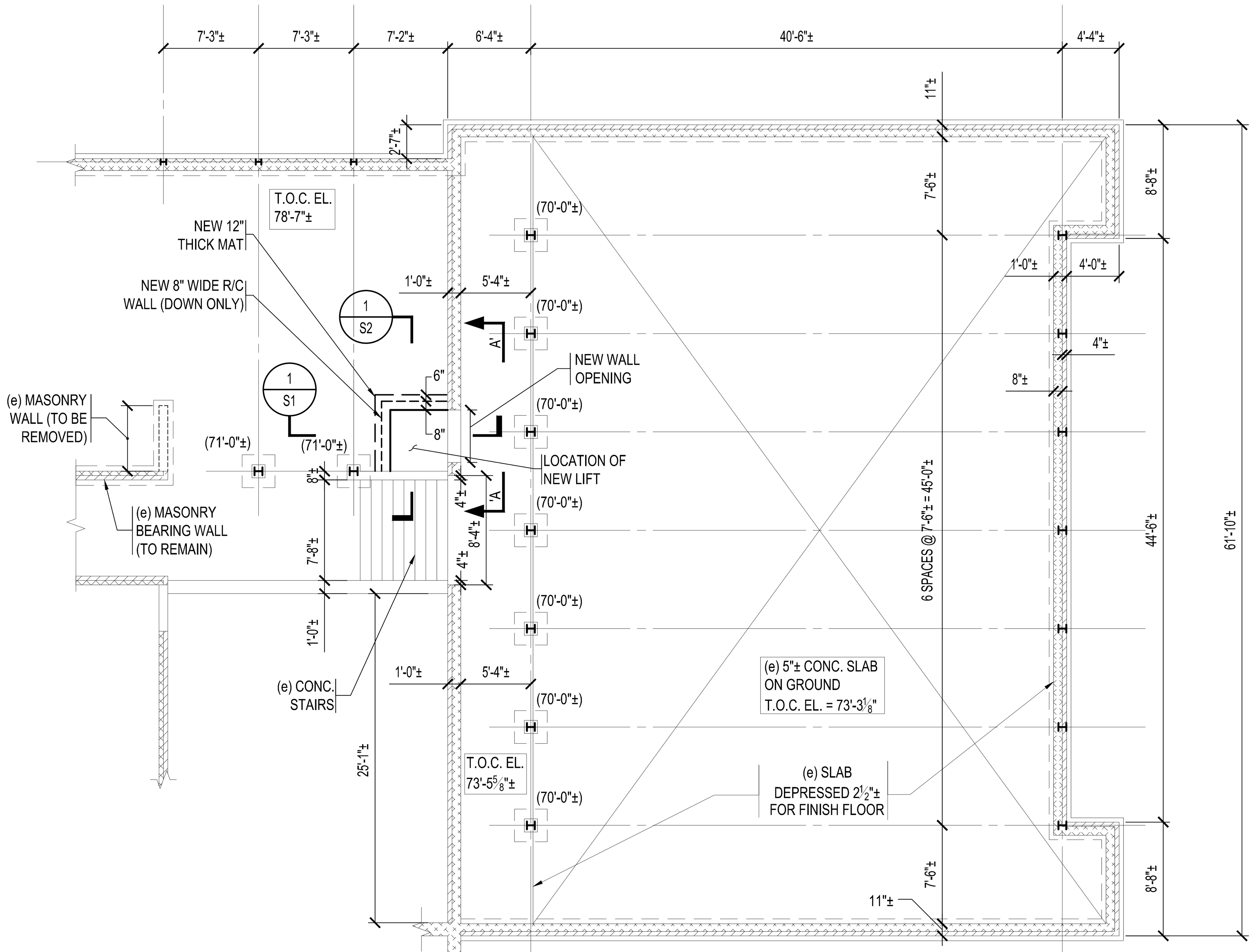
GENERAL NOTES AND TYPICAL DETAILS

Job No.: S116911-H

Drawing No.: S0

Date: 4-4-13

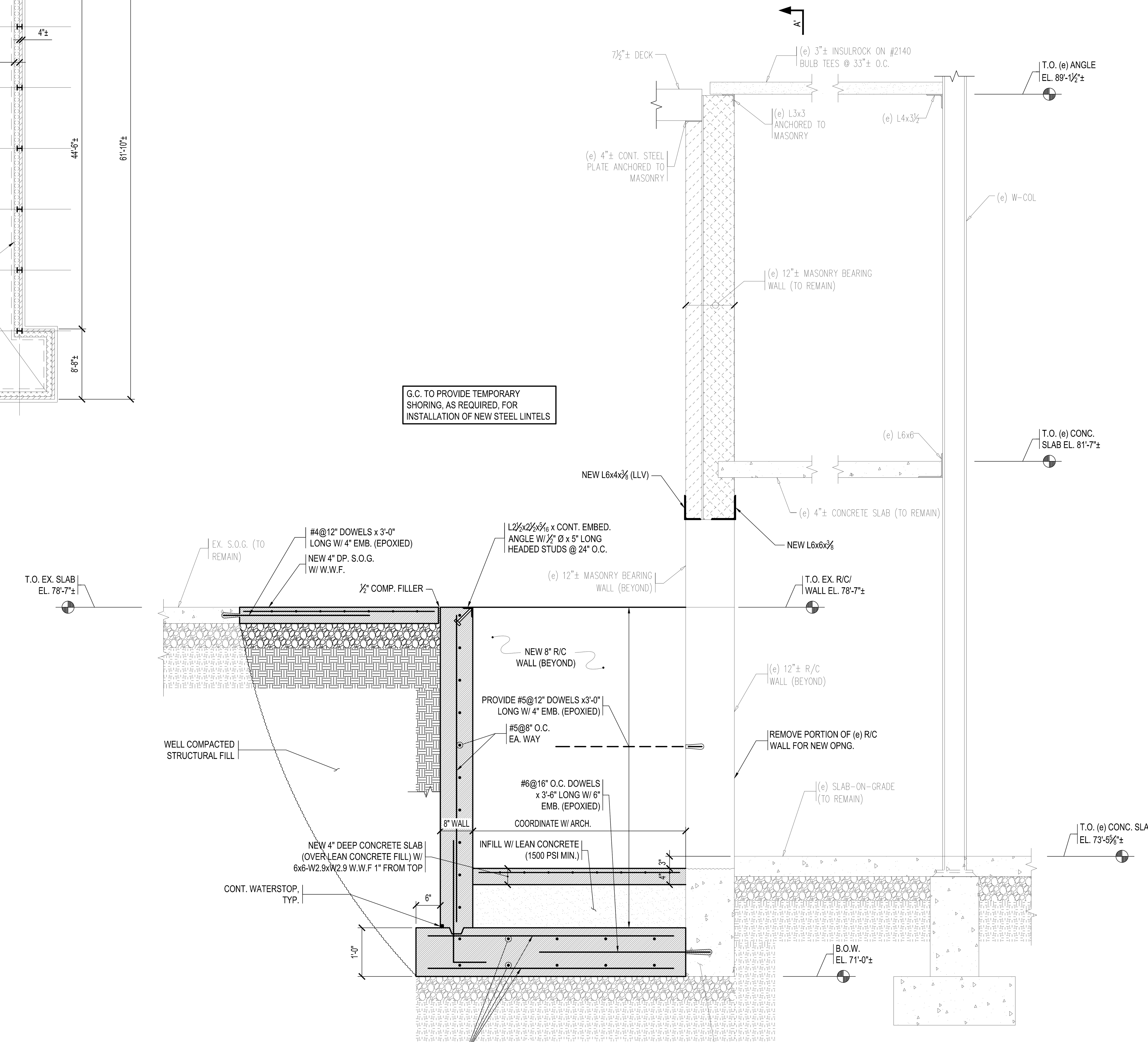
BID DOCUMENTS



PARTIAL FIRST FLOOR PLAN

⅛"=1'-0"

G.C. TO PROVIDE TEMPORARY SHORING, AS REQUIRED, FOR INSTALLATION OF NEW STEEL LINTELS



SECTION 1

¾"=1'-0"

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.

6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
617-241-2857 (F)

Designed By:

Drawn By: CY

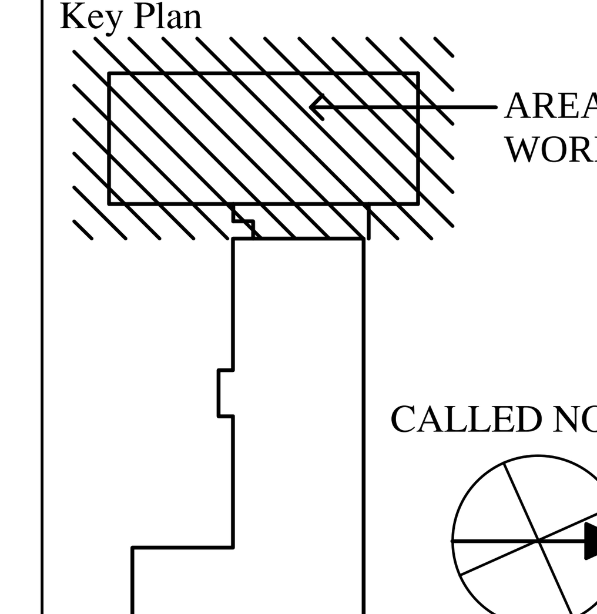
Checked By: JAY

REV	DATE	DESCRIPTION

Stamp:

ST&P SOUZA, TRUE AND PARTNERS, INC. STRUCTURAL ENGINEERS
265 Winter Street, Third Floor, Waltham, MA 02451
Tel: 617-926-6100

Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

PARTIAL FLOOR PLAN AND SECTIONS

Job No.: S116911-H

Date: 4-4-13

Drawing No. S1

BID DOCUMENTS

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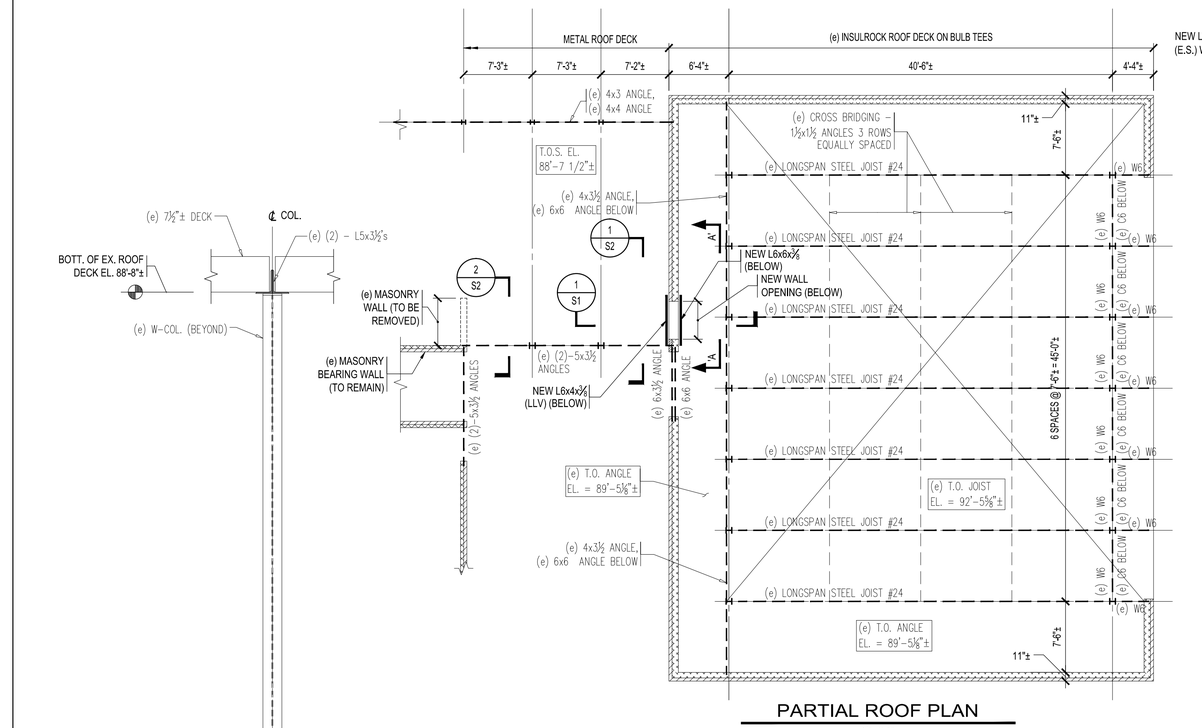
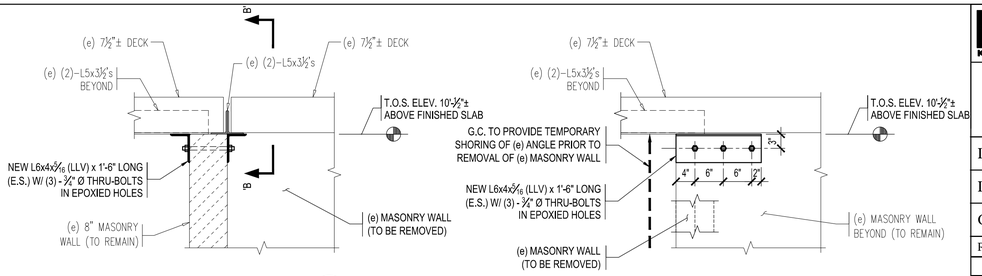
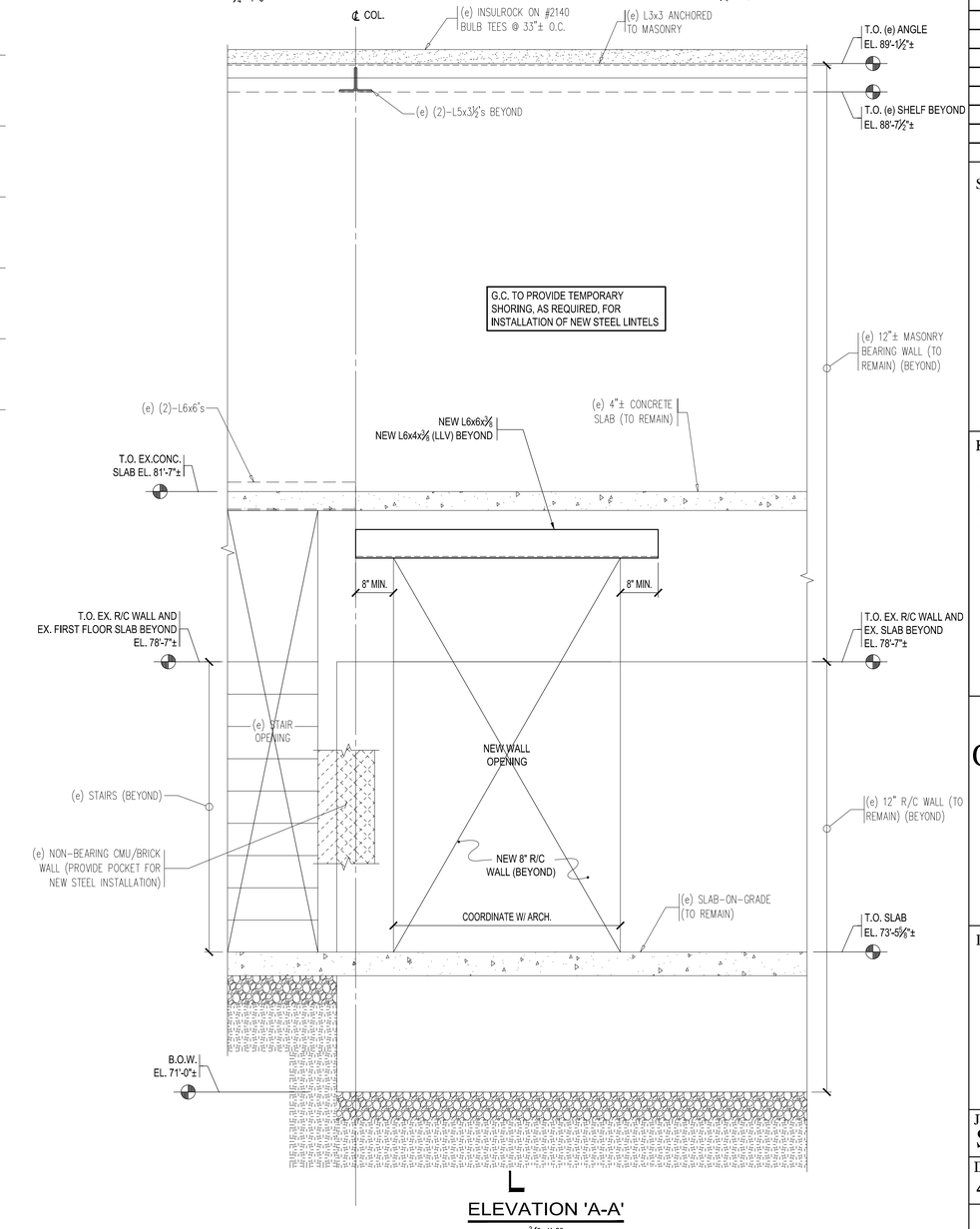
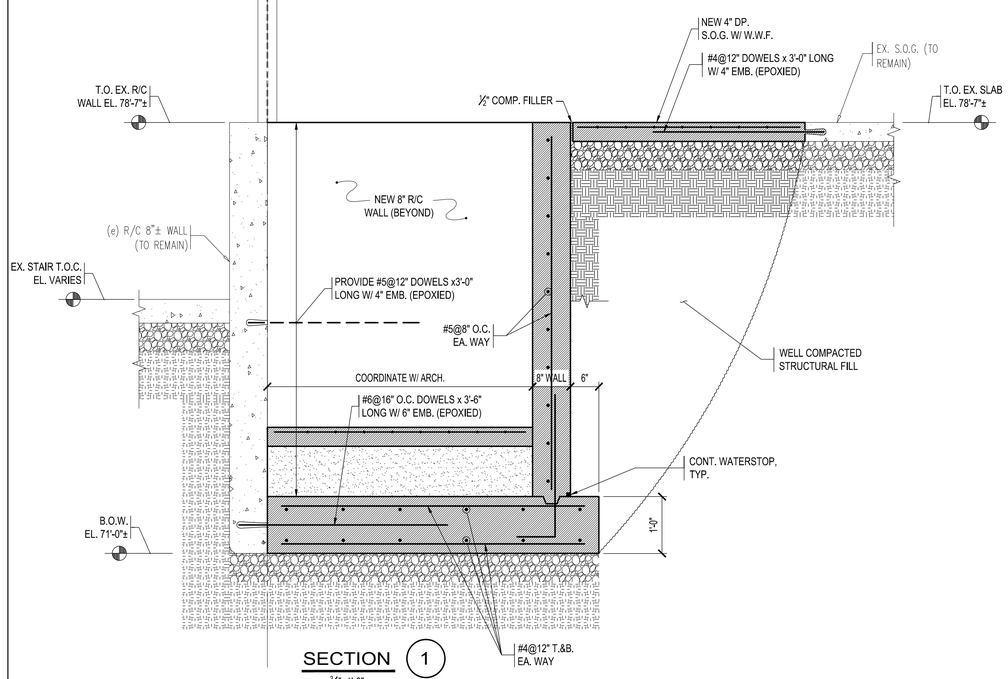








KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.
6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
617-241-2857 (F)

Designed By:

Drawn By: CY

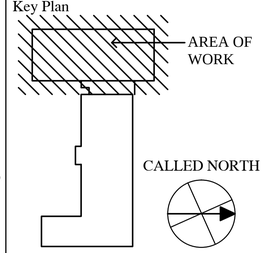
Checked By: JAY

REV	DATE	DESCRIPTION

Stamp:

SOUZA, TRUE AND PARTNERS, INC. STRUCTURAL ENGINEERS
265 Winter Street, Third Floor, Waltham, MA 02451
Tel: 617-926-6100

Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

PARTIAL ROOF PLAN AND SECTIONS

Job No.: S116911-H

Drawing No.: S2

Date: 4-4-13

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ABBREVIATIONS

AFF	ABOVE FINISH FLOOR
BLDG	BUILDING
CFH	CUBIC FEET PER HOUR
CLG	CEILING
CP	CHROME PLATED
CO	CLEANOUT
CW	COLD WATER
CTE	CONNECT TO EXISTING
CONT	CONTINUATION
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DIA	DIAMETER
DWG	DRAWING
DN	DOWN
EL/ELEV.	ELEVATION
EX	EXISTING
FFE	FINISH FLOOR ELEVATION
P–#	FIXTURE NUMBER
FLR	FLOOR
FCO	FLOOR CLEANOUT
FP	FIRE PROTECTION
FS	FLOW SWITCH
FT	FOOT
GPF	GALLON PER FLUSH
GPM	GALLON PER MINUTE
GC	GENERAL CONTRACTOR
GI	GREASE INTERCEPTOR
HC	HANDICAPPED
HW	HOT WATER
HWR	HOT WATER RETURN
INV	INVERT
IW	INDIRECT WASTE
LPC	LIMIT OF PLUMBING CONTRACTOR
MECH	MECHANICAL
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
NIC	NOT IN CONTRACT
OED	OPEN END DRAIN
PC	PLUMBING CONTRACTOR
PLBG	PLUMBING
PSI	POUNDS PER SQUARE INCH
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
SA	SHOCK ABSORBER
SS	SOIL STACK
SPEC	SPECIFICATION
TW	TEMPERED WATER
TYP	TYPICAL
V	VENT
VB	VACUUM BREAKER
VS	VENT STACK
VTR	VENT THRU ROOF
W	WASTE

GENERAL NOTES

1. PLUMBING WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE PLUMBING AND GAS CODE INCLUDING ALL LOCAL AMENDMENTS,
2. OBTAIN ALL PERMITS AND PAY ALL FEES ASSOCIATED WITH THIS WORK PRIOR TO COMMENCEMENT.
3. THE DRAWINGS ARE DIAGRAMMATICAL ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT ROUTE OF ALL PIPING, IN FIELD AND IN CONJUNCTION WITH COORDINATION OF ALL EXISTING CONDITIONS, NEW CONSTRUCTION, AND COORDINATION WITH ALL OTHER TRADES TO INSURE THAT ALL THE PLUMBING SYSTEMS WILL FIT INTO THE SPACE.
4. EQUIPMENT SHALL BE DETERMINED IN THE FIELD.
5. IN ADDITION TO REVIEWING AND COORDINATING WITH THE OTHER TRADES (CIVIL, STRUCTURAL, ARCHITECTURAL, FIRE PROTECTION, HVAC, AND ELELCTRICAL) THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH DETAILS OF CONSTRUCTION.
6. ALL EXISTING CONDITIONS SHOWN ARE APPROXIMATE ONLY. ALL EXISTING CONDITIONS SHALL BE VERIFIED IN THE FIELD.
7. ADDRESS QUESTIONS REGARDING DRAWINGS TO ARCHITECT IN WRITING BEFORE AWARD OF CONTRACT. OTHERWISE, ARCHITECT INTERPRETATION OF MEANING AND INTENT OF DRAWINGS SHALL BE FINAL.
8. VISIT SITE AND EXAMINE CONDITIONS UNDER WHICH WORK MUST BE PERFORMED. REPORT ADVERSE CONDITIONS IN WRITING TO ARCHITECT. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS COMPLETE ACCEPTANCE OF EXISTING CONDITIONS INCLUDING PREPARATORY WORK DONE BY OTHERS.
9. GUARANTEE WORK IN WRITING FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIALS OR INSTALLATION AT NO COST TO OWNER. CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE AT NO COST TO OWNER.
10. FURNISH AND INSTALL ALL NECESSARY PIPING, EQUIPMENT SUPPORTS AND ANY EQUIPMENT NOT SHOWN ON DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS BUT NECESSARY TO PROVIDE A COMPLETE FUNCTIONING SYSTEM.
11. PROVIDE ACCESS TO ALL EQUIPMENT REQUIRING PERIODIC SERVICE AND MAINTENANCE.
12. FURNISH ACCESS PANELS TO THE GENERAL CONTRACTOR FOR INSTALLATION UNDER THE RELATED TRADES.
13. PIPING SHALL RUN CONCEALED IN ALL AREAS WITH THE EXCEPTION OF MECHANICAL ROOMS, AREAS WHERE NO CEILING EXISTS OR WHERE NOTED ON THE PLANS.
14. INSTALL DIELECTRIC COUPLINGS BETWEEN DISSIMILAR MATERIALS.
15. INTERRUPTIONS TO EXISTING SERVICES AND SYSTEMS SHALL BE AS SHORT AS POSSIBLE AND AT A TIME AND DURATION APPROVED BY THE ARCHITECT OR OWNER. INCLUDE ALL PREMIUM TIME ASSOCIATED WITH INTERRUPTIONS.
16. ALL NEW SYSTEMS SHALL BE TESTED, BALANCED AND ADJUSTED TO INSURE PROPER OPERATION AND CODE COMPLIANT INSTALLATION. PIPING AND EQUIPMENT SHALL BE TESTED IN ACCORDANCE WITH THE STATE PLUMBING CODE.
17. INSTALL SHOCK ABSORBERS BY PRECISION PLUMBING PRODUCTS AT ENDS OF HOT AND COLD WATER PIPING RUNS BELOW THE LAST FIXTURE.
18. THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL TRAPS, ANGLE STOPS, WASTE ARMS, STRAINERS, TAIL PIECES, FIXTURE SUPPLIES AND ALL OTHER PLUMBING CONNECTIONS TO FIXTURES REQUIRING PLUMBING AND AS REQUIRED FOR A COMPLETE SYSTEM
19. THE PLUMBING CONTRACTOR SHALL CLEAR ALL EXISTING PIPES ASSOCIATED WITH THE WASTE LINES FOR THIS PROJECT BACK TO THE EXISTING SEWER MANHOLE. THE PLUMBING CONTRACTOR SHALL ALSO PROVIDE PHOTOS OF THE CONDITIONS WITHIN THE TOTAL SYSTEM.

DEMOLITION NOTES

1. DISCONNECT AND DISMANTLE EXISTING PLUMBING SYSTEMS AND EQUIPMENT TO BE DEMOLISHED AND LEAVE DEBRIS AND DISCONNECTED EQUIPMENT IN DESIGNATED AREA FOR REMOVAL NDER SECTION 02070 – SELECTIVE DEMOLITION.
2. AFTER WALLS AND CEILINGS ARE REMOVED AND PIPING IS EXPOSED, VERIFY PIPING SERVES ONLY PLUMBING FIXTURES INDICATED FOR DEMOLITION BEFORE SHUTDOWN FOR DISCONNECTION. IDENTIFY EXISTING PIPING WHICH SERVES FIXTURES TO REMAIN. PROMPTLY NOTIFY ARCHITECT OF ACTIVE PIPING TO BE MAINTAINED WHEN LOCATED IN PARTITIONS TO BE DEMOLISHED.

PIPING

CW	CW	COLD WATER
HW	HW	HOT WATER
		SOIL OR WASTE ABOVE GROUND
V	V	VENT ABOVE GROUND

GENERAL

		P–TRAP
		RISER UP (ELBOW)
		RISER DOWN (ELBOW)
HB	HB	HOSE BIBB
	CTE	CONNECT TO EXISTING
	ETR	EXISTING TO REMAIN
	ETBR	EXISTING TO BE REMOVED

VALVES

BALL VALVE

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.

6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
617-241-2857 (F)

Designed By: CSI ENGINEERING

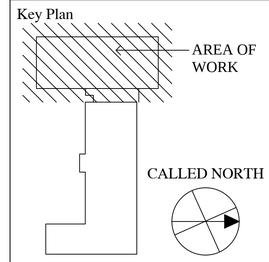
Drawn By: KC

Checked By: DM

REV	DATE	DESCRIPTION
	12/3/2012	90% CONSTRUCTION DOCUMENTS
	2/1/2013	100% CONSTRUCTION DOCUMENTS

Stamp:

Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

PLUMBING LEGEND

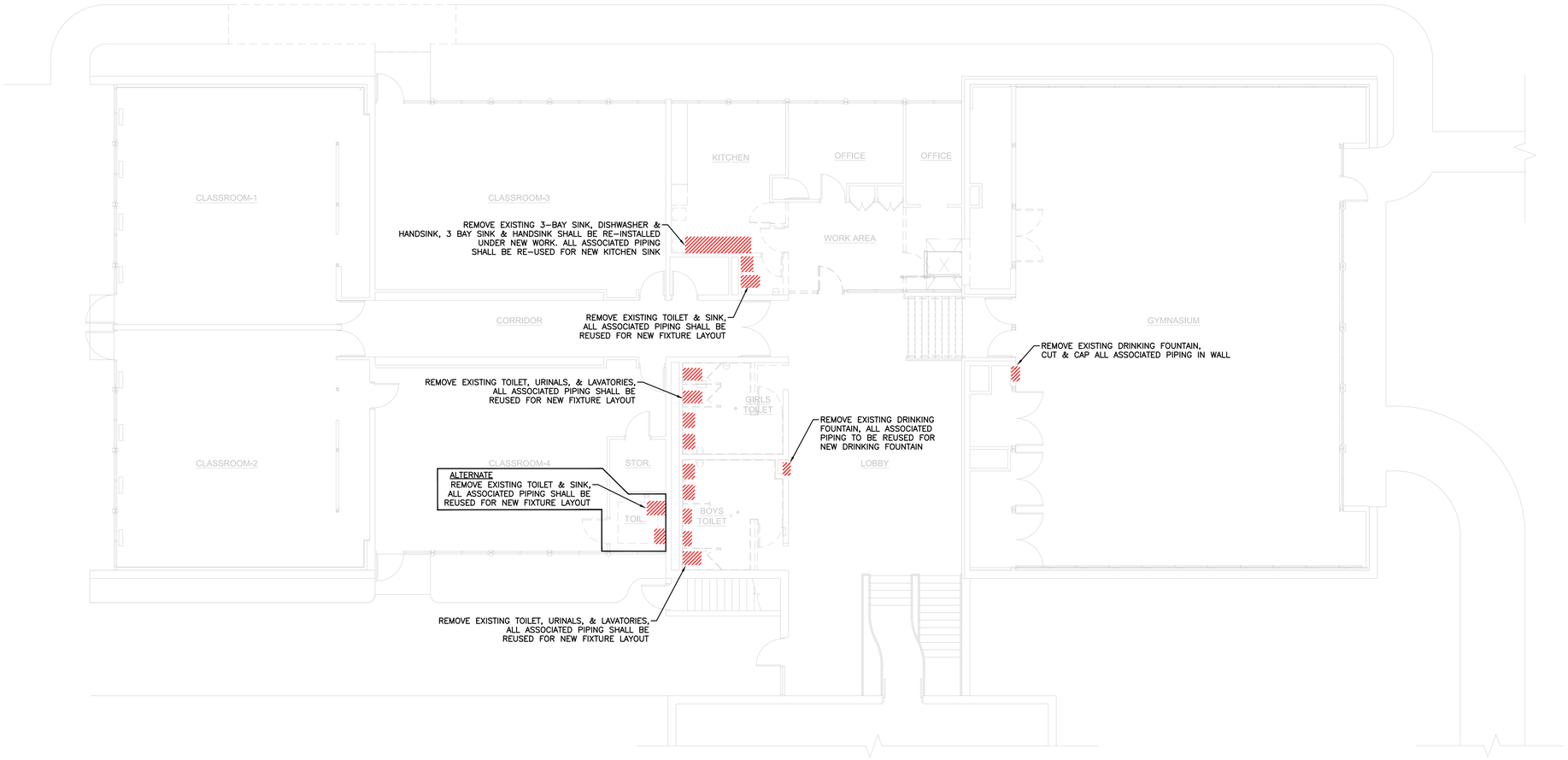
Job No.: 2012-005

Date: 4-4-13

Drawing No.

P1.0

BID DOCUMENTS



PLUMBING FIRST FLOOR DEMOLITION PLAN
Scale: 1/8" = 1'-0"

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.
6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
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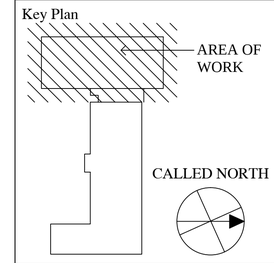


Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

PLUMBING FIRST FLOOR DEMOLITION PLAN

Job No.: 2012-005

Date: 4-4-13

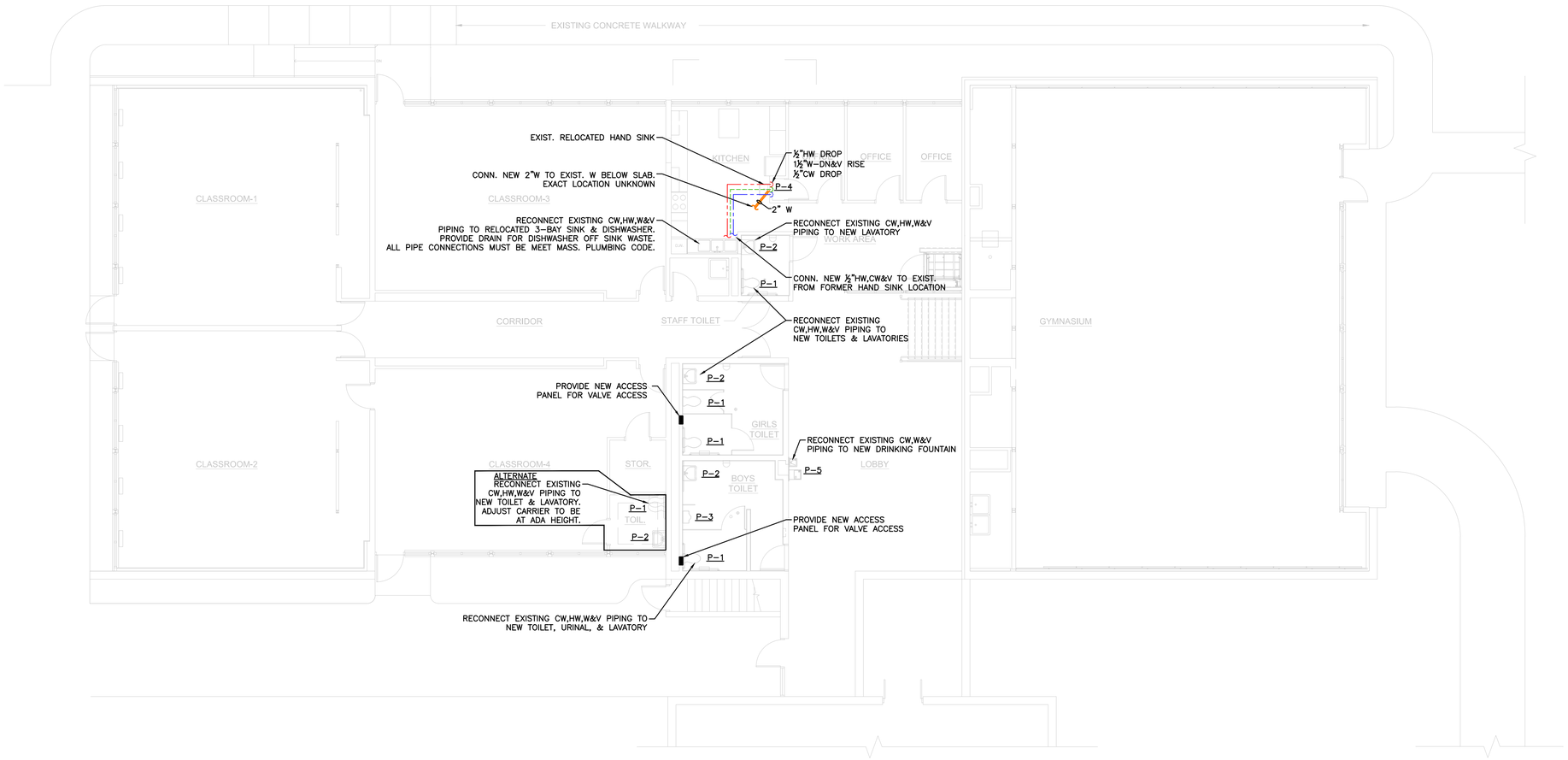
Drawing No.

PD2.0

BID DOCUMENTS

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE				FAUCET/FLUSH VALVE			SUPPLY	DRAIN	REMARKS
	TYPE	MANUFACTURER	MODEL	SIZE	MANUFACTURER	MODEL	TYPE			
P–1	TOILET	TOTO	CT70BE	–	TOTO	TEV1UN32	FLUSH VALVE	1"	3"	–
P–2	LAVATORY	TOTO	LT308.4	–	SYMMONS	S–20–2	FAUCET	1/2"	1–1/2"	–
P–3	URINAL	TOTO	UT104E	–	TOTO	TEV1UN12	FLUSH VALVE	3/4"	2"	–
P–4	EXIST HAND SINK	–	–	–	–	–	–	1/2"	1 1/2"	–
P–5	DRINKING FOUNTAIN	HALSEY TAYLOR	HVR8HD–BL ADA	–	–	–	–	1/2"	1–1/2"	–



PLUMBING FIRST FLOOR PLAN
Scale: 1/8" = 1'-0"

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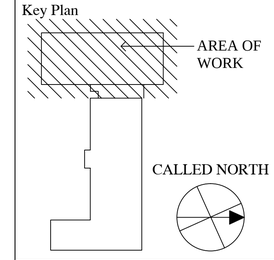


Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

PLUMBING FIRST FLOOR PLAN

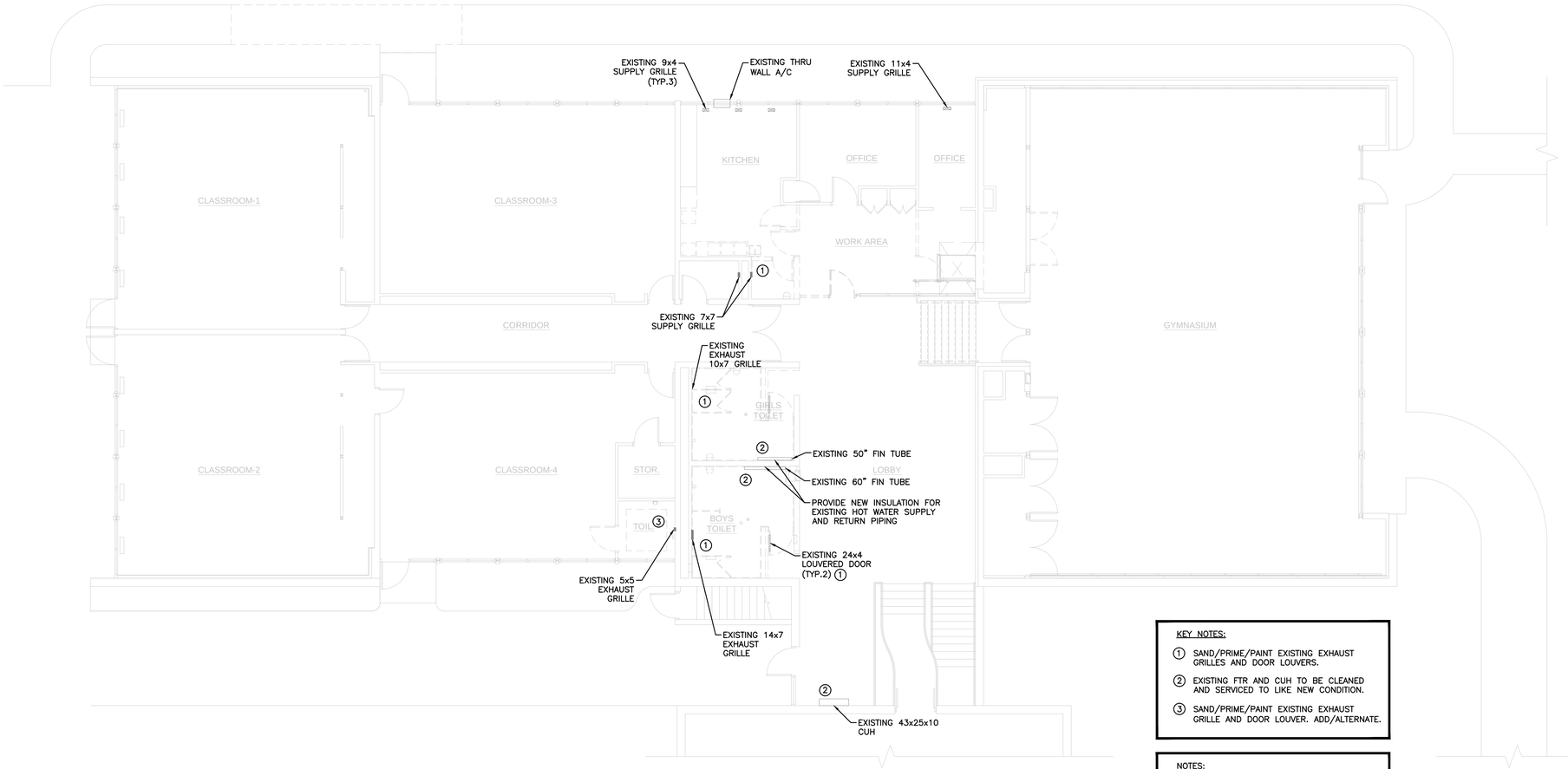
Job No.: 2012-005

Date: 4-4-13

Drawing No.

P2.0

BID DOCUMENTS



HVAC FIRST FLOOR DEMOLITION PLAN
Scale: 1/8" = 1'-0"

KEY NOTES:

1. SAND/PRIME/PAINT EXISTING EXHAUST GRILLES AND DOOR LOUVERS.
2. EXISTING FTR AND CUH TO BE CLEANED AND SERVICED TO LIKE NEW CONDITION.
3. SAND/PRIME/PAINT EXISTING EXHAUST GRILLE AND DOOR LOUVER. ADD/ALTERNATE.

NOTES:

1. BATHROOM EXHAUST FANS LOCATED ON THE ROOF TO BE REFURBISHED TO LIKE NEW CONDITION

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.

6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
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Designed By: CSI ENGINEERING

Drawn By: ARG

Checked By: DHM

REV	DATE	DESCRIPTION
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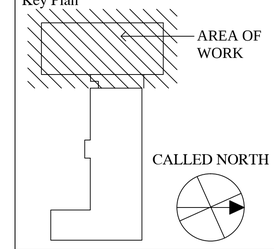
	2/1/2013	100% CONSTRUCTION DOCUMENTS

Stamp:

Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

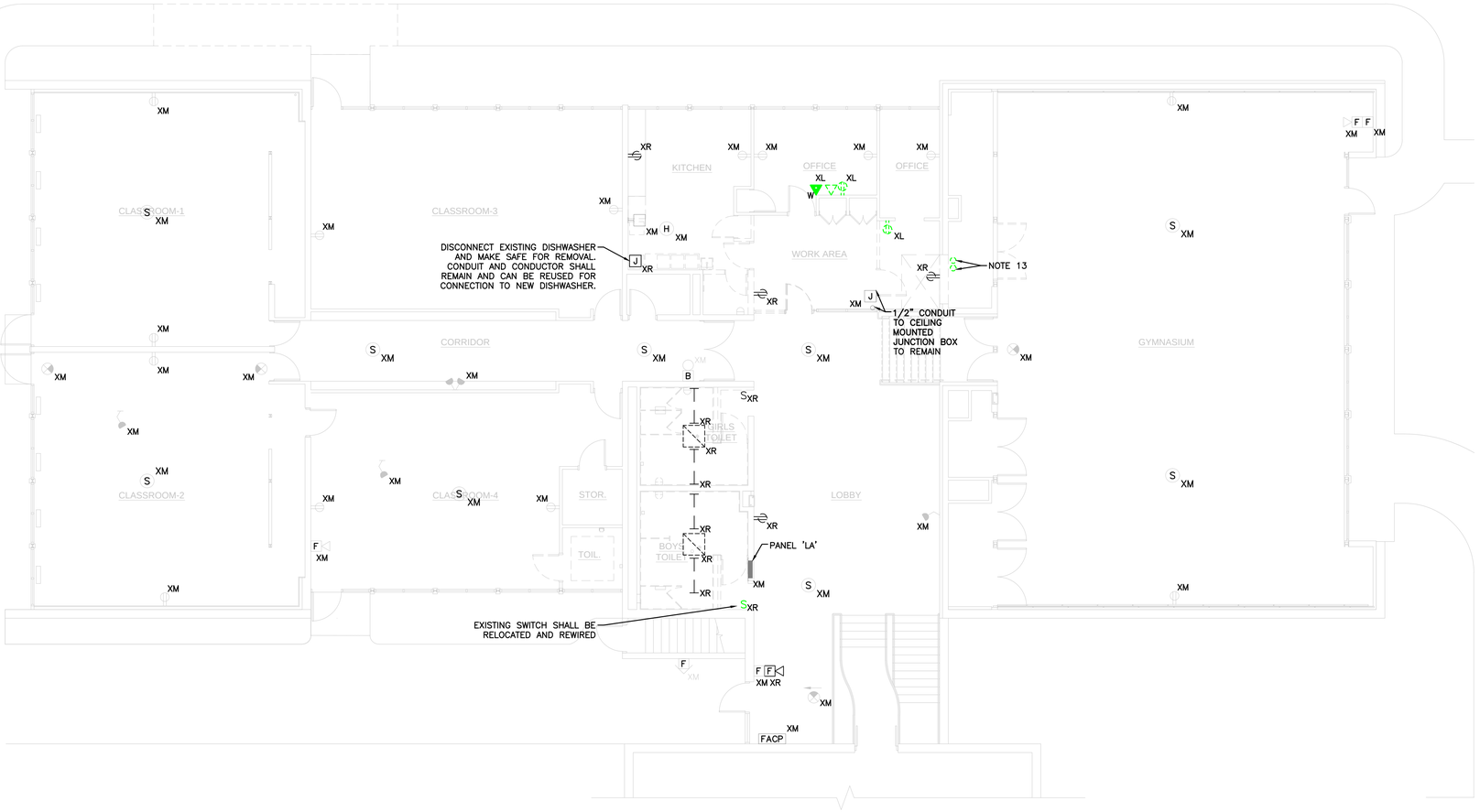
HVAC
FIRST FLOOR
PLAN

Job No.: 2012-005

Date: 4-4-13

Drawing No.
H1.0

BID DOCUMENTS



ELECTRICAL EXISTING AND DEMOLITION PLAN FIRST FLOOR
Scale: 1/8" = 1'-0"

DEMOLITION NOTES:

1. REFER TO DRAWING E1.0 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
2. DISCONNECT AND MAKE SAFE ALL ELECTRICAL EQUIPMENT IDENTIFIED FOR REMOVAL ON THE HVAC, PLUMBING AND FIRE PROTECTION PLANS. THE ELECTRICAL SCOPE MAY EXTEND BEYOND THE AREA DEFINED TO FULLY COMPLY WITH VARIOUS REQUIREMENTS DEFINED BY THESE NOTES.
3. THE ELECTRICAL DEMOLITION PLANS AND DETAILS INDICATE THE GENERAL INTENT AND ARE NOT INTENDED TO SHOW ALL ITEMS TO BE REMOVED OR RETAINED. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE SUBMISSION OF BIDS TO BECOME FAMILIAR WITH THE ACTUAL CONDITIONS AND EXTENT OF WORK. DEVICES AND EQUIPMENT LOCATED ON WALLS AND/OR CEILINGS TO BE REMOVED SHALL BE DISCONNECTED AND MADE SAFE. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY UNANTICIPATED HIDDEN CONDITIONS ENCOUNTERED DURING DEMOLITION.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ALL SYSTEMS OR BUILDING COMPONENTS DAMAGED DURING THE EXECUTION OF THE WORK. DAMAGE SHALL INCLUDE BUT NOT BE LIMITED TO DESTRUCTION OR DISPOSAL OF ITEMS INTENDED TO REMAIN OR TO BE SALVAGED.
5. THE ELECTRICAL CONTRACTOR SHALL CIRCUIT TRACE AND LABEL ALL EXISTING BRANCH CIRCUITS AND FEEDERS FED FROM PANEL 'LA'. ALL CIRCUITS WITHIN PANEL 'LA' IDENTIFIED FOR REMOVAL OR MODIFICATION SHALL BE TRACED AND LABELED TO ENSURE THAT NO AREA OUTSIDE THE DEMOLITION SCOPE LIMIT IS AFFECTED.
6. THE ELECTRICAL CONTRACTOR SHALL IDENTIFY ALL BRANCH CIRCUITS, FEEDERS AND SYSTEM COMPONENTS, WHICH ARE TO REMAIN WITHIN THE AREA OF DEMOLITION SCOPE. THERE SHALL BE NO INTERRUPTION OF SERVICE TO ANY AREA OUTSIDE THE SCOPE LIMITS WITHOUT APPROVAL FROM THE OWNER'S REPRESENTATIVE. EXISTING EQUIPMENT TO REMAIN SHALL BE LEFT IN A CODE COMPLIANT MANNER.
7. THE ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND REMOVE ALL CONDUCTORS AND RACEWAYS TO THEIR POINTS OF ORIGIN WITHIN THE AREA OF DEMOLITION SCOPE. ITEMS IDENTIFIED FOR DEMOLITION SHALL NOT BE ABANDONED IN PLACE. RACEWAYS THAT ENTER MASONRY WALLS AND FLOORS SHALL BE CUT FLUSH AT THE SURFACE FOR PATCHING BY OTHERS. ALL CIRCUIT BREAKERS ASSOCIATED WITH THE DEMOLITION SCOPE SHALL BE DE-ENERGIZED AND LABELED SPARE.
8. THE ELECTRICAL CONTRACTOR SHALL TEMPORARILY SUPPORT ALL ITEMS TO REMAIN THAT ARE AFFECTED BY THE DEMOLITION OF BUILDING STRUCTURAL COMPONENTS (WALLS, CEILINGS, ETC.). TEMPORARILY SUPPORTED ITEMS SHALL BE PERMANENTLY SUPPORTED AND INSTALLED WHEN FINALIZED STRUCTURES ARE IN PLACE.
9. ALL REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF UNLESS IDENTIFIED FOR REUSE. THE OWNER'S REPRESENTATIVE SHALL INSPECT ALL RETAINED ITEMS PRIOR TO PLACEMENT IN THE IDENTIFIED STORAGE LOCATION BY THE ELECTRICAL CONTRACTOR.
10. THE EXISTING FIRE ALARM SYSTEM SHALL REMAIN FULLY FUNCTIONAL DURING THE ENTIRE DEMOLITION AND CONSTRUCTION PERIOD. REUSE OF EXISTING FIRE ALARM SYSTEM RACEWAYS SHALL NOT BE ALLOWED. ALL REQUIRED SYSTEM SHUTDOWNS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER'S REPRESENTATIVE AND THE AUTHORITY HAVING JURISDICTION. DEMOLITION OF THE EXISTING SYSTEM SHALL NOT COMMENCE UNTIL THE NEW SYSTEM HAS BEEN COMPLETELY INSTALLED, TESTED AND APPROVED BY THE AUTHORITY HAVING JURISDICTION.
11. REMOVED FLUORESCENT AND HID LAMPS AND BATTERIES SHALL BE RECYCLED BY A FACILITY APPROVED BY THE OWNER'S REPRESENTATIVE. A UNIFORM HAZARDOUS WASTE MANIFEST SHALL BE PREPARED FOR ALL DISPOSALS AND RETURNED WITH ALL APPLICABLE SIGN OFF'S PRIOR TO APPLICATION FOR FINAL PAYMENT.
12. ALL BALLAST IN LIGHTING FIXTURES TO BE DISPOSED SHALL BE VERIFIED TO BE PCB FREE. ALL BALLAST MANUFACTURED PRIOR TO 1979 AND NOT LABELED AS PCB FREE SHALL BE CONSIDERED TO CONTAIN PCBs. PROVIDE WRITTEN VERIFICATION TO THE OWNER'S REPRESENTATIVE THAT CONFIRMS PCB FREE WASTE. WHERE PCB FREE WASTE CANNOT BE VERIFIED, BALLAST SHALL BE RECYCLED BY A FACILITY APPROVED BY THE OWNER'S REPRESENTATIVE, WITH PCB COMPONENTS ELIMINATED BY A HIGH TEMPERATURE INCINERATION. A UNIFORM HAZARDOUS WASTE MANIFEST SHALL BE PREPARED FOR ALL DISPOSALS AND RETURNED WITH ALL APPLICABLE SIGN OFF'S PRIOR TO APPLICATION FOR FINAL PAYMENT. ALL HANDLING SHALL CONFORM TO EPA REQUIREMENTS. PROVIDE BREAKOUT COST FOR THIS SCOPE.
13. (2) ¾" EXISTING CONDUITS LOCATED IN CLOSET SHALL BE RELOCATED TO ACCOMMODATE CONSTRUCTION OF LIFT.

KBA ARCHITECTS
KNIGHT, BAGGE AND ANDERSON, INC.
6 THIRTEENTH STREET
CHARLESTOWN, MA. 02129
617-241-2807 (T)
617-241-2857 (F)

Designed By: CSI ENGINEERING

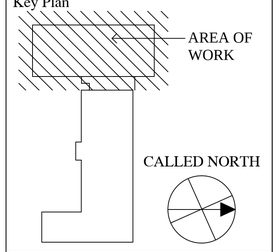
Drawn By: SIC

Checked By: SSM

REV	DATE	DESCRIPTION
	12/3/2012	90% CONSTRUCTION DOCUMENTS
	2/1/2013	100% CONSTRUCTION DOCUMENTS

Stamp:

Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

ELECTRICAL EXISTING AND DEMOLITION PLAN FIRST FLOOR

Job No.: 2012-005

Date: 4-4-13

Drawing No.

ED1.0

BID DOCUMENTS

WARNING

ARC FLASH AND SHOCK HAZARD
APPROPRIATE PPE REQUIRED

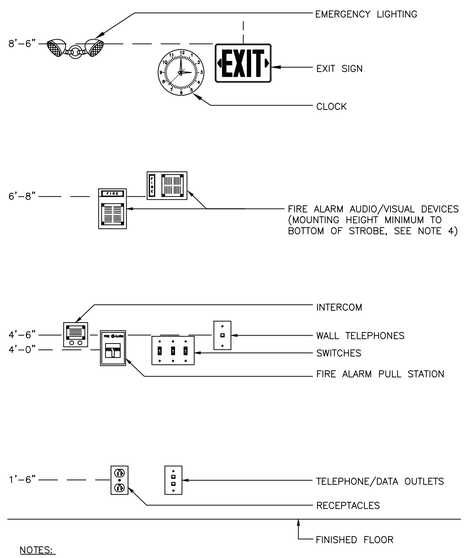
EQUIPMENT TYPE:	
GROUNDING:	Y/N GROUNDED
WORK DISTANCE:	INCHES
AVAILABLE 3ϕ BOLTED CURRENT:	kA
FLASH PROTECTION BOUNDARY:	INCHES
INCIDENT ENERGY AT 23 INCHES:	cal/cm²
PPE LEVEL:	4
DATE:	/ /

NOTES:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL NAMEPLATE REQUIREMENTS.

2. PROVIDE ON ALL IN-LINE METER SOCKETS, SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS AND MOTOR CONTROL CENTERS IN ACCORDANCE WITH NEC 110.16.

TYPICAL FLASH PROTECTION WARNING LABEL



NOTES:

1. ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICE EXCEPT EXIT SIGNS, CLOCKS, EMERGENCY LIGHTING AND FIRE ALARM A/V DEVICES.

2. DEVICES SHALL BE INSTALLED ON A COMMON VERTICAL CENTERLINE WHEREVER POSSIBLE.

3. ALL DEVICES SHALL BE INSTALLED AT MOUNTING HEIGHTS AS INDICATED ON THIS DETAIL UNLESS OTHERWISE NOTED.

4. STROBE HEIGHT ILLUSTRATED AT MAXIMUM HEIGHT. STROBE SHALL BE 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER.

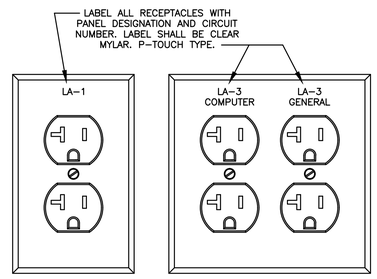
TYPICAL DEVICE MOUNTING HEIGHTS DETAIL

FIRE ALARM LEGEND

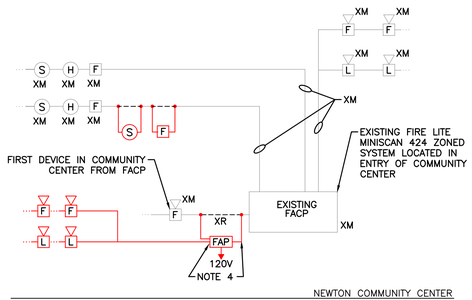
FACP	FIRE ALARM CONTROL PANEL
F	FIRE ALARM MASTER BOX
FAP	FIRE ALARM NOTIFICATION APPLIANCE POWER SUPPLY
15cd L	FIRE ALARM VISUAL DEVICE
F	FIRE ALARM MANUAL PULL STATION
RAI	REMOTE ALARM INDICATOR
15cd F	FIRE ALARM AUDIBLE AND VISUAL DEVICE, NUMERAL INDICATES CANDELA VALUE
S	FIRE ALARM SMOKE DETECTOR, PHOTO ELECTRIC UNLESS NOTED OTHERWISE
H	FIRE ALARM HEAT DETECTOR, 135° FIXED TEMPERATURE UNLESS NOTED OTHERWISE

TELECOMMUNICATION LEGEND

W	TELEPHONE OUTLET "W" – INDICATES WALL PHONE



RECEPTACLE LABEL REQUIREMENTS



FIRE ALARM RISER DIAGRAM
SCALE: NTS

NOTES:

1. COORDINATE ALL FIRE ALARM WORK WITH FIRE DEPARTMENT & FIRE ALARM SERVICE TECHNICIAN (CONTACT OWNER FOR TECHINICIANS INFORMATION)

2. QUANTITY OF DEVICES SHOWN ARE DIAGRAMMATIC ONLY, SEE FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF ALL DEVICES.

3. SEE SPECIFICATION FOR STANDARDS, SYSTEM OPERATION, MATERIALS AND TESTING REQUIREMENTS.

4. PROVIDE REMOTE NOTIFICATION CIRCUIT POWER SUPPLY IN COMMUNITY CENTER AS SHOWN ON THE DRAWINGS. POWER SUPPLY SHALL SYNCHRONIZE ALL STROBE DEVICES IN THE COMMUNITY CENTER BY FLOOR. PROVIDE 3/4" CONDUIT AND CONDUCTOR (MATCH EXISTING TYPE AND RATING) BACK TO THE NEAREST NOTIFICATION DEVICE. PROVIDE 120V POWER TO POWER SUPPLY.

5. E.C. SHALL USE EXISTING FIRE ALARM INITIATION LOOP AND EXTEND TO NEW FIRE ALARM INITIATION DEVICES IN COMMUNITY CENTER. COORDINATE QUANTITY OF INITIATION DEVICES AS SHOWN ON DRAWINGS.

WIRING DEVICE LEGEND

	DUPLEX RECEPTACLE, GROUNDING TYPE, RATED 20A, 125V
5 GFI	"5" – INDICATES CIRCUIT NUMBER "GFI" – INDICATES INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER "WP" – INDICATES WEATHERPROOF "TT" – INDICATES TAMPER RESISTANT SAFETY "C" – INDICATES COUNTER HEIGHT
J	JUNCTION BOX

BRANCH CIRCUIT & FEEDER LEGEND

	BRANCH CIRCUIT OR FEEDER TURNING UP TOWARDS OBSERVER
PP1–(X)	BRANCH CIRCUIT HOME RUN. TYPICAL 2#12 & 1#12G IN ¾"C MINIMUM. PP1–(1) INDICATES PANEL AND CIRCUIT DESIGNATION FROM WHICH HOME RUN SHALL ORIGINATE. EACH CIRCUIT SHALL BE 20A–1P (20AMP SINGLE POLE) UNLESS NOTED OTHERWISE.

POWER DISTRIBUTION

	208Y/120 VOLT PANELBOARD, RECESSED MOUNTED REFER TO SCHEDULE OF PANELBOARDS

MOTOR & CONTROLS LEGEND

S_M	MANUAL MOTOR STARTING SWITCH WITH THERMAL OVERLOAD PROTECTION
2	MOTOR, NUMERAL INDICATES HORSEPOWER "2" – INDICATES HORSEPOWER RATING
30AS	DISCONNECT SWITCH RATED 30AMP, 3–POLE, IN NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED "3R" – INDICATES NEMA TYPE 3R ENCLOSURE "2P" – INDICATES 2 POLE SINGLE PHASE DISCONNECT "60AS" – INDICATES 60A SWITCH

EXISTING EQUIPMENT LEGEND

XM	EXISTING EQUIPMENT TO REMAIN
XR	EXISTING EQUIPMENT TO BE REMOVED
XL	EXISTING EQUIPMENT TO BE RELOCATED
	EXISTING EQUIPMENT FOR INFORMATION ONLY – INDICATED BY SYMBOL WITH LIGHT OUT OF FUNCTION LINE TYPE
	EXISTING EQUIPMENT TO BE REMOVED – INDICATED BY SYMBOL WITH DASHED AND IN FUNCTION LINE TYPE

SWITCH LEGEND

S_a	SINGLE POLE SWITCH, RATED 20A, 120/277V "a" LOWER CASE LETTER INDICATES FIXTURE SWITCH CONTROL
S^3_a	THREE WAY SWITCH, RATED 20A, 120/277V
S^{O1}_a	OCCUPANCY SENSOR, RECESS WALL MOUNTED "O1" INDICATES SINGLE CIRCUIT OUTPUT
O1 a	OCCUPANCY SENSOR, SURFACE WALL MOUNTED "O1"–INDICATES TYPE AS DEFINED IN NOTES/SCHEDULES.

LIGHTING FIXTURE LEGEND

FR #	LIGHTING FIXTURE (SEE LIGHTING FIXTURE SCHEDULE) "FR2" – INDICATES LIGHTING FIXTURE TYPE "2" – INDICATES CIRCUIT NUMBER "a" – INDICATES SWITCH CONTROL "NL" – INDICATES NIGHT LIGHT (UNSWITCHED) CIRCUIT
ES2 / ES1	EXIT SIGN LIGHTING FIXTURE, CEILING, PENDENT MOUNTED, ARROWS AND EXIT FACE (SHADED) AS INDICATED
EW1	EXIT SIGN LIGHTING FIXTURE, WALL MOUNTED, ARROWS AND EXIT FACE AS (SHADED) AS INDICATED.
ES2	EXIT SIGN WITH DUAL EMERGENCY HEADS
ER1	EMERGENCY LIGHTING REMOTE LAMP HEADS, SINGLE OR DOUBLE
EB1	EMERGENCY LIGHTING BATTERY UNIT WITH DOUBLE LAMP HEADS

NOTES:
1. REFER TO SPECIFICATIONS FOR ADDITIONAL NAMEPLATE REQUIREMENTS.

2. NAMEPLATE TO BE 1/16" THICK PLASTIC WITH WHITE CENTER LAMINATION. FACE SHALL BE BLACK, ENGRAVED LETTERS SHALL BE WHITE.

3. SECURE NAMEPLATE TO SURFACES WITH HIGH STRENGTH ADHESIVE CEMENT. UTILIZE MECHANICAL FASTENERS FOR ALL EXTERIOR LOCATIONS.

4. TYPICAL FOR "STARTERS", "DISCONNECTS", AND "TRANSFORMERS".

TYPICAL NAMEPLATE DETAIL

ABBREVIATIONS

A/AMP	AMPERE
AC	ALTERNATION CURRENT
ADA	AMERICAN WITH DISABILITIES ACT
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
B	BURIED
C	CONDUIT
CA	CABLE
CATV	CABLE TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION SYSTEM
CB	CIRCUIT BREAKER
CKT	CIRCUITS
CPU	CENTRAL PROCESSING UNIT
℄	CENTERLINE
dB	DECIBEL
DC	DIRECT CURRENT
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
FDR	FEEDER
FLMT	FLEXIBLE LIQUID TIGHT METALLIC TUBING
FREQ	FREQUENCY
GEC	GROUNDING ELECTRODE CONDUCTOR
GFI	GROUND FAULT INTERRUPTING
GND	GROUND
HH	HANDHOLE
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HZ	HERTZ
IG	ISOLATED GROUND
JB	JUNCTION BOX
KVA	KILOVOLT–AMPERE
KW	KILOWATT
KWH	KILOWATT HOURS
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MEC	MASSACHUSETTS ELECTRIC CODE
M/G	MOTOR/GENERATOR SET
MH	MANHOLE
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
NC	NORMALLY CLOSED CONTACT
NEC	NATIONAL ELECTRIC CODE
NO	NORMALLY OPEN CONTACT
NTS	NOT TO SCALE
#	NUMBER
OPD	OVER CURRENT PROTECTION DEVICE
POS	PROVIDED UNDER OTHER SECTIONS
PVC	POLYVINYL CHLORIDE
PWR	POWER
RGS	RIGID GALVANIZED STEEL
RMS	ROOT MEAN SQUARE VALUE
RPM	REVOLUTIONS PER MINUTE
SN	SOLID NEUTRAL
SWBD	SWITHCBOARD
TB	TERMINAL BLOCK
TEL	TELEPHONE
TERM	TERMINAL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
TSP	TWISTED SHIELDED–PAIR
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED–PAIR
V	VOLTS
VA	VOLT–AMPERE
VSD	VARIABLE SPEED DRIVE
W	WATTS
WP	WEATHERPROOF

SCHEDULE OF DRAWINGS

DWG#	DESCRIPTION	REV	DATE
E1.0	ELECTRICAL LEGEND AND DETAILS		01–31–13
ED1.0	ELECTRICAL EXISTING AND DEMOLITION PLAN FIRST FLOOR		01–31–13
E2.0	ELECTRICAL NEW POWER, LIGHTING, AND FIRE ALARM PLAN		01–31–13
E3.0	ELECTRICAL SCHEDULES		01–31–13
E4.0	ELECTRICAL SPECIFICATIONS		01–31–13

KBA ARCHITECTS
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Designed By: CSI ENGINEERING

Drawn By: SIC

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	2/1/2013	100% CONSTRUCTION DOCUMENTS

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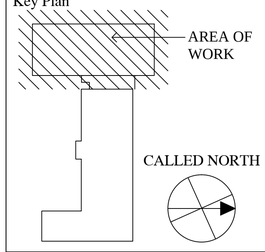
Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

ELECTRICAL LEGEND & DETAILS

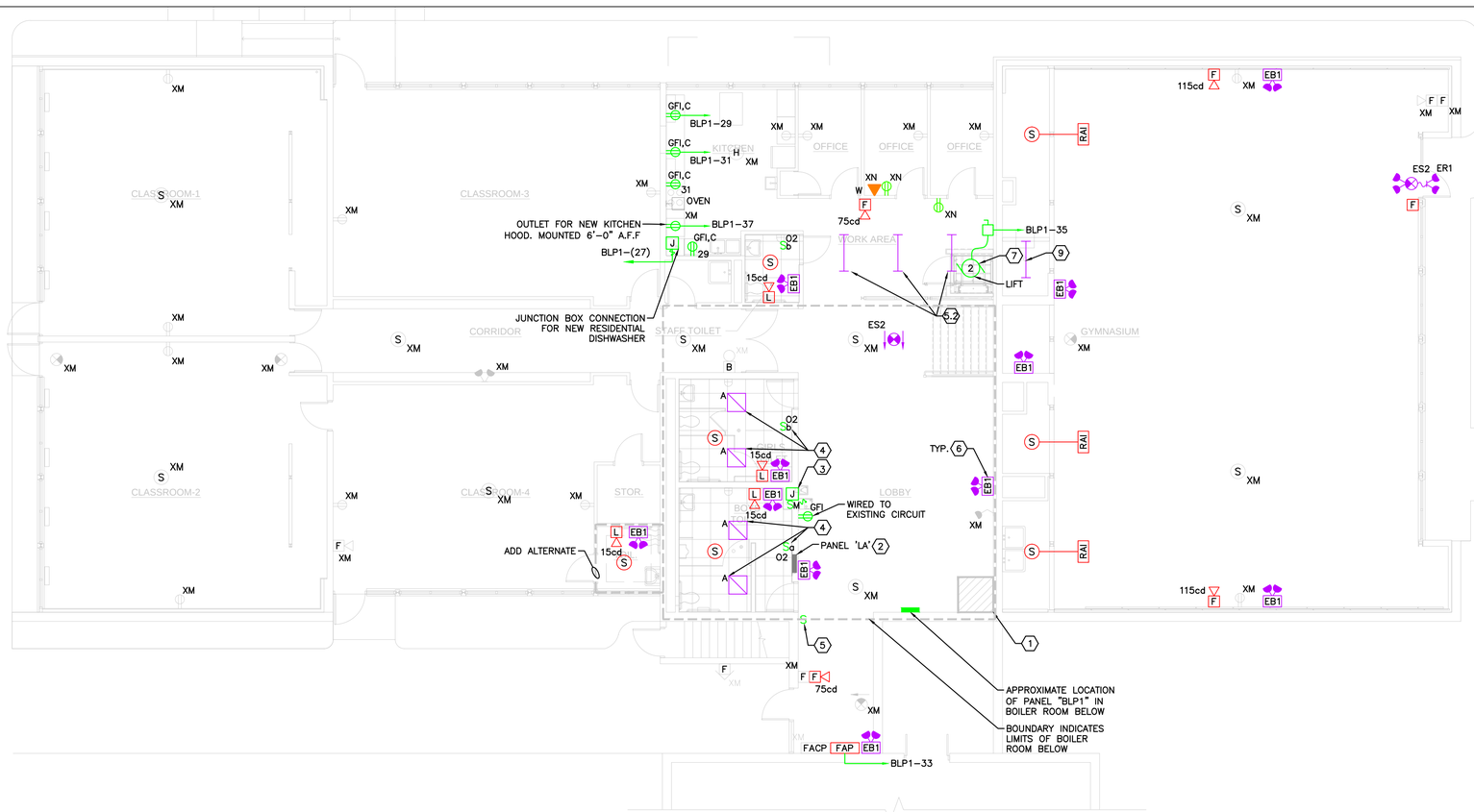
Job No.: 2012-005

Date: 4-4-13

Drawing No.

E1.0

BID DOCUMENTS



ELECTRICAL NEW POWER, LIGHTING AND FIRE ALARM PLAN FIRST FLOOR

Scale: 1/8" = 1'-0"

POWER NOTES:

1. REFER TO DRAWING E1.0 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
2. CIRCUIT NUMBERS ARE DIAGRAMMATIC. EXACT NUMBERS SHALL BE DETERMINED IN THE FIELD AND REFLECTED ON AS-BUILT DOCUMENTATION BY THE ELECTRICAL CONTRACTOR. THE ASSOCIATED CIRCUIT NUMBERS THAT ARE APPLIED TO EACH DEVICE AND PIECE OF EQUIPMENT INFERS INTERCONNECTING BRANCH CIRCUITRY. INTERCONNECTING BRANCH WIRING SHALL BE SIZED EQUAL TO THE HOMERUN UNLESS NOTED OTHERWISE.
3. VOLTAGE DROP HAS BEEN CONSIDERED IN THE DESIGN OF ALL BRANCH CIRCUITRY AND FEEDER SIZES BASED UPON THE ILLUSTRATED EQUIPMENT LAYOUTS AND SHORTEST CONDUCTOR/RACEWAY ROUTING. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEVIATIONS TAKEN THAT WILL INCREASE CONDUCTOR/RACEWAY ROUTING LENGTHS. BRANCH CIRCUITS LONGER THAN 75' FOR 120V FROM PANEL TO LAST OUTLET SHALL BE INCREASED A MINIMUM OF ONE SIZE ABOVE THAT SPECIFIED TO LIMIT VOLTAGE DROP TO LESS THAN 3%. FEEDERS SHALL FOLLOW SIMILAR GUIDELINES AND BE LIMITED TO 2% DROP.
4. POWER BRANCH CIRCUITRY SHALL BE INSTALLED IN CONDUIT FROM THE PANEL TO THE FIRST DEVICE AND/OR WHERE EXPOSED. POWER BRANCH CIRCUITRY MAY BE TYPE MC CABLE WHERE CONCEALED ABOVE SUSPENDED CEILINGS AND IN METAL STUD WALLS.
5. MAINTAIN CONTINUITY OF BRANCH CIRCUITRY ASSOCIATED WITH ALL EXISTING POWER DEVICES TO REMAIN.

FIRE ALARM NOTES:

1. REFER TO DRAWING E1.0 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
2. FIRE ALARM BRANCH CIRCUITRY SHALL BE INSTALLED IN CONDUIT FROM THE PANEL TO THE FIRST DEVICE AND/OR WHERE EXPOSED. FIRE ALARM BRANCH CIRCUITRY MAY BE TYPE MC CABLE WHERE CONCEALED ABOVE SUSPENDED CEILINGS AND IN METAL STUD WALLS.
3. MC CABLE FOR FIRE ALARM SERVICE SHALL HAVE A RED IDENTIFIER ALONG ITS ENTIRE LENGTH. JUNCTION BOX COVERS AND CONDUIT COUPLINGS FOR ALL FIRE ALARM WIRING RACEWAYS SHALL BE PAINTED RED PRIOR TO INSTALLATION.
4. MAINTAIN CONTINUITY OF BRANCH CIRCUITRY ASSOCIATED WITH ALL EXISTING FIRE ALARM DEVICES TO REMAIN.

PLAN NOTES: (#) TAG CALL OUT IS INTENDED TO INCLUDE ALL "SUB" NOTES (e.g. 2.1, 2.2)

1. CONDUIT ROUTING:
   1.1. ALL BRANCH CIRCUIT CONDUITS FROM BASEMENT PANEL "BLP1" TO ABOVE FIRST FLOOR CEILING SHALL BE ROUTED INSIDE FENCED VENT CHASE LOCATED IN THE CORNER OF THE LOBBY. ALTERNATE ROUTING WILL REQUIRE ARCHITECT APPROVAL.
2. PANEL "LA" MODIFICATIONS:
   2.1. PROVIDE NEW DOOR IN DOOR HINGED LOCKABLE COVER FOR RECESSED PANEL "LA". CONTRACTOR SHALL COORDINATE NUMBER OF CIRCUIT BREAKERS AND REQUIRED OPENING IN FIELD.
   2.2. PROVIDE NEW BLANK PLASTIC PLATE OVER HOLE WHERE EXPOSED BUS CAN BE SEEN. SECURELY FASTEN PLATE TO PANEL "LA" WITH SCREWS TO FIT EXISTING MOUNTING HOLE IN PANEL.
3. POWER TO NEW WATER COOLER:
   3.1. PROVIDE 2#12&1#12G, 3/4"C FROM PANEL "BLP1" TO NEW WATER COOLER.
   3.2. REFER TO PANEL SCHEDULE FOR CIRCUIT BREAKER REQUIREMENTS.
   3.3. REPLACE EXISTING DUPLEX RECEPTACLE LOCATED WITHIN 6'-0" OF NEW WATER COOLER WITH GFI TYPE DUPLEX RECEPTACLE.
4. PROVIDE NEW BATHROOM LIGHTING:
   4.1. PROVIDE NEW 2'X2' FIXTURE (REFER TO LIGHTING SCHEDULE), FOUR FIXTURES TOTAL. FIXTURES SHALL MOUNTED TO THE ACT GIRD AND SHALL BE WIRED TO EXISTING CIRCUIT FEEDING BATHROOM LIGHTS.
   4.2. PROVIDE DUAL TECHNOLOGY WALL MOUNT OCCUPANCY SENSOR WIRED TO CONTROL EXISTING BATHROOM FIXTURES.
5. REWIRE AND RELOCATE EXISTING LIGHT SWITCH.
   5.1. EXISTING LIGHT SWITCH LOCATED IN BATHROOM THAT CONTROLS CORRIDOR, LOBBY AND BATHROOM LIGHTING SHALL BE RELOCATED TO THE CORRIDOR WALL AS SHOWN AND REWIRED SUCH THAT IT CONTROLS CORRIDOR AND LOBBY LIGHTING ONLY.
   5.2. LIGHTING FIXTURES SHALL BE REWIRED TO LOBBY AND CORRIDOR SWITCH CONTROL
6. NEW EMERGENCY LIGHTING FIXTURE (TYPICAL FOR ALL):
   6.1. PROVIDE SELF CONTAINED EMERGENCY BATTERY LIGHT UNIT (REFER TO LIGHTING SCHEDULE)
   6.2. EACH EMERGENCY LIGHT UNIT SHALL BE CIRCUITED TO AN EXISTING UNSWITCHED LIGHTING CIRCUIT IN THE AREA WHERE IT IS LOCATED.
7. POWER FOR NEW HANDICAP LIFT:
   7.1. PROVIDE (2)#10 & (1)#10G, 3/4"C FROM PANEL "BLP1" TO NEW HANDICAP LIFT.
   7.2. REFER TO PANEL SCHEDULE FOR CIRCUIT BREAKER REQUIREMENTS.
   7.3. PROVIDE 30A DISCONNECT SWITCH FOR LOCAL DISCONNECT AT LIFT.
   7.4. PROVIDE CONDUIT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR LOWER AND UPPER CONTROLS OF LIFT.
8. NEW EXIT LIGHTING FIXTURE (TYPICAL FOR ALL):
   8.1. PROVIDE SELF CONTAINED EMERGENCY BATTERY EXIT SIGN (REFER TO LIGHTING SCHEDULE)
   8.2. EACH EXIT SIGN SHALL BE CIRCUITED TO AN EXISTING UNSWITCHED LIGHTING CIRCUIT IN THE AREA WHERE IT IS LOCATED.
9. PROVIDE A NEW LIGHT FIXTURE TO MATCH EXISTING WORK AREA FIXTURES. COORDINATE EXACT TYPE AND CEILING TYPE WITH ARCHITECT. REFER TO NOTE 5.2 FOR FIXTURE SWITCH CONTROL. EXTEND EXISTING WORK AREA LIGHT CIRCUIT TO NEW FIXTURE.

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Designed By: CSI ENGINEERING

Drawn By: SIC

Checked By: SSM

REV	DATE	DESCRIPTION
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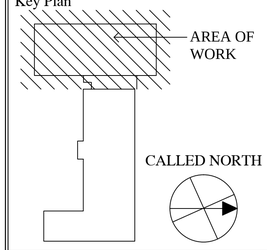

Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

ELECTRICAL NEW POWER, LIGHTING, AND FIRE ALARM PLAN

Job No.: 2012-005

Date: 4-4-13

Drawing No. E2.0

BID DOCUMENTS

EXISTING PANELBOARD SCHEDULE

PANEL: BLP1 | VOLTS: 120Y/208V | NEW/EXISTING.: EXISTING
MAIN: 225A MLO | BUS AMPS: 225A | MOUNT.: SURFACE
PH/WIRE: 3/4 | AIC: XXXK | LOC: MECHANICAL ROOM

CIR.	AMPS/ POLES	DESCRIPTION OF LOAD	LOAD kVA	NOTE		NOTE	LOAD kVA	DESCRIPTION OF LOAD	AMPS/ POLES	CIR.
1	–	SPACE						PANEL 'LA'	150/4	2
3	–	SPACE								4
5	–	SPACE								6
7	–	SPACE								8
9	20/1	EXISTING LOAD						EXISTING LOAD	20/1	10
11	20/1	EXISTING LOAD						EXISTING LOAD	20/1	12
13	–	SPACE						SPACE	–	14
15	–	SPACE						SPACE	–	16
17	–	SPACE						SPACE	–	18
19	–	SPACE						EXISTING LOAD	20/1	20
21	–	SPACE						EXISTING LOAD	20/1	22
23	–	SPACE						EXISTING LOAD	20/1	24
25	20/1	ELECTRIC WATER COOLER	1.2					EXISTING LOAD	20/1	26
27	20/1	DISHWASHER	1.2					SPACE	–	28
29	20/1	KITCHEN COUNTER TOP RECEPTS.	.36					EXISTING LOAD	20/1	30
31	20/1	KITCHEN COUNTER TOP RECEPTS.	.36					SPACE	–	32
33	20/1	FIRE ALARM POWER SUPPLY	.72					EXISTING LOAD	20/1	34
35	30/1	HANDICAP LIFT	2.2					SPACE	–	36
37	20/1	COOKING HOOD	.28					EXISTING LOAD	20/1	38
39	20/1	EXISTING LOAD						EXISTING LOAD	20/1	40
41	20/1	EXISTING LOAD						SPACE	20/1	42
								TOTAL CONNECTED kVA:	0.00	
								TOTAL CONNECTED AMPERES:	0.00	

NOTES:
1. E.C. SHALL RECONNECT ALL EXISTING LOADS AS NECESSARY THROUGHOUT PROPER INVESTIGATION OF LOADS CURRENTLY IN USE IN FIELD.

EXISTING PANELBOARD SCHEDULE

PANEL: LA | VOLTS: 120Y/208V | NEW/EXISTING.: EXISTING
MAIN: 150A MLO | BUS AMPS: 225A | MOUNT.: RECESSED
PH/WIRE: 1/3 | AIC: XXXK | LOC: MEN'S BATHROOM ENTRANCE

CIR.	AMPS/ POLES	DESCRIPTION OF LOAD	LOAD kVA	NOTE		NOTE	LOAD kVA	DESCRIPTION OF LOAD	AMPS/ POLES	CIR.
1	20/1	EXISTING LOAD						SPACE	–	2
3	20/1	EXISTING LOAD						EXISTING LOAD	20/1	4
5	20/1	EXISTING LOAD						EXISTING LOAD	20/1	6
7	20/1	EXISTING LOAD						EXISTING LOAD	20/1	8
9	20/1	EXISTING LOAD						EXISTING LOAD	20/1	10
11	20/1	EXISTING LOAD						EXISTING LOAD	20/1	12
13	20/1	EXISTING LOAD						EXISTING LOAD	20/1	14
15	20/1	EXISTING LOAD						EXISTING LOAD	20/1	16
17	20/1	EXISTING LOAD						EXISTING LOAD	20/1	18
19	20/1	EXISTING LOAD						SPARE	20/1	20
21	20/1	SPARE						SPARE	20/1	22
23	20/1	SPARE						EXISTING LOAD	20/1	24
25	20/1	EXISTING LOAD						EXISTING LOAD	20/1	26
27	20/1	EXISTING LOAD						EXISTING LOAD	20/1	28
29	20/1	EXISTING LOAD						EXISTING LOAD	20/1	30
31	20/1	EXISTING LOAD						EXISTING LOAD	20/1	32
33	20/1	EXISTING LOAD						EXISTING LOAD	20/1	34
35	20/1	EXISTING LOAD						EXISTING LOAD	20/1	36
37	20/1	EXISTING LOAD						EXISTING LOAD	20/1	38
39	20/1	EXISTING LOAD						EXISTING LOAD	20/1	40
								TOTAL CONNECTED kVA:	0.00	
								TOTAL CONNECTED AMPERES:	0.00	

NOTES:
1. REFER TO DRAWING E2.0 PLAN NOTE 2 FOR PANEL MODIFICATIONS

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURERS	CATALOG NUMBER	DESCRIPTION	LAMPS NO.	LAMPS TYPE	INPUT VOLTS	INPUT WATTS	REMARKS
A	H.E. WILLIAMS	DI-G-S22-224T5H-AD-EB2-UNV	2'X2' RECESSED LENSED FIXTURE	2	T5HO	120	46.6W	
ER1	LITHONIA	76-4-220T12-WG-7611-EB2-120	EXTERIOR EMERGENCY DUAL HEAD REMOTE FIXTURE	2	5.4W	120	11W	
EB1	EMERGI-LITE	EL-2MRS	EMERGENCY BATTERY PACK	2	MR16	120/277	5W	
ES2	EMERGI-LITE	ELXN400-RN-WG5E	DOUBLE SIDED CEILING MOUNTED EXIT SIGN WITH BATTERY PACK	–	–	120/277	–	

NOTES:

1. NOTES 2-9 APPLY TO ALL APPLICABLE LIGHTING FIXTURES. THE REMARKS COLUMN SHALL NOTE ADDITIONAL REQUIREMENTS.
2. FIXTURES SPECIFIED WITH CATALOG NUMBERS ESTABLISH QUALITY LEVEL FOR EQUAL FIXTURES FROM MANUFACTURERS LISTED WITHOUT CATALOG NUMBERS. WHERE ONLY ONE MANUFACTURER LISTED, THERE SHALL BE NO SUBSTITUTION.
3. VERIFY EXACT MOUNTING CONDITIONS AND PROVIDE APPROPRIATE ACCESSORIES AND HARDWARE TO ACCOMMODATE REQUIREMENTS.
4. FIXTURE TYPE INDICATED ONCE ON A CONTINUOUS ROW SHALL BE TYPICAL OF ALL FIXTURES IN THE ROW UNLESS NOTED OTHERWISE.
5. CONTINUOUS ROWS OF FIXTURES SHALL BE PROVIDED WITH ALL NECESSARY HARDWARE AND FILLERS TO PROVIDE THE EXACT LENGTHS AS INDICATED ON THE PLANS. FIXTURES IN SOFFITS SHALL BE CONTINUOUS END TO END.
6. PROVIDE ALL FLUORESCENT FIXTURES WITH ELECTRONIC BALLASTS WITH MAXIMUM THD OF 20%, PF GREATER THAN 97% AND BF GREATER THAN 0.9. BALLASTS SHALL BE PROGRAMMED RAPID START WITH END-OF-LAMP-LIFE PROTECTION.
7. BALLAST EFFICIENCY SHALL BE GREATER THAN THAT REQUIRED TO ENSURE THAT THE VALUE LISTED FOR INPUT WATTS IS NOT EXCEEDED.
8. FLUORESCENT LAMPS SHALL HAVE A MINIMUM CRI OF 82. LAMP COLOR SHALL BE AS LISTED IN THE SCHEDULE.
9. PROVIDE EXIT SIGNS WITH ARROWS AND MOUNTING ACCESSORIES AS INDICATED ON THE PLANS.

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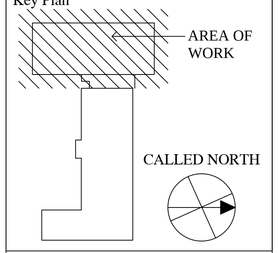

Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:
ELECTRICAL SCHEDULES

Job No.: 2012-005
Date: 4-4-13
Drawing No. E3.0

BID DOCUMENTS

ELECTRICAL SPECIFICATIONS

PART 1—GENERAL

1. THE PROJECT INCLUDES INSTALLATION OF ELECTRICAL SYSTEMS AT 54 GROVE STREET, NEWTON LOWER FALLS, MASSACHUSETTS.

2. THE OWNERS GENERAL CONDITIONS, SPECIAL CONDITIONS AND SUPPLEMENTAL CONDITIONS OR REQUIREMENTS ARE PART OF THIS WORK.

3. EXAMINATION OF SITE AND CONTRACT DOCUMENTS: BEFORE SUBMITTING HIS PROPOSAL, THIS CONTRACTOR SHALL VISIT THE PREMISE AND REVIEW THE ENTIRE PROJECT. THE CONTRACTOR SHALL DETERMINE THE DIFFICULTIES, CONDITIONS, AND DISPOSAL REQUIREMENTS WHICH MAY BE ENCOUNTERED DURING THE WORK. ALL CHARGES RELATED TO MEETING THE INTENT OF THE DRAWINGS AND SPECIFICATIONS SHALL BE INCORPORATED INTO THE BID. IF DISCREPANCIES ARISE BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NO ADDITIONAL CHARGES WILL BE ALLOWED DUE TO EXISITNG CONDITIONS.

4. THE EC SHALL FURNISH AND INSTALL ALL PANELBOARDS, METERING EQUIPMENT, CONDUIT, WIRE, BOXES, SWITCHES, LIGHTING FIXTURES, FIRE ALARM COMPONENTS, RECEPTACLES AND OTHER DEVICES REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM.

5. THE INSTALLATION OF THE SYSTEMS SHALL CONFORM TO THE REQUIREMENTS OF THE MASSACHUSETTS ELECTRIC CODE, NATIONAL FIRE PROTECTION ASSOCIATION AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES.

6. ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS' LABEL.

7. OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES AND CERTIFICATES, INCLUDE ALL FEDERAL, STATE AND LOCAL TAXES.

8. WORKMANSHIP: THE ENTIRE WORK PROVIDED IN THIS SPECIFICATION SHALL BE CONSTRUCTED AND FINISHED IN EVERY RESPECT IN A WORKMANLIKE AND SUBSTANTIAL MANNER. EQUIPMENT SHALL BE SECURELY INSTALLED PLUMB AND/OR LEVEL. NO ELECTRICAL EQUIPMENT SHALL BE SUPPORTED BY WORK OF OTHER TRADES. OBTAIN DETAILED INFORMATION FROM THE MANUFACTURERS OF APPARATUS AS TO THE PROPER METHOD OF INSTALLING AND CONNECTING EQUIPMENT. OBTAIN ALL INFORMATION FROM THE GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS, WHICH MAY BE NECESSARY TO FACILITATE WORK AND THE COMPLETION OF THE WHOLE PROJECT.

9. THE ELECTRICAL CONTRACTOR (EC) SHALL VERIFY THE LOCATIONS AND MOUNTING HEIGHTS OF ALL EQUIPMENT, LIGHT FIXTURES, PANELBOARDS, OUTLETS AND MECHANICAL EQUIPMENT WITH THE OWNER PRIOR TO COMMENCING ANY WORK.

10. THE EC SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO THE STRUCTURAL MEMBER, WITHOUT PROPER WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.

11. EXAMINE ALL DRAWINGS AND OTHER SECTIONS OF THE SPECIFICATIONS FOR REQUIREMENTS WHICH AFFECT THE WORK OF THIS SECTION. COORDINATE WORK WITH OTHER TRADES.

12. RECORD DRAWINGS: FURNISH AND KEEP IN THE JOB AT ALL TIMES, TWO (2) COMPLETE AND SEPARATE SETS OF BLACKLINE PRINTS OF THE ELECTRICAL WORK ON WHICH SHALL BE CLEARLY, NEATLY AND ACCURATELY NOTED, PROMPTLY AS THE WORK PROGRESSES, ALL ELECTRICAL CHANGES, REVISIONS AND ADDITIONS TO THE WORK. WHENEVER WORK IS INSTALLED OTHERWISE THAN AS SHOWN ON THE CONTRACT DRAWINGS, SUCH CHANGES SHALL BE NOTED.AT THE CONCLUSION OF WORK, PREPARE RECORD DRAWINGS IN ACCORDANCE WITH GENERAL CONDITIONS.

13. THE COMPLETED ELECTRICAL INSTALLATION SHALL BE GUARANTEED IN WRITING BY THE ELECTRICAL CONTRACTOR TO BE FREE FROM DEFECTS OF MANUFACTURE AND INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF WRITTEN ACCEPTANCE BY THE OWNER. ANY FAULT DUE TO DEFECTIVE OR IMPROPER MATERIAL, EQUIPMENT WORKMANSHIP OR DESIGN WHICH MAY DEVELOP SHALL BE MADE GOOD FORTHWITH BY, AND AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR, INCLUDING ALL OTHER DAMAGES DONE TO AREAS, MATERIALS AND OTHER SYSTEMS RESULTING FROM THIS FAILURE.

14. THE EC SHALL NOTIFY THE OWNER UPON: (1) COMPLETION OF ALL ROUGH WIRING BEFORE CLOSURE OF ALL WALLS AND (2) UPON "SUBSTANTIAL COMPLETION" OF ALL ELECTRICAL WORK. AFTER SUBSTANTIAL COMPLETION, THE OWNER'S REPRESENTATIVE SHALL PREPARE A PUNCH LIST OF ITEMS TO BE CORRECTED. THE EC SHALL CORRECT, AT NO ADDITIONAL COST, ANY DEFICIENCIES FOUND.

15. RELATED WORK BY OTHERS
- 15.1. THERMOSTATS AND CONTROL WIRING SHALL BE SUPPLIED AND INSTALLED BY THE HVAC CONTRACTOR.
- 15.2. STARTERS FOR MECHANICAL EQUIPMENT SHALL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR.
- 15.3. CUTTING, PATCHING AND TRENCHING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.

16. SUBMITTALS: EC SHALL PROVIDE FOUR (4) COPIES OF SUBMITTALS FOR ELECTRICAL EQUIPMENT TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. SUBMITTALS SHALL INDICATE ALL MATERIALS AND RATINGS. PROVIDE INFORMATION ON THE FOLLOWING ITEMS:
   - a. SWITCHES AND RECEPTACLES
   - b. LIGHTING FIXTURES
   - c. ALL FIRE DETECTION SYSTEM COMPONENTS
   - d. FUSIBLE SWITCHES
   - e. WIRING DEVICES
   - f. CONDUIT
   - g. WIRE
   - h. TEST REPORTS
- 16.1. THE ACCEPTANCE OF SYSTEMS, EQUIPMENT AND DATA SHEETS IS A GENERAL APPROVAL SUBJECT TO THE CONTRACT DRAWINGS, SPECIFICATIONS, AND VERIFICATION OF ALL MEASUREMENTS AT THE JOB. ACCEPTANCE DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR FROM THE RESPONSIBILITY OF DATA SHEET ERRORS OR OMISSIONS. QUANTITY OF ITEMS INDICATED ON SUBMITTAL IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

PART 2 — PRODUCTS

1. GENERAL
- 1.1. ALL MATERIALS AND EQUIPMENT NECESSARY TO MAKE THE INSTALLATION COMPLETE IN EVERY DETAIL SHALL BE FURNISHED AND INSTALLED UNDER THIS CONTRACT, WHETHER OR NOT SPECIFICALLY INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN. ALL MATERIALS AND EQUIPMENT SHALL BE NEW.
- 1.2. IT IS THE INTENT OF THE SPECIFICATIONS THAT ONE MANUFACTURER BE SELECTED, NOT A COMBINATION, FOR ANY PARTICULAR CLASSIFICATION OF MATERIAL; FOR EXAMPLE, ALL WIRE OF ONE MANUFACTURER, ALL SWITCHES OF ONE MANUFACTURER, ETC., EXCEPT SPECIFIC MATERIAL CLASSIFICATIONS IN WHICH DELIVERY TIME BECOMES A PROBLEM. THE ENGINEER MAY GIVE SPECIFIC EXEMPTION FROM THE REQUIREMENTS.
- 1.3. WHERE MATERIALS, EQUIPMENT, APPARATUS, OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OR CATALOG NUMBER, SUCH DESIGNATION IS TO ESTABLISH STANDARDS OF PERFORMANCE, QUALITY, TYPE, AND STYLE.

2. FEEDERS: ALL FEEDERS BETWEEN PANELBOARDS AND SWITCHBOARDS SHALL BE PROVIDED IN TYPE RGS CONDUIT; TYPE MC CABLE IS NOT PERMITTED.

3. CONCEALED BRANCH CIRCUITS: ALL BRANCH CIRCUIT WIRING SHALL BE CONCEALED WHENEVER POSSIBLE. WITHIN CONCEALED SPACES SUCH AS ABOVE HUNG CEILING AREAS AND WITHIN WALL PARTITIONS, BRANCH CIRCUIT WIRING SHALL BE TYPE MC CABLE, 12/2 WITH FULL SIZE INSULATED GROUND WIRE.

4. CONDUIT: ALL EXPOSED, OR SURFACE MOUNTED BRANCH CIRCUIT RUNS SHALL BE INSTALLED USING TYPE RGS CONDUIT. PROVIDE FIRE RESISTANT RATING AROUND ALL CONDUITS PENETRATING THROUGH FIRE RATED WALLS OR FLOORS. RATING OF FIRE PROOFING SHALL MATCH RATING OF WALLS. ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE. ALL CONDUITS SHALL HAVE A PROPER SIZE GROUNDING CONDUCTOR. ALL CONNECTIONS TO MACHINERY AND EQUIPMENT SUBJECT TO VIBRATION SHALL BE MADE WITH FLEXIBLE LIQUIDTIGHT CONDUIT. PROVIDE SUFFICIENT SLACK TO PREVENT VIBRATION TRANSMISSION.

5. WIRING: WIRING SHALL BE A MINIMUM OF #12 AWG SOLID. NON—METALIC CONDUIT TYPE NMC/ROMEX SHALL NOT BE USED. ALL WIRE AND CABLE SHALL BE COPPER; NO ALUMINUM IS PERMITTED. WIRE AND CABLE SHALL BE MANUFACTURED BY PHELPS DODGE COPPER PRODUCTS CORP., GENERAL CABLE CO., TRIANGLE CONDUIT AND CABLE CO., OR EQUAL.

6. OUTLET BOXES AND ACCESSORIES:
- 6.1. PROVIDE PVC OR GALVANIZED SHEET STEEL OUTLET BOXES FOR ALL OUTLETS UNLESS OTHERWISE NOTED.
- 6.2. ALL OUTLET BOXES FOR PENDANT—MOUNTED FIXTURES SHALL BE GALVANIZED, STAMPED STEEL FURNISHED WITH A FIXTURE STUD, SECURELY MOUNTED TO FRAMING
- 6.3. ALL OUTLET BOXES FOR CONCEALED WORK SHALL BE GALVANIZED, STAMPED STEEL; THOSE FOR FIXTURES, FURNISHED WITH A FIXTURE STUD.
- 6.4. OUTLET BOXES SHALL BE OF SIZE AND TYPE TO ACCOMMODATE (1) STRUCTURAL CONDITIONS, (2) SIZE AND NUMBER OF RACEWAYS, CONDUCTORS OR CABLES ENTERING, AND (3) DEVICES OR FIXTURES FOR WHICH THEY ARE REQUIRED.
- 6.5. INSTALL BLANK PLATES ON ALL OUTLET BOXES, IN WHICH NO APPARATUS IS INSTALLED, WHICH DO NOT INTEGRALLY PROVIDE A COVER FOR THE BOX.
- 6.6. SPECIAL CARE SHALL BE TAKEN TO SET ALL BOXES CORRECTLY SQUARE AND TRUE WITH THE BUILDING FINISH.
- 6.7. FIXTURE OUTLET BOXES SHALL HAVE 3/8" SOLID MALE FIXTURE STUDS AND AUXILIARY FIXTURE STEMS SHALL BE SUPPORTED FROM 3/8" MALE FIXTURE STUDS.
- 6.8. OUTLET BOXES AND ACCESSORIES SHALL BE AS MANUFACTURED BY STEEL CITY, APPLETON, RACO, OR EQUAL.

7. CIRCUIT BREAKERS: ALL MULTI—POLE CIRCUIT BREAKERS SHALL BE COMMON INTERNAL TRIP. HANDLE TIES SHALL NOT BE PERMITTED.

8. LIGHTING FIXTURES: LIGHTING FIXTURES SHALL BE PROVIDED COMPLETE, WITH LAMPS, AS SHOWN ON THE FIXTURE SCHEDULE. FURNISH ALL FITTINGS AND OTHER MISCELLANEOUS MATERIALS FOR COMPLETE INSTALLATION OF FIXTURES.

9. DISCONNECT SWITCHES: ALL SAFETY SWITCHES SHALL BE NEMA GENERAL—DUTY TYPE HD AND UNDERWRITERS' LABORATORIES LISTED
- 9.1. ALL SWITCHES SHALL HAVE SWITCHBLADES WHICH ARE FULLY VISIBLE IN THE OFF POSITION WITH THE DOOR OPEN. ALL CURRENT_CARRYING PARTS SHALL BE PLATED THROUGH ELECTROLYTIC PROCESSES TO RESIST CORROSION AND PROMOTE COOL OPERATION.
- 9.2. SWITCHES SHALL BE QUICK_MAKE AND QUICK_BREAK SUCH THAT DURING NORMAL OPERATION OF THE SWITCH, THE OPERATION OF THE CONTACTS SHALL BE NOT CAPABLE OF BEING RESTRAINED BY THE OPERATING HANDLE AFTER THE CLOSING OR OPENING ACTION OF THE CONTACTS HAS STARTED. THE HANDLE AND MECHANISM SHALL BE AN INTEGRAL PART OF THE BOX, NOT THE COVER, WITH POSITIVE PADLOCKING PROVISIONS IN THE OFF POSITION.
- 9.3. SWITCHES SHALL BE FURNISHED IN NEMA 3R GENERAL PURPOSE ENCLOSURES.
- 9.4. SAFETY SWITCHES SHALL BE SQUARE D OR APPROVED EQUAL AS MANUFACTURED BY GENERAL ELECTRIC OR WESTINGHOUSE ELECTRIC.

10. NAMEPLATES: NAMEPLATES CONSISTING OF BLACK PLASTIC WITH WHITE CENTER, LETTERING TO BE 3/16" HIGH, ENGRAVED THROUGH TO WHITE LAYER AND PROPERLY FASTENED WITH BRASS SCREWS SHALL BE PROVIDED FOR THE FOLLOWING EQUIPMENT:
- 10.1. TERMINAL CABINETS
- 10.2. JUNCTION BOXES LARGER THAN 4_11/16"

11. FIRE DETECTION AND ALARM SYSTEM

11.1. GENERAL
- 11.1.1. FIRE ALARM SYSTEM MODIFICATIONS: MODIFICATIONS MADE TO THE BASE BUILDING FIRE ALARM SYSTEM SHALL BE MADE IN COMPLIANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS. ALL NEW COMPONENTS SHALL BE UL LISTED FOR THEIR INTENDED PURPOSE AND CROSS—LISTED FOR USE ON THE EXISTING SYSTEM.
- 11.1.2. THE ADDITION OF NEW INITIATING DEVICES OR NOTIFICATION APPLIANCES TO THE EXISTING SLC AND NAC SHALL NOT ADVERSELY EFFECT SUPERVISION. THE WIRING CLASS AND STYLE FOR THE ADDITION OF DEVICES SHALL BE CONSISTENT WITH EXISTING.
- 11.1.3. NEW DEVICES SHALL BE PROGRAMMED TO INITIATE ACTION IN ACCORDANCE WITH THE EXISTING SEQUENCE OF OPERATION AS APPROVED BY THE AHJ. SYSTEM SUBMITTAL SHALL INCLUDE AN INPUT/OUTPUT MATRIX CLEARLY DEFINING THE SEQUENCE FOR EACH ADDED DEVICE.
- 11.1.4. CSI HAS BASED OUR DESIGN ON AN EXISTING NON—ADDRESSABLE SYSTEM. E.C SHALL COORDINATE WITH OWNER AND DETERMINE THE REQUIREMENTS OF THE EXISTING SYSTEM. E.C. SHALL PROVIDE ALL COMPONENTS NEEDED TO PROVIDE AN OPERATIONAL FIRE ALARM SYSTEM FOR NEWTON COMMUNITY CENTER THAT IS COMPATIBLE WITH THE EXISTING SYSTEMS REQUIREMENTS.

11.2. SEQUENCE OF OPERATIONS
- 11.2.1. THE ACTIVATION OF MANUAL FIRE ALARM PULL STATION, OR THE AUTOMATIC ACTUATION OF ANY THERMAL DETECTOR, SYSTEM SMOKE DETECTOR, SPRINKLER FLOW SWITCH, OR OTHER ALARM ACTUATING DEVICES (INCLUDING EXISTING DEVICES) SHALL RESULT IN THE FOLLOWING:
  - 11.2.1.1. THE ZONE OF THE DEVICE IN ALARM SHALL BE DISPLAYED AT THE FIRE ALARM CONTROL PANEL, (FACP).
  - 11.2.1.2. ALL ALARM NOTIFICATION DEVICES (HORN STROBES) SHALL SOUND AND STROBES SHALL FLASH.
  - 11.2.1.3. IF ALARM SIGNALS ARE SILENCED FOR ANY REASON, THEY SHALL AUTOMATICALLY RESOUND IF FIRE ALARM DEVICES GOES INTO ALARM
  - 11.2.1.4. TRANSMIT SIGNAL TO THE FIRE DEPARTMENT VIA EXISTING MASTER BOX OR DIGITAL DIALER.

11.3. REMOTE DEVICES
- 11.3.1. PULL STATIONS SHALL BE NON ADDRESSABLE, SEMI—FLUSH, DOUBLE ACTION BREAK ROD STATIONS.
- 11.3.2. HORN AND STROBE UNITS SHALL BE PROVIDED IN A COMMON ENCLOSURE. THE VISUAL STROBE SHALL MEET ALL REQUIREMENTS OF THE ADA CODE. UNITS ARE SUPPLIED WITH MULTIPLE SETTINGS OF CANDELA OUTPUT. E.C. SHALL COORDINATE SELECTION OF CANDELA RATING WITH FLOOR PLANS.
- 11.3.3. STROBE ONLY UNITS SHALL BE PROVIDED AND SHALL MEET ALL REQUIREMENTS OF NFPA AND ADA CODES. UNITS ARE SUPPLIED WITH MULTIPLE SETTINGS OF CANDELA OUTPUT. E.C. SHALL COORDINATE SELECTION OF CANDELA RATING WITH FLOOR PLANS.
- 11.3.4. REMOTE POWER SUPPLY PROVIDING 24VDC OF FILTERED DC POWER FOR OPERATION OF PERIPHERAL DEVICES.
- 11.3.5. FIRE ALARM BEACON SHALL BE PROVIDED TO MEET ALL REQUIREMENTS OF NFPA AND NEC CODES. UNITS ARE SUPPLIED WITH ROTATING BEACON AND WALL MOUNT CAPABILITY.
- 11.3.6. DUCT SMOKE DETECTORS SHALL BE PROVIDED TO MEET ALL REQUIREMENTS OF NFPA AND NEC CODES. UNITS SHALL ALSO COMPLY WITH ANY AND ALL REQUIREMENTS OF LOCAL FIRE DEPARTMENT INSPECTOR AND INTERNATIONAL MECHANICAL CODE.
- 11.3.7. SMOKE DETECTORS SHALL BE PROVIDED TO MEET ALL REQUIREMENTS OF NFPA AND NEC CODES. UNITS SHALL BE NON ADDRESSABLE.
- 11.3.8. REMOTE TEST SWITCHES SHALL BE PROVIDED TO MEET ALL REQUIREMENTS OF NFPA AND NEC CODES. UNITS SHALL ALSO COMPLY WITH ANY AND ALL REQUIREMENTS OF LOCAL FIRE DEPARTMENT INSPECTOR AND INTERNATIONAL MECHANICAL CODE.
- 11.3.9. BEAM DETECTORS SHALL BE PROVIDED TO MEET ALL REQUIREMENTS OF NFPA AND NEC CODES. SHALL BE NON ADDRESSABLE. UL LISTING 268 FOR FIRE PROTECTION SIGNALING SYSTEMS. THE DETECTOR SHALL ALLOW ALIGNMENT BETWEEN DETECTOR AND THE REFLECTOR TO BE DONE AT THE DETECTOR. THE DETECTOR SHALL HAVE FOUR STANDARD SELECTABLE SENSITIVITY SETTINGS, ALONG WITH TWO SETTINGS FOR ADJUSTABLE SENSITIVITY. BEAM DISTANCE SHALL BE FROM 16FT. TO 328FT. WITH LONG RANGE KIT.

11.4. WIRING
- 11.4.1. ALL FIRE ALARM WIRE AND CABLE SHALL BE UL LISTED FOR FIRE ALARM USE.
- 11.4.2. THE FIRE ALARM SYSTEM SHALL BE A COMPLETE AUTOMATIC AND MANUAL, CLOSED CIRCUIT, CLASS A, 4 WIRE, CONNECTED AND LEFT IN FIRST—CLASS OPERATING CONDITION.
- 11.4.3. FOR FIRE ALARM WIRING IN ENCLOSED SPACES, PROVIDE PLENUM RATED, TYPE FPLP, WITH RED OUTER JACKET. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 770 AND 725. CONDUCTORS SHALL BE SOLID COPPER #14 MINIMUM, WITH LOW SMOKE, LOW FLAME TYPE JACKET.
- 11.4.4. FOR FIRE ALARM WIRING IN EXPOSED AREAS, PROVIDE TYPE THHN INSULATION. WIRE SIZE SHALL BE #14 AWG MINIMUM. ALL SURFACE MOUNTED WIRING RELATED TO THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN TYPE RGS CONDUIT.
- 11.4.5. ALL JUNCTION BOXES SHALL BE SPRAYED RED AND LABELED "FIRE ALARM". CONDUIT COUPLINGS SHALL BE SPRAY PAINTED RED PRIOR TO INSTALLATION.
- 11.4.6. CONNECTIONS AND SPLICES SHALL BE MADE USING SCREW TERMINAL BLOCKS. THE USES OF WIRE NUT TYPE CONNECTORS ARE PROHIBITED IN THE SYSTEM.

11.5. SHOP DRAWINGS
- 11.5.1. PROVIDE THE FOLLOWING DOCUMENTS FOR REVIEW AND EVALUATION
- 11.5.2. POINT TO POINT WIRING DIAGRAMS OF THE PROPOSED MODIFICATION INCLUDING ALL CONDUCTOR QUANTITY AND SIZING
- 11.5.3. PANEL LAYOUTS INDICATING MODULE PLACEMENT AND SPARE CAPACITY ALLOWANCE FOR FUTURE EXPANSION
- 11.5.4. MANUFACTURERS CATALOG CUT SHEETS OF ALL COMPONENTS AND DEVICES WITH INTERCONNECTION DIAGRAMS
- 11.5.5. BATTERY CAPACITY CALCULATIONS INDICATING REQUIRED AND SPARE CAPACITY
- 11.5.6. POWER SUPPLY CAPACITY CALCULATIONS INCLUDING EACH CIRCUIT LOAD, VOLTAGE DROP AND SPARE CAPACITY
- 11.5.7. WRITTEN TEST REPORT FOR NOTIFICATION OF SUCCESSFUL COMPLETION OF EACH REQUIRED TEST AND SYSTEM RECORD OF COMPLETION.
- 11.5.8. AS—BUILT DRAWINGS INCLUDING ALL DEVICES ADDED AND ALPHANUMERIC DESCRIPTORS ASSIGNED IN THE CONTROL PANEL.

11.6. TESTING
- 11.6.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIRE ALARM TESTING AND CERTIFICATION CHARGES.
- 11.6.2. THE ELECTRICAL CONTRACTOR SHALL CONDUCT THE ACCEPTANCE TEST WITH THE LOCAL FIRE DEPARTMENT IN ACCORDANCE WITH NFPA 72. UPON ACCEPTANCE, A CERTIFICATE TO MAINTAIN A FIRE ALARM SYSTEMS SHALL BE ISSUED AND DISPLAYED AT THE FIRE CONTROL ALL NEW DETECTORS SHALL BE LABELED WITH ASSIGNED ADDRESS ON BOTH THE DETECTOR HOUSING AND THE BASE WITH A BLACK ON CLEAR TYPED LABEL EQUAL TO KROY. THE BASE ADDRESS SHALL BE LEGIBLE WITHOUT REMOVAL OF THE DETECTOR. THE DETECTOR ADDRESS SHALL BE CONCEALED WHEN PLACED INTO THE BASE.
- 11.6.3. THE CONTRACTOR SHALL PERFORM INSULATION TESTING (MEGGER), CONTINUITY AND LOOP RESISTANCE CHECKS ON ALL SYSTEM CONDUCTORS TO DETERMINE THAT THE SYSTEM IS FREE FROM GROUNDED, SHORTED, OR OPEN CIRCUITS. THESE TESTS SHALL BE CONDUCTED PRIOR TO THE INSTALLATION OF FIRE ALARM EQUIPMENT. LOOP RESISTANCE MEASUREMENT SHALL VERIFY THAT THE LOOP RESISTANCE DOES NOT EXCEED THE MANUFACTURERS SPECIFIED LIMITS. CORRECTIONS SHALL BE MADE AND THE SYSTEM SHALL BE RETESTED IF DEFICIENCIES ARE FOUND. A WRITTEN REPORT SHALL BE SUBMITTED DETAILING THE RESULTS OF THE PRELIMINARY TESTS SHALL ACCOMPANY THE REQUEST FOR FINAL ACCEPTANCE TEST.
- 11.6.4. THE FIRM WHO HOLDS THE EXISTING SYSTEM MAINTENANCE CONTRACT SHALL PERFORM FINAL CONNECTIONS, PROGRAMMING, AND TESTING. THE CONTRACTOR SHALL CARRY ALL COSTS ASSOCIATED WITH FINAL CONNECTIONS, PROGRAMMING AND TESTING AS WELL AS DISABLING CONNECTIONS TO THE MUNICIPAL LOOP DURING FINAL CONNECTIONS AND TESTING.
- 11.6.5. CERTIFY INSTALLATION WITH THE SUCCESSFUL COMPLETION OF ALL ASSOCIATED NFPA 72 TESTS AND MEASURE SOUND PRESSURE LEVELS IN ALL ROOMS WITHIN THE SCOPE OF THIS PROJECT. SUBMIT THE TEST REPORTS FOR REVIEW PRIOR TO REQUEST FOR FINAL PUNCH LIST INSPECTION.

PART 3 — EXECUTION

1. SERVICE TO THE FACILITY: ELECTRICAL POWER OUTAGES MUST BE MINIMIZED AS NOT TO INTERFERE WITH THE BUILDING'S OPERATION. THE TIME AND DURATION OF ANY POWER OUTAGE MUST BE APPROVED BY AND SCHEDULED WITH THE BUILDING OWNER/AUTHORITY. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE OWNER/AUTHORITY AT LEAST TEN CALENDAR DAYS FROM THE DATE OF PROPOSED POWER OUTAGE IN THE FACILITY.

2. DEMOLITION, RELOCATION AND REMOVAL OF EXISTING WIRING
- 2.1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DEMOLITION, RELOCATION OF CIRCUITS, AND REMOVAL OF EXISTING WIRING NECESSARY FOR THE ELECTRICAL WORK. THE ELECTRICAL CONTRACTOR SHALL COMPLETELY REMOVE ALL ELECTRICAL SYSTEMS WITHIN THE BUILDING INCLUDING — BUT NOT LIMITED TO — THE FOLLOWING:
  - 2.1.1. REMOVE ALL EXISTING LIGHTING FIXTURES, SWITCHING AND TIME CLOCKS, AND ASSOCIATED BRANCH CIRCUITS.
  - 2.1.2. REMOVE ALL EXISTING BRANCH CIRCUIT WIRING.
  - 2.1.3. REMOVE ALL EXISTING FIRE ALARM DEVICES AND ALL EXISTING FIRE ALARM WIRING.
- 2.2. OUTLETS THAT ARE EXISTING FOR USE AS LIGHTING OR RECEPTACLES MAY BE USED AS JUNCTION BOXES FOR THE RE_WIRING OF THE BUILDING IF NECESSARY.
- 2.3. THE CONTRACTOR SHALL MAINTAIN, EXTEND, AND CONNECT EXISTING BRANCH CIRCUITS WHICH PASS THROUGH THE CONSTRUCTION AREA, MAINTAINING POWER TO ALL EQUIPMENT AND LIGHTING OUTSIDE OF THE CONSTRUCTION AREA.

3. SPECIAL COORDINATION INSTRUCTIONS
- 3.1. COORDINATION WITH WORK OF OTHER TRADES IS REQUIRED. THE FOLLOWING SPECIAL INSTRUCTIONS SHALL ALSO BE CAREFULLY NOTED:
  - 3.1.1. LOCATIONS AND MOUNTING HEIGHT OF ALL WALL OUTLETS AND LIGHTING FIXTURES SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO ROUGHING_IN CONDUITS. REFER TO DETAILS AND WALL ELEVATIONS ON THE ARCHITECTURAL DRAWINGS; MOUNTING HEIGHTS INDICATED ON THESE ARCHITECTURAL DRAWINGS AND/OR SPECIFIC DIMENSIONAL INFORMATION GIVEN TO THIS CONTRACTOR BY THE ENGINEER SHALL TAKE PRECEDENCE OVER SUCH INFORMATION INDICATED ON THE ELECTRICAL DRAWINGS.
  - 3.1.2. ALL FEEDER, BRANCH CIRCUIT OR AUXILIARY SYSTEM WIRING PASSING THROUGH PULL BOXES AND/OR BEING MADE UP IN PANELBOARDS SHALL BE PROPERLY GROUPED, BOUND, AND TIED TOGETHER IN A NEAT AND ORDERLY MANNER, IN KEEPING WITH THE HIGHEST STANDARDS OF THE TRADE, WITH PLASTIC CABLE TIES.
  - 3.1.3. ALL MISCELLANEOUS HARDWARE AND SUPPORT ACCESSORIES, INCLUDING SUPPORT RODS, NUTS, BOLTS, SCREWS, AND OTHER SUCH ITEMS, SHALL BE OF A GALVANIZED OR CADMIUM PLATED FINISH, OR OF OTHER APPROVED RUST_INHIBITING COATINGS. CARE SHOULD BE TAKEN THAT FIXTURES SHALL NOT BE INSTALLED ON BOTH SIDES OF EXISTING OR NEW BUILDING EXPANSION JOINTS.
  - 3.1.4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP TO PROVIDE FOR ADEQUATE PROTECTION OF ALL ELECTRICAL EQUIPMENT DURING THE COURSE OF CONSTRUCTION OF THE PROJECT.
  - 3.1.5. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL APPROVED INSULATION AT TERMINAL CONNECTION POINTS FOR ALL ELECTRICAL CONDUCTING MATERIALS, SUCH AS TRANSFORMER TERMINALS, TERMINAL STUDS, AND AT ANY OTHER SPECIAL LOCATIONS AS DIRECTED BY THE ENGINEER.
  - 3.1.6. PRIOR TO INSTALLATION OF CONDUIT AND WIRE, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WIRING REQUIREMENTS WITH ACTUAL EQUIPMENT SUPPLIED.
  - 3.1.7. THE ELECTRICAL DRAWINGS INDICATE WIRE, CONDUIT, AND OVERCURRENT PROTECTIVE DEVICES TO BE INSTALLED FOR CERTAIN HVAC UNITS. THESE SIZES ARE BASED ON CERTAIN MANUFACTURERS REQUIREMENTS. SHOULD THE GENERAL CONTRACTOR ALLOW THE MECHANICAL CONTRACTOR TO SUBSTITUTE HVAC EQUIPMENT DIFFERENT THAN SPECIFIED, THEN THE GENERAL CONTRACTOR SHALL PROVIDE THE REQUIRED REVISED ELECTRICAL WIRING, CONDUIT, AND OVERCURRENT PROTECTIVE DEVICES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AT NO ADDITIONAL CHARGE TO THE OWNER.

4. CUTTING, PATCHING, AND DRILLING: THE GENERAL CONTRACTOR SHALL PERFORM PLASTER CUTTING AND CHANNELING AND DRILLING THROUGH STRUCTURAL BEAMS NECESSARY FOR THE INSTALLATION OF ELECTRICAL WORK. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PAINTING AND PATCHING WHICH SHALL MATCH EXISTING BASE MATERIALS IN LOOKS AND COLOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ROUTINE DRILLING THROUGH 2 X 4 AND/OR 2 X 6 WOOD FRAME WALLS AND 2 X 10 AND/OR 2 X 12 FLOOR JOISTS IN ORDER TO INSTALL WIRING.

5. COOPERATION AND WORK PROGRESS
- 5.1. THE ELECTRICAL WORK SHALL BE CARRIED ON UNDER THE USUAL CONSTRUCTION CONDITIONS, IN CONJUNCTION WITH ALL OTHER WORK AT THE SITE. THE ELECTRICAL CONTRACTOR SHALL COOPERATE WITH THE ENGINEER AND ALL CONTRACTORS AND EQUIPMENT SUPPLIERS WORKING ON THE SITE, COORDINATE THE WORK, AND PROCEED IN A MANNER SO AS NOT TO DELAY THE PROGRESS OF THE PROJECT.
- 5.2. THE ELECTRICAL CONTRACTOR HAS A RESPONSIBILITY TO COORDINATE THE EXACT MOUNTING ARRANGEMENT AND LOCATION OF EQUIPMENT INDICATED ON THE DRAWINGS TO ALLOW FOR PROPER SPACE REQUIREMENTS FOR EQUIPMENT ACCESS, OPERATION, AND MAINTENANCE.
- 5.3. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE THE DELIVERY OF ELECTRICAL EQUIPMENT TO THE PROJECT PRIOR TO THE TIME INSTALLATION OF EQUIPMENT WILL BE REQUIRED.

6. INSTALLATION OF WIRING AND CONDUIT
- 6.1. ALL CONDUITS SHALL BE INSTALLED CONCEALED.
- 6.2. UNLESS OTHERWISE INDICATED, ALL WIRING SHALL BE 2—#12 AND 1_#12 GROUND, 1/2"C.
- 6.3. CONDUIT ENDS SHALL BE CUT SQUARE, THREADED, AND REAMED TO REMOVE BURRS AND SHARP EDGES. OFFSETS AND BENDS FOR CHANGES IN ELEVATION OF EXPOSED CONDUIT RUNS SHALL BE MADE AT WALLS OR BEAMS AND NOT IN OPEN SPACES BETWEEN WALLS OR BEAMS. CONDUITS SHALL BE ROUTED SO AS NOT TO INTERFERE WITH THE OPERATION OR MAINTENANCE OF ANY EQUIPMENT. THE ENTIRE JOB SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER, AS APPROVED BY THE ENGINEER. STEEL SUPPORTS OR RACKS SHALL BE GALVANIZED STEEL CHANNEL AND FITTINGS. SUPPORTS SHALL BE MANUFACTURED BY UNISTRUT, KINDORF, HUSKY PRODUCTS COMPANY, OR EQUAL.
- 6.4. EXPOSED CONDUITS SHALL BE RUN PARALLEL TO, OR AT RIGHT ANGLES TO, THE WALLS OF THE BUILDING, AND ALL BENDS SHALL BE MADE WITH STANDARD CONDUIT ELLS OR CONDUITS BENT TO — NOT LESS THAN — THE SAME RADIUS. HORIZONTAL RUNS OF EXPOSED CONDUITS SHALL BE CLOSE TO CEILING BEAMS, PASSING OVER WATER OR OTHER PIPING WHERE POSSIBLE AND SHALL BE SUPPORTED BY PIPE STRAPS OR BY OTHER APPROVED MEANS, NOT MORE THAN 5' APART. INSTALLATION OF EXPOSED CONDUITS IN FINISHED AREAS OF THE BUILDING SHALL BE CHECKED WITH THE ENGINEERS FOR LAYOUT BEFORE INSTALLATION TO CONFORM TO THE PATTERN OF THE STRUCTURAL MEMBERS, AND WHEN COMPLETED, IS TO PRESENT THE MOST UNOBTRUSIVE APPEARANCE POSSIBLE. NO EXPOSED CONDUITS WILL BE PERMITTED ON WALLS OR PARTITIONS IN PUBLIC AREAS, UNLESS SPECIFICALLY NOTED.
- 6.5. CONDUITS SHALL NOT BE INSTALLED WITHIN 3" OF HOT WATER PIPES, OR APPLIANCES, EXCEPT WHERE CROSSING IS UNAVOIDABLE AND, IN THAT CASE, THE CONDUIT SHALL BE KEPT AT LEAST 1" FROM COVERING OR PIPE CROSSED.
- 6.6. CONDUITS SHALL BE SUPPORTED ON APPROVED TYPE GALVANIZED WALL BRACKETS, CEILING TRAPEZE, STRAP HANGERS, OR PIPE STRAPS, SECURED BY MEANS OF TOGGLE BOLTS ON HOLLOW MASONRY UNITS OR EXPANSION BOLTS IN CONCRETE OR BRICK.
- 6.7. IN GENERAL, NO SPLICES OR JOINTS WILL BE PERMITTED IN EITHER FEEDER OR BRANCHES EXCEPT AT OUTLETS OR ACCESSIBLE JUNCTION BOXES.
- 6.8. ALL SPLICES IN WIRE #8 AWG AND SMALLER SHALL BE STANDARD PIGTAIL, MADE MECHANICALLY TIGHT AND INSULATED WITH PROPER THICKNESS OF INSULATING TAPE. WIRE SPLICING NUTS AS MANUFACTURED BY MINNESOTA MINING AND MANUFACTURING COMPANY (SCOTCH LOCK) OR IDEAL WIRE NUTS MAY BE USED, SUBJECT TO THE LOCAL WIRE INSPECTOR.
- 6.9. WIRE #6 AND LARGER SHALL BE CONNECTED TO PANELS AND APPARATUS BY MEANS OF APPROVED LUGS OR CONNECTORS. CONNECTORS SHALL BE SOLDERLESS TYPE, SUFFICIENTLY LARGE TO ENCLOSE ALL STRANDS OF THE CONDUCTOR AND SECURELY FASTENED.
- 6.10. PROVIDE ALL REQUIRED BRANCH CIRCUIT WIRING FOR ELECTRICAL DEVICES AND LIGHTING FIXTURES. DESIGNATIONS SHOWN ON DRAWINGS ARE DIAGRAMMATIC ONLY. CIRCUIT NUMBERS BESIDE RECEPTACLES AND LIGHTING FIXTURES CONVEY THAT A COMPLETE BRANCH CIRCUIT IS REQUIRED BACK TO ELECTRICAL PANELBOARD.SWITCH CONTROL LETTERS ADJACENT TO LIGHTING FIXTURES INDICATE BRANCH WIRING REQUIRED FROM LIGHTING FIXTURE TO LIGHT SWITCH OR DIMMER.

7. COLOR CODING
- 7.1. PROVIDE COLOR CODING FOR SECONDARY SERVICE, FEEDERS, AND BRANCH CIRCUITS AS FOLLOWS:

PHASE	COLOR
120/208V, 3—PHASE, 4—WIRE, WYE:	
A	BLACK
B	RED
C	BLUE
NEUTRAL	WHITE
EQUIPMENT GROUND	GREEN
277/480V, 3—PHASE, 4—WIRE, WYE:	
A	BROWN
B	ORANGE
C	YELLOW
NEUTRAL	GRAY
GROUND W/STRIPE	GREEN

- 7.2. MAKE CONNECTIONS TO TERMINALS FROM LEFT TO RIGHT ARRANGED PHASE A, B, AND C.
- 7.3. PROVIDE SAME COLOR CODING FOR SWITCH LEGS AS CORRESPONDING PHASE CONDUCTOR. PROVIDE COLORED PLASTIC TAPE OF SPECIFIED COLOR CODE IDENTIFICATION FOR LARGE SIZE CONDUCTORS AVAILABLE ONLY IN BLACK.

8. MOTORS, CONNECTIONS, AND CONTROLS
- 8.1. SPLICES AND TERMINATIONS:
  - 8.1.1. MAKE SPLICES AND TERMINATIONS EQUIVALENT ELECTRICALLY AND MECHANICALLY TO CONDUCTOR INSULATION.
  - 8.1.2. MAKE SPLICES IN BRANCH CIRCUIT WIRING WITH SOLDERLESS, SCREW_ON CONNECTORS IDEAL, SCOTCHLOK, T&B OR EQUAL, RATED 600V, OF SIZE AND TYPE REQUIRED BY MANUFACTURER'S
  - 8.1.3. RECOMMENDATION, WITH TEMPERATURE RATINGS EQUAL TO THOSE OF CABLE INSULATION. INSULATE SPLICES WITH INTEGRAL COVERS OR WITH PLASTIC, RUBBER, OR FRICTION TAPE, PERMACAL OR EQUAL, TO MAINTAIN INTEGRITY OF CABLE INSULATION.
  - 8.1.4. MAKE SPLICES AND TERMINATIONS TO CONDUCTORS #8 AND LARGER WITH CORROSION_RESISTANT, HIGH CONDUCTIVITY, PRESSURE INDENT, HEX SCREW OR BOLT CLAMP CONNECTIONS, WITH OR WITHOUT TONGUES, DESIGNED SPECIFICALLY FOR INTENDED SERVICE. CONNECTORS FOR CABLES 250 MCM AND LARGER SHALL HAVE TWO CLAMPING ELEMENTS OR COMPRESSION INDENTS. TERMINALS FOR BUS CONNECTIONS SHALL HAVE TWO BOLT HOLES. SPLIT BOLT CONNECTORS, BURNDY OR EQUAL, SHALL BE ACCEPTABLE FOR ALL SPLICES OF CONDUCTORS #8 AND LARGER.
  - 8.1.5. MAKE SPLICES AT MOTOR JUNCTION BOXES WITH PRESSURE INDENT CONNECTORS OR SPLIT_BOLT CONNECTORS AS SPECIFIED HEREIN.
  - 8.1.6. PROVIDE STANDARD BOLT—ON LUGS WITH ALLEN CAP SCREWS TO ATTACH COPPER WIRE AND CABLE TO DISCONNECT SWITCHES AND OTHER ELECTRICAL EQUIPMENT.

9. SALVAGE: THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL ELECTRICAL EQUIPMENT NOT TO BE USED. ALL ELECTRICAL EQUIPMENT REMOVED AND DEEMED SALVAGEABLE BY THE OWNER SHALL BE STORED IN AN AREA DESIGNATED BY THE OWNER.ANY ELECTRICAL EQUIPMENT REMOVED THAT IS NOT DESIRED BY THE OWNER SHALL BE DISPOSED OF AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

10. SUPPORTS AND ATTACHMENTS: BOXES AND PENDANTS FOR SURFACE—MOUNTED FIXTURES SHALL BE SUPPORTED IN AN APPROVED MANNER. BOXES AND SUPPORTS SHALL BE FASTENED WITH BOLTS AND EXPANSION SHIELDS ON CONCRETE OR BRICK, WITH TOGGLE BOLTS ON HOLLOW MASONRY UNITS, WITH MACHINE SCREWS ON STEEL WORK WITH LOCKNUTS.THREADED STUDS SHALL BE PROVIDED WITH LOCK_WASHERS AND NUTS.

11. QUIET OPERATION: ALL EQUIPMENT AND MATERIAL FURNISHED BY THE ELECTRICAL CONTRACTOR SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT OBJECTIONABLE NOISES OR VIBRATIONS, WHICH, IN THE OPINION OF THE ENGINEER, IS OBJECTIONABLE. WHERE SOUND OR VIBRATION CONDITIONS ARISE WHICH ARE CONSIDERED OBJECTIONABLE BY THE ENGINEER, THE ELECTRICAL CONTRACTOR SHALL ELIMINATE SAME IN A MANNER APPROVED BY THE ENGINEER.

12. TESTS: FURNISH ALL LABOR, MATERIAL, INSTRUMENTS, SUPPLIES, AND SERVICES AND BEAR ALL COSTS FOR THE ACCOMPLISHMENT OF TESTS HEREIN SPECIFIED. CORRECT ALL DEFECTS APPEARING UNDER TEST. REPEAT THE TESTS UNTIL NO DEFECTS ARE DISCLOSED. LEAVE THE EQUIPMENT CLEAN AND READY FOR USE.
   - A. THE ELECTRICAL CONTRACTOR SHALL PERFORM ANY TEST OTHER THAN HEREIN SPECIFIED WHICH MAY BE SPECIFIED BY LEGAL AUTHORITIES OR BY AGENCIES TO WHOSE REQUIREMENTS THIS WORK IS TO CONFORM.

14. FINAL INSPECTION AND TEST: PRIOR TO TEST, FEEDERS AND BRANCHES SHALL BE CONTINUOUS FROM SERVICE CONTACT POINT TO EACH OUTLET; ALL PANELS, FEEDERS, AND DEVICES CONNECTED AND FUSES IN PLACE. TEST SYSTEM FREE FROM SHORT CIRCUITS AND GROUNDS WITH INSULATION RESISTANCES NOT LESS THAN OUTLINES IN THE NATIONAL ELECTRICAL CODE. PROVIDE TESTING EQUIPMENT NECESSARY AND CONDUCT TEST IN PRESENCE OF THE OWNER'S AUTHORIZED REPRESENTATIVE. THE FINAL INSPECTION AND TEST SHALL INCLUDE THE FOLLOWING:
- 14.1. TESTING OF THE EMERGENCY LIGHTING SYSTEM.
- 14.2. TESTING OF THE IMPEDANCE OF THE GROUNDING SYSTEM.
- 14.3. TESTING OF THE FIRE ALARM SYSTEM.
- 14.4. TESTING OF BRANCH AND FEEDER CONDUCTORS FOR CONTINUITY.
- 14.5. TESTING OF PANELBOARDS TO VERIFY PROPER CURRENT BALANCE AND VOLTAGE.
- 14.6. TESTING OF MOTORS, VERIFYING PROPER CURRENT BALANCE AND VOLTAGE.

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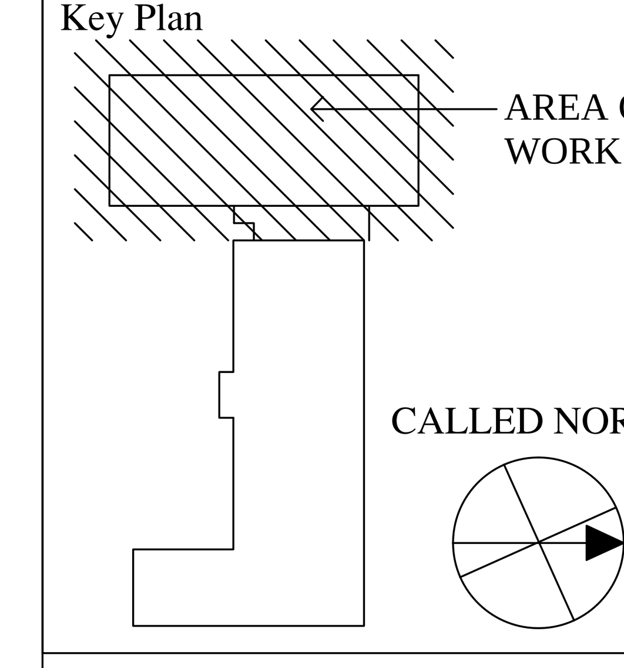
Drawn By: SIC

Checked By: SSM

REV	DATE	DESCRIPTION
	12/3/2012	90% CONSTRUCTION DOCUMENTS
	2/1/2013	100% CONSTRUCTION DOCUMENTS

Stamp:

Key Plan



Lower Falls Community Center Accessibility Improvements

545 Grove Street
Newton Lower Falls
MA. 02462

Drawing Name:

ELECTRICAL SPECIFICATIONS

Job No.: 2012-005

Date: 4-4-13

Drawing No. E4.0

BID DOCUMENTS