BALTIMORE STREET GARAGE RESTO 15 GUILFORD AVE BALTIMORE, MD 21202



EBA ENGINEERING, INC. 4813 SETON DRIVE BALTIMORE, MD 21215 www.ebaengineering.com



PROFESSIONAL USER CERTIFICATION I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY PAR ME, AND THAT I AM A DULY LICENSED OF PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 29272 , EXPIRATION DATE 6/20/21

CITY OF BALTIMORE DEPARTMENT OF GENERAL SERVICES CAPITAL PROJECTS AND ENERGY DIVISION



CONTRACT NO. GS 19817R

FOR THE MAYOR AND CITY COUNCIL BRANDON M. SCOTT, MAYOR

AGENCY				R
RKING ATHORITY BALTIMORE CITY	Craig Keenan	Shaquita Gause	Marwan Alkarajat 11/9/2020	<i>Шты</i> 11/09/20
200 HOLLIDAY ST. BALTIMORE, MD 21202 (410) 545-6071	PROJECT MANAGER DESIGN SECTION	CONSTRUCTION MANAGER CONSTRUCTION SECTION	SECTION CHIEF, DESIGN SECTION	DIVISION CHIEF, CAPITAL PROJEC

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SRATION				BALTIMORE STREET GARAGE RESTORATION
		DE		
	ND	DATE	DESCRIPTIO	N
	1	8/5/19	60% CD	
	2	10/15/19	95% CD	
	З	02/5/20	100% CD	
	4	10/12/20	RE-BID	
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11/09/20		20101 5	3HEET 3 S-1	
CHIEF, DIRECTOR, ROJECTS AND ENERGY DIVISION DEPARTMENT OF GENERAL SERVICES	1	SHEE	T 1 OF 25	

PROPERTY INFORMATION

15 GUILFORD AVE BALTIMORE, MD 21202 OWNER: MAYOR AND CITY COUNCIL

MAP 0004 GRID 0000 PARCEL 0000 SUBDIVISION 0000 WARD 04 SECTION 11 BLOCK 1330 LOT 001

GENERAL NOTES

CONCRETE

ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE ACI CODE 318-11. 28-DAY CONCRETE STRENGTH SHALL BE AS SHOWN ON DRAWINGS AS FOLLOWS: STONE CONCRETE: COARSE AGGREGATE SHALL CONFORM TO ASTM C33 $f'_{C} = 4000 \text{ ps}$ for footings, slab on grade, and col. PEDESTAL U.N.O. ALL CONCRETE EXPOSED TO THE WEATHER SHALL BE AIR ENTRAINED WITH 6% + 1%.

REINFORCEMENT STEEL

ALL REINFORCING STEEL SHALL CONFORM TO ASTM-A615, GRADE 60. WELDED WIRE MESH TO CONFORM TO ASTM-A185. FABRICATE AND PROVIDE STANDARD SUPPORTING ACCESSORIES IN ACCORDANCE WITH THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES ACI 315 LATEST EDITION. ALL CONTINUOUS REINFORCING SHALL BE SPLICED WITH TYPE "B" SPLICE AND STAGGERED, UNLESS NOTED OTHERWISE. SUBMIT FOR APPROVAL SHOP DRAWING SHOWING ALL REINFORCING STEEL AND LOCATIONS AT COLD JOINTS FOR EXTENT OF THE CONCRETE POUR.

HOLLOW SOUNDED/DELAMINATION

CONTRACTOR TO INVESTIGATE ON THE HOLLOW SOUNDED/DELAMINATIED AREAS AS SHOWN ON THE

DRAWING. REPAIR WORK TO BE PERFORMED AS PER SHALLOW OR DEEP SPALL REPAIR DETAILS. HOLLOW SOUNDED/DELAMINATIED CONCRETE QUANTITIES ARE REFLECTED IN THE DEEP SPALL REPAIR. CONCRETE PROTECTION FOR REINFORCEMENT

REINFORCING BARS AND MESH TO HAVE CONCRETE COVER AS FOLLOWS: FOOTINGS, GRADE/STRAP BEAMS AND OTHER CONCRETE

POURED AGAINST EARTH - 3" FORMED CONCRETE EXPOSED TO EARTH - 2" FOR BARS LARGER THAN #5, 1 $1/2^{"}$ FOR #5 AND SMALLER BARS (EXTERIOR FACE OF WALLS)

SITE

INTERIOR FACES OF WALLS - 1" SLABS ON GROUND, UNLESS OTHERWISE NOTED, TO HAVE REINFORCEMENT AT MID-DEPTH



VICINITY MAP



LOCATION MAP

WELDING

WELDING SHALL BE DONE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STANDARD CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION, LATEST CODE, AND SHALL BE PERFORMED BY CERTIFIED WELDERS ONLY. ALL FULL PENETRATION WELDS SHALL BE TESTED BY ULTRASONIC METHOD. ESTABLISH SPECIAL PROCEDURES FOR WELDS LARGER THAN 3/8" TO PREVENT LAMELLAR TEARING. ALL WELDS TO BE 3/16" FILLET MIN. 3" LONG UNLESS OTHERWISE REQUIRED.

GENERAL

- 1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS
- PRIOR TO COMMENCEMENT OF WORK AND FABRICATION OF MATERIALS. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER/ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK. DIMENSIONS ON DRAWINGS DO NOT SUBSTITUTE FOR VERIFICATION DONE BY CONTRACTOR IN THE FIELD.
- 2. COORDINATE WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND DOCUMENTS FOR THE WORK. SHOP DRAWINGS SHALL BE PREPARED BY COORDINATING WITH OTHER DISCIPLINE DRAWINGS AND SHALL SUBMIT THE SEQUENCE OF WORK TO ENGINEER OF RECORD FOR APPROVAL BEFORE STARTING THE WORK.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SHORING AND BRACING WORK IF REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED.
- 4. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF ERRECTION BRACING, SHORING, TEMPORARY SUPPORTS IS THE SOLE RESPONSIBLITY OF THE CONTRACTOR. 5. THE SUPERVISION OF THE WORK IS THE IS THE SOLE
- RESPONSIBILITY OF THE CONTRACTOR. 6. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED
- SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH THE SUPPLIERS REQUIREMENTS.

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APPLICABLE CODES INTERNATIONAL BUILDING CODE 2015 ASCE 7-10 BUILDING, FIRE, AND RELATED CODES OF BALTIMORE CITY 2015 EDITION AMERICAN CONCRETE INSTITUTE 318-14 IECC 2015 IGCC 2012	EBA ENGINEERING, INC. 4813 SETON DRIVE BALTIMORE, MD 21215 www.ebaengineering.com
	CITY OF BALTIMORE DEPARTMENT OF GENERAL SERVICES CAPITAL PROJECTS AND ENERGY DIVISION
LEGEND:	
REPAIR TYPES:	
$\implies \text{HOLLOW SOUNDED/DELAMINATION - SEE} \underbrace{\frac{1}{S-108}}_{S-108} \underbrace{\frac{2}{S-108}}_{S-108}$	
SHALLOW SPALLS - SEE $\begin{pmatrix} 2\\ S-\overline{108} \end{pmatrix} \begin{pmatrix} 3\\ S-\overline{108} \end{pmatrix} \begin{pmatrix} 4\\ S-\overline{108} \end{pmatrix}$	REVISIONS
$\blacksquare DEEP SPALL - SEE \qquad \qquad \underbrace{\frac{1}{S-108} \underbrace{\frac{3}{S-108}}_{\frac{4}{S-108}} \underbrace{\frac{4}{S-108}}_{\frac{4}{S-108}}$	1 8/5/19 60% CD 2 10/15/19 95% CD 3 02/5/20 100% CD
- CRACKS - SEE (5)	4 10/12/20 RE-BID
WATER REPELLENT	N
FLOOR TRAFFIC COATING $(3-109)$	
BRICK PAVING (1)	
ABBREVIATIONS:ARCH: ARCHITECTICRI: INTERNATIONALAWS: AMERICANCONCRETE REPAIRWELDING SOCIETYINSTITUTEC.I.P.: CAST IN PLACEMAX.: MAXIMUMC.L.: CENTERLINEMIN.: MINIMUMCMU: CONCRETEMTL: MATERIALMASONRY UNITRC: REINFORCEDCSP: CONCRETECONCRETESURFACE PROFILETYP.: TYPICALDIA.: DIAMETERVERT: VERTICALEXIST.:EXISTINGO.C.: OFF CENTERVI.F.: VERIFY IN FIELD	BALTIMORE ST BALTIMORE ST GARAGE REP2 15 GUILFORD AVENUE, BALTIMOF CONTRACT NO. 65 1981'
EXISTING CROSS HATCH	GENERAL NOTES/ LEGEND
	10/12/2020
	SHEET CS-2
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EBA ENGINEERING, INC. 4813 SETON DRIVE BALTIMORE, MD 21215 www.ebaengineering.com
CITY OF BALTIMORE DEPARTMENT OF GENERAL SERVICES CAPITAL PROJECTS AND ENERGY DIVISION
REVIONS NO DATE DESCRIPTION 1 8/5/19 60% CD 2 10/15/19 95% CD 3 02/5/20 100% CD 4 10/12/20 RE-BID 4 10/12/20 RE-BID
BALTIMORE STREET GARAGE REPAIRS 15 GUILFORD AVENUE, BALTIMORE, MD 21202 CONTRACT NO. GS 19817R
GROUND LEVEL 10/12/2020 SHEET
5-101 3 OF 25















EXISTING ASSUMED SLAB REBAR TO REMAIN	EXISTING ASSUMED
ICRI CSP 6 NEW REBAR SAME	
OF EXISTING, SEE NOTE 5 SOUND ALL CONCRETE AREAS THAT HAVE DETERIORATION NOTED ON THE PLAN TO DETECT ANY SURFACE DETERIORATION THAT HAS PROPAGATED THROUGH THE SLAB	ICRI CSP 6 0.25"Ø TAPCON SCREWS WITH 1 MIN EMBEDMEN
THICKNESS. PROPERLY REMOVE CONCRETE TO THE EXTENTS NOTED BY CHIPPING CONCRETE, BEING CAREFUL NOT TO DAMAGE EXISTING REINFORCING BAR TO REMAIN. SURFACE OF EXISTING EXPOSED CONCRETE SHALL HAVE 1/4" AMPLITUDE ROUGHENED SURFACE (ICRI CSP 6), PER ICRI SURFACE PREPARATION REQUIREMENTS AND RECOMMENDATIONS. PROVIDE MINIMUM	 SOUND ALL CONCRETE AREAS THAT HAVE DE ANY SURFACE DETERIORATION THAT HAS PRO PROPERLY REMOVE CONCRETE TO THE EXTE CAREFUL NOT TO DAMAGE EXISTING REINFOR
F 3/4" CLEAR FROM REINFORCING BAR TO EXISTING CONCRETE SURFACES. GREATER THAN 1/3 OF STRUCTURAL SLAB DEPTH REPAIR IS REQUIRED, STOP WORK IN EPAIR AREA. AND IMMEDIATELY CONTACT THE ENGINEER.	CONCRETE SHALL HAVE 1/4" AMPLITUDE ROUG SURFACE PREPARATION REQUIREMENTS AND 3. IF GREATER THAN 1 OF THE BOTTOM MOST RE
ROPERLY CLEAN AND PREPARE ANY EXPOSED REBAR SURFACES PER THE PROJECT PECIFICATIONS. DOCUMENT TYPICAL REBAR DIAMETERS, QUANTITIES, SPACINGS, SURFACE PROFILES (DEFORMED OR NON-DEFORMED) AND SUBMIT ALONG WITH	 "DEEP CONCRETE SPALL REPAIR" 4. PROPERLY CLEAN AND PREPARE ANY EXISTIN PROJECT SPECIFICATIONS. DOCUMENT TYPIC
GH-RESOLUTION PHOTOGRAPHS TO THE ENGINEER FOR PROJECT DOCUMENTATION. HERE SECTION LOSS OF EXISTING REBAR IS GREATER THAN 20%, PROVIDE ADDITIONAL BAR AND SPLICE PER DETAIL 7 ON S-108. DO NOT CUT AND REMOVE EXISTING REBAR	SURFACE PROFILES (DEFORMED OR NON-DEF HIGH-RESOLUTION PHOTOGRAPHS TO THE EN 5. AT ALL REPAIR SURFACES INSTALL 0.25 " DIAM
NLESS REBAR CLEANING/RESURFACING IS IMPRACTICAL. REGARDLESS, APPLY ORROSION INHIBITOR SURFACE TREATMENT TO ALL EXISTING DAMAGED REBAR. ROPERLY CLEAN EXISTING SURFACES FREE OF DUST, OIL, PAINT, AND LAITANCE AND	SCREWS AT 8" ON CENTER EACH WAY TO EXT EMBEDMENT INTO EXISTING SOUND CONCRET 6. PROPERLY CLEAN EXISTING SURFACES FREE
ROVIDE A SATURATED SURFACE-DRY (SSD) CONDITION ON ALL OVERHEAD CONCRETE EPAIR AREAS. ALTERNATIVELY TO PREPARING SSD SURFACES, PROPERLY APPLY CONCRETE BONDING AGENT TO ALL EXPOSED SURFACES BEFORE APPLYING REPAIR IATERIAL	PROVIDE A SATURATED SURFACE-DRY (SSD) REPAIR AREAS. ALTERNATIVELY TO PREPARIN CONCRETE BONDING AGENT TO ALL EXPOSED MATERIAL
EGARDLESS OF CONCRETE SURFACE PREPARATION, APPLY CONCRETE BONDING AGENT TO ALL EXPOSED EXISTING REBAR.	7. REGARDLESS OF CONCRETE SURFACE PREPA TO ALL EXPOSED EXISTING REBAR.
CAL: IF SECTION LOSS OF MORE THAN 2 ADJACENT BOTTOM BARS IN SLAB IS GREATER 20% EACH, THE CONTRACTOR SHALL RESTRICT SLAB LOADING WITHIN THE BAY RECEIVING REPAIR TO PEDESTRIAN ACTIVITY ONLY UNTIL REPAIR IS COMPLETED AND CURED. RDINATE LOADING RESTRICTION WITH OWNER AND CONTACT ENGINEER IF OWNER FINDS RICTION TO BE UNACCEPTABLE IN ORDER TO CONDUCT FIREFIGHTING ACTIVITY.	 GENERAL CRITERIA: DEPTH TO SOUND CONCRETE NO REPAIR THAT EXPOSES LESS THA BOTTOM REBAR DIAMETER AND R
	THAN OR EQUAL TO 10%.(WHICH E
 GENERAL CRITERIA: DEPTH TO SOUND CONCRETE GREATER THAN 1-1/2" (AND/OR) REPAIR THAT EXPOSES GREATER THAN 1/2 OF THE BOTTOM REBAR DIAMETER AND REBAR SECTION LOSS IS GREATER THAN OR EQUAL TO 10%.(WHICH EVER GOVERNS) DEEP SPALL CONCRETE REPAIR SCALE = NO SCALE 	2 (S-108) SHALLOW SPALL CON SCALE = NO SCALE
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GENERAL CRITERIA: • DEPTH TO SOUND CONCRETE GREATER THAN 1-1/2" (AND/OR) • REPAIR THAT EXPOSES GREATER THAN 12 OF THE BOTTOM REBAR DIAMETER AND REBAR SECTION LOSS IS GREATER THAN OR EQUAL TO 10% (WHICH EVER GOVERNS) DEEP SPALL CONCRETE REPAIR SCALE = NO SCALE • O SCAL	SHALLOW SPALL CON SCALE = NO SCALE
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TRAFFIC COATING DETAIL S-109 SCALE = NO SCALE





NOTES:

\S-109

- 1. THERE ARE 18 TOTAL STEEL RODS MISSING AT THE NORTH EAST AND NORTH WEST ELEVATOR LOBBY HAND RAILS LOCATIONS, CONTRACTOR SHALL CHOOSE THE STEEL RODS, FABRICATE AND INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS.
- 2. THERE ARE SEVERAL STEEL RODS AT THE ELEVATOR LOBBIES AND AT THE NORTH EAST AND NORTH WEST STAIR CASES WHICH HAVE LOST THE WELD CONNECTIONS.CONTRACTOR SCOPE OF WORK IS TO WELD THE LOST/DETORIATED WELD CONNECTIONS.
- 3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND THE SIZES SHOWN ON THE SKETCH PRIOR TO COMMENCEMENT OF WORK AND FABRICATION OF MATERIALS. DIMENSIONS SHOWN ON THE DRAWING DOES NOT REFLECT THE HAND RAILS FOR EACH FLOOR LEVEL AND DO NOT SUBSTITUTE FOR VERIFICATION DONE BY CONTRACTOR IN THE FIELD. 4. CONTRACTOR SHALL SUBMIT THE STEEL MANUFACTURER/SUPPLIER INFORMATION TOGETHER WITH
- THE SHOP DRAWINGS. 5. CONNECTIONS TO BE MADE BY WELDING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AWS
- 'STRUCTURAL WELDING CODE-SHEET STEEL' OF THE AMERICAN WELDING SOCIETY. ALL SHOP AND FIELD WELDING SHALL BE DONE BY CERTIFIED WELDERS QUALIFIED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY STANDARDS.



NOTES

- 1. PAVERS SHALL MEET ASTM C902 STANDARDS
- 2. NEW PAVERS SHALL BE FREE OF CRACKS OR OTHER IMPERFECTIONS.
- 3. NEW PAVER SIZE TEXTURE AND PATTERN TO MATCH WITH THE EXISTING (FIELD VERIFY)



NEW BRICK PAVERS DETAIL SCALE = NO SCALE





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SCALE = NO SCALE

EXISTING PAVEMENT MARKINGS AT THE GARAGE S-109 SCALE = NO SCALE

NOTES:

- 1. ABOVE AS-BUILT MARKINGS ARE SHOWN FOR REFERENCE ONLY. THE RESTRIPING WORK IS FOR THE GARAGE FLOOR SURFACE MARKINGS ONLY WHICH INCLUDES BUT NOT LIMITED TO THE LANE MARKINGS, DIRECTIONAL ARROWS, CROSS HATCH AND ADA SPACES). OVERHEAD MARKINGS ARE EXCLUDED.
- 2. RESTRIPE PAVEMENT MARKINGS REQUIRED AT THE GARAGE FLOOR AREAS WHERE EXISTING PAVEMENT MARKINGS WILL BE EFFECTED OR DISTURBED DUE TO THE REPAIR WORK WHICH INCLUDES BUT NOT LIMITED TO THE WATER REPELLENT, TRAFFIC COATING AND CONCRETE CRACK AND SPALL REPAIR WORK.
- BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL VERIFY ALL EXISTING PAVEMENT MARKINGS, DIMENSIONS AND THE SIZES OF THE EXISTING MARKINGS, RECORD EXISTING PAVEMENT MARKING LOCATIONS USING PHOTOGRAPHS AND PLACING MARKERS FOR FUTURE REFERENCE. AFTER PLACING THE PAVEMENT MARKINGS, THE CONTRACTOR SHALL TAKE PHOTOGRAPHS OF THE NEW MARKINGS AND MAKE SURE THEY MATCH TO PREVIOUS PAVEMENT MARKING LOCATIONS. IF THE LOCATIONS OF THE MARKINGS ARE DETERMINED BY THE CITY AND PABC TO BE IN THE INCORRECT LOCATIONS, THE CONTRACTOR SHALL REMOVE AND REPLACE THE NEWLY PLACED MARKINGS AT THE CONTRACTOR'S EXPENSE.
- 4. RESTRIPE ALL EXISTING MARKINGS BEFORE SEALCOATING OF THE FLOOR (IF APPLICABLE). REPAINT ALL SPACES, ARROWS, CROSSHATCH AND ADA ACCESS ALLOCATIONS, FOLLOWING THE ADA STANDARD FOR ACCESSIBLE DESIGN AND AS PER MARKED.
- 5. CONTRACTOR SHALL FOLLOW ALL APPLICABLE CITY, STATE, FEDERAL CODES AND REGULATIONS AS WELL AS PROPER REQUIREMENTS. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE EGINEER/ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND THE SIZES SHOWN ON THE SKETCH PRIOR TO COMMENCEMENT OF WORK AND FABRICATION OF MATERIALS. DIMENSIONS SHOWN ON THE DRAWING DOES NOT REFLECT THE HAND RAILS FOR EACH FLOOR LEVEL AND DO NOT SUBSTITUTE FOR VERIFICATION DONE BY CONTRACTOR IN THE FIELD.



1 GROUND LEVEL PLAN A-101 3/32" = 1'-0"

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	SEAL ANT REDLACEMENT:	
1.	SEALANT REPLACEMENT: SEALANT REPLACEMENT AT ALL STOREFRONT WINDOWS OF STAIR CORE #1 & #2: REPLACE SEALANT & BACKER ROD FROM EXTERIOR & INTERIOR PERIMETER OF ALL STOREFRONT WINDOWS LOCATED IN THE STAIR CORE #1 & #2; FOR STOREFRONT WINDOW LOCATIONS, SEE STAIR CORE PLANS (SHEET A-102, A-103) AND ELEVATIONS (SHEET A-301). FOR DETAIL SEE 4/A-501.	780 ELKRIDGE LDG RD, # 10 LINTHICUM, MD 21090 P: (410) 850 - 4565 F: (410) 850 - 4566 I CERTIFY THAT THESE DOCUMENTS WERE PREPARE OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. <u>8572</u> ,
2.	SEALANT REPLACEMENT AT ALL STOREFRONT ENTRANCES & WINDOW SYSTEM LOCATED AT GRADE LEVEL OF PARKING GARAGE: REPLACE SEALANT & BACKER ROD FROM ONLY EXTERIOR PERIMETER OF ALL STOREFRONT ENTRANCES & WINDOWSYSTEM LOCATED AT GRADE LEVEL OF PARKING GARAGE; FOR STOREFRONT LOCATIONS SEE GRADE LEVEL PLAN AND FOR OPENING SIZES SEE SHEET A-302. FOR DETAIL SEE 5/A-501.	SEAL
3.	EXPANSION JOINT REPLACEMENT: SLAB TO SLAB/WALL EXPANSION JOINT REPLACEMENT: REPLACE HORIZONTAL EXPANSION JOINT LOCATED ADJACENT TO STAIR CORE #1 & #2 AT GARAGE LEVEL 2 TO 6 AND ROOF LEVEL. FOR EXPANSION JOINT LOCATIONS SEE STAIR PLANS ON SHEET A-102 & A-103. FOR DETAIL SEE 2/A-501.	CITY OF BALTIMORE DEPARTMENT OF GENERAL SERVICES CAPITAL PROJECTS AND
4.	WALL TO WALL EXPANSION JOINT REPLACEMENT: REPLACE VERTICAL EXPANSION JOINT LOCATED ADJACENT TO STAIR CORE #1 & #2 CONTINUOUS FROM GRADE TO ROOF LEVEL. FOR EXPANSION JOINT LOCATIONS SEE STAIR CORE ELEVATIONS ON SHEET A-301. FOR DETAIL SEE 1/A-501.	ENERGY DIVISION
<u>GE</u>	NERAL ARCHITECTURAL NOTES	
1.	VERIFY EXIST. CONDITIONS & COORDINATW/ PROPOSED CONSTRUCTION PRIOR TO DEMOLITION WORK.	REVISIONS
2.	PROTECT EXISTING WORK FROM DAMAGE DUE TO CONSTRUCTION ACTIVITIES. IF WORK IS DAMAGED, WHICH WAS OTHERWISE TO REMAIN UNALTERED UNDER THIS CONTRACT, REPAIR TO ITS CONDITION PRIOR TO START OF THE CONSTRUCTION.	NO DATE DESCRIPTION 1 10/15/19 95% CD 2 02/05/20 100% CD 3 10/12/20 RE-BID
3.	COORDINATE ALL ARCHITECTURAL WORKS W/ STRUCTURAL DRAWINGS PRIOR TO	
	START OF THE WORK.	
4.	FIELD VERIFY EXIST. DIMENSIONS & CONDITIONS PRIOR TO FABRICATION OF ANY ITEMS.	
4. 5.	FIELD VERIFY EXIST. DIMENSIONS & CONDITIONS PRIOR TO FABRICATION OF ANY ITEMS. WHERE A SURFACE IS AFFECTED DUE TO WORK UNDER THIS CONTRACT, PATCH & FINISH THE AFFECTED AREA.	REET IRS ^{2 R} MD 21202 7 R
4. 5. 6.	START OF THE WORK. FIELD VERIFY EXIST. DIMENSIONS & CONDITIONS PRIOR TO FABRICATION OF ANY ITEMS. WHERE A SURFACE IS AFFECTED DUE TO WORK UNDER THIS CONTRACT, PATCH & FINISH THE AFFECTED AREA. ACCESS IN ELEVATOR SHAFT, WHEN REQUIRED, SHALL BE MADE UNDER THE SUPERVISION OF A CERTIFIED ELEVATOR INSPECTOR AUTHORIZED TO DO SO.	ORE STREET 3E REPAIRS NUE, BALTIMORE, MD 21202 T NO. 65 19817 R
4. 5. 6.	START OF THE WORK. FIELD VERIFY EXIST. DIMENSIONS & CONDITIONS PRIOR TO FABRICATION OF ANY ITEMS. WHERE A SURFACE IS AFFECTED DUE TO WORK UNDER THIS CONTRACT, PATCH & FINISH THE AFFECTED AREA. ACCESS IN ELEVATOR SHAFT, WHEN REQUIRED, SHALL BE MADE UNDER THE SUPERVISION OF A CERTIFIED ELEVATOR INSPECTOR AUTHORIZED TO DO SO. CHITECTURAL ABREVIATIONS	ALTIMORE STREET ARAGE REPAIRS LFORD AVENUE, BALTIMORE, MD 21202 CONTRACT NO. 65 19817 R
4. 5. 6. C.L. DW EXI MTL MEL	START OF THE WORK. FIELD VERIFY EXIST. DIMENSIONS & CONDITIONS PRIOR TO FABRICATION OF ANY ITEMS. WHERE A SURFACE IS AFFECTED DUE TO WORK UNDER THIS CONTRACT, PATCH & FINISH THE AFFECTED AREA. ACCESS IN ELEVATOR SHAFT, WHEN REQUIRED, SHALL BE MADE UNDER THE SUPERVISION OF A CERTIFIED ELEVATOR INSPECTOR AUTHORIZED TO DO SO. COLUMN CENTERLINE GS DRAWINGS ST EXISTING METAL MECHANICAL, ELECTRICAL & PLUMBING NOT TO SCALE	BALTIMORE STREET BALTIMORE STREET GARAGE REPAIRS 15 GUILFORD AVENUE, BALTIMORE, MD 21202 CONTRACT NO. 65 19817 R
4. 5. 6. C.L. DW EXI MEI NTS O.C STF TH/ TYF W/	START OF THE WORK. FIELD VERIFY EXIST. DIMENSIONS & CONDITIONS PRIOR TO FABRICATION OF ANY ITEMS. WHERE A SURFACE IS AFFECTED DUE TO WORK UNDER THIS CONTRACT, PATCH & FINISH THE AFFECTED AREA. ACCESS IN ELEVATOR SHAFT, WHEN REQUIRED, SHALL BE MADE UNDER THE SUPERVISION OF A CERTIFIED ELEVATOR INSPECTOR AUTHORIZED TO DO SO. COLUMN CENTERLINE GS DRAWINGS ST EXISTING METAL MECHANICAL, ELECTRICAL & PLUMBING NOT TO SCALE ON CENTER SUC STRUCTURAL C THICK TYPICAL WITH	BALTIMORE STREET BALTIMORE STREET GARAGE REPAIRS Is GUILFORD AVENUE, BALTIMORE, MD 21202 CONTRACT NO. 65 19817 R
4. 5. 6. AF C.L. DW EXI MEI NTS O.C STF THM TYF W/	START OF THE WORK. FIELD VERIFY EXIST. DIMENSIONS & CONDITIONS PRIOR TO FABRICATION OF ANY ITEMS. WHERE A SURFACE IS AFFECTED DUE TO WORK UNDER THIS CONTRACT, PATCH & FINISH THE AFFECTED AREA. ACCESS IN ELEVATOR SHAFT, WHEN REQUIRED, SHALL BE MADE UNDER THE SUPERVISION OF A CERTIFIED ELEVATOR INSPECTOR AUTHORIZED TO DO SO. COLUMN CENTERLINE S DRAWINGS ST EXISTING METAL MECHANICAL, ELECTRICAL & PLUMBING NOT TO SCALE ON CENTER UC STRUCTURAL C THICK TYPICAL WITH	BALTIMORE STREET BALTIMORE STREET BALTIMORE STREET GARAGE REPAIRS Is GUILFORD AVENUE, BALTIMORE, MD 21202 CONTRACT NO. 65 19817 R 10/1 2/20 20
4. 5. 6. C.L. DW EXI MTI MEI NTS O.C. STF TH/ TYF W/ SY	START OF THE WORK. FIELD VERIFY EXIST. DIMENSIONS & CONDITIONS PRIOR TO FABRICATION OF ANY ITEMS. WHERE A SURFACE IS AFFECTED DUE TO WORK UNDER THIS CONTRACT, PATCH & FINISH THE AFFECTED AREA. ACCESS IN ELEVATOR SHAFT, WHEN REQUIRED, SHALL BE MADE UNDER THE SUPERVISION OF A CERTIFIED ELEVATOR INSPECTOR AUTHORIZED TO DO SO. COLUMN CENTERLINE S DRAWINGS ST EXISTING METAL COLUMBING NOT TO SCALE ON CENTER NOT TO SCALE ON CENTER NOT TO SCALE ON CENTER NOT TO SCALE ON CENTER NUTH MINDOW TAG	GROUND LEVEL PLAN 10/12/2020 SHEET A-101







STAIR CORE#1: LEVEL-7 PLAN A-102 / 1/4" = 1'-0"







3 STAIR CORE#2: LEVEL-3 THRU LEVEL 6 PLAN





4 STAIR CORE#2: LEVEL-7 PLAN

A-103 1/4" = 1'-0"







A-301 1/8" = 1'-0"





STOREFRONT - 2D

1' - 7" * *

<u>-</u>'

—

12' - 0"



STOREFRONT - 2A

1' - 7" -∤---∤



STOREFRONT - 2E

STOREFRONT - 1E







		CONSULTANTS
	GENERAL ARCHITECTURAL NOTES	as
	1. VERIFY EXIST. CONDITIONS & COORDINATE W/ PROPOSED CONSTRUCTION PRIOR TO DEMOLITION WORK.	780 ELKRIDGE LDG RD, # 100
	2. PROTECT EXISTING WORK FROM DAMAGE DUE TO CONSTRUCTION ACTIVITIES. IF WORK IS DAMAGED, WHICH WAS OTHERWISE TO REMAIN UNALTERED UNDER THIS CONTRACT, REPAIR TO ITS CONDITION PRIOR TO START OF THE CONSTRUCTION.	LINTHICUM, MD 21090 P: (410) 850 - 4565 F: (410) 850 - 4566 I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS
DP FACE OF 3, TYP	3. COORDINATE ALL ARCHITECTURAL WORKS W/ STRUCTURAL DRAWINGS PRIOR TO START OF THE WORK.	OF THE STATE OF MARYLAND. LICENSE NO. <u>8572</u> , EXPIRATION DATE <u>05/07/21,</u>
	5. FIELD VERIFY EXIST. DIMENSIONS & CONDITIONS PRIOR TO FABRICATION OF ANY ITEMS.	SEAL
	6. WHERE A SURFACE IS AFFECTED DUE TOWORK UNDER THIS CONTRACT, PATCH & FINISH THE AFFECTED AREA AND RESTORE TO ORIGINAL CONDITION.	B572 B572
C. FLOOR SLAB, TYP		CITY OF BALTIMORE DEPARTMENT OF GENERAL SERVICES CAPITAL PROJECTS AND ENERGY DIVISION
		REVISIONS
		1 10/15/19 95% CD 2 02/05/20 100% CD 3 10/12/20 Re-BiD
		BALTIMORE STREET GARAGE REPAIRS 15 GUILFORD AVENUE, BALTIMORE, MD 21 CONTRACT NO. GS 19817R
		TYP ARCHITECTURAL DETAILS
		10/12/2020
R /		знеет A-501
-		17 OF 25

0\/\/PO		
SYMBOL	ABBREVIATION	
	A/C	
	AFG	ABOVE FINISHED GRADE
	A/P	ACCESS PANEL
	B/C	BELOW COUNTER
	B/F	BELOW FLOOR
	B/G	BELOW GRADE
		NEW PIPING (DARK LINED)
		EXISTING PIPING (LIGHT LINED)
		REMOVE TO POINT FOR RECONNECTION
		REMOVE TO POINT AND CAP
	RX	EXISTING TO BE REMOVED
1" CW	CW	COLD WATER PIPING
1" HW	HW	HOT WATER PIPING
1" HWR	HWR	HOT WATER RETURN PIPING
1" HW-140F	HW-140°F	140° HOT WATER PIPING
3" SAN	SAN	SOIL, WASTE PIPING
4" GW	GW	GREASE WASTE
3" ST	ST	
_ ; ;;; <u>- ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; </u>	6	GAS PIPING
1" CW-RX	RY	
		PIPE TURNING UP
<u>ہ</u> ۔		PIPE TURNING DOWN
		UNION
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
		GATE/BALL VALVE
 ਅ		ISOLATION VALVE IN VERTICAL
<u> </u>	BV	CALIBRATED BALANCING VALVE
	CV	CHECK VALVE
	PRV	PRESSURE REDUCING VALVE
	HB/WH	NON-FREEZE HOSE BIBB/WALL HYDRANT
		STRAINER
÷ ه		PRESSURE RELIEF VALVE
Q		THERMOMETER
—— O	FCO/CO	FLOOR CLEANOUT/CLEANOUT
	FD	FLOOR DRAIN
	FS	FLOOR SINK
	H.C.	HANDICAPPED
	HP	HORSEPOWER
	HZ	FREQUENCY HERTZ
	GI	GREASE INTERCEPTOR
	MIN	MINIMUM
	NO	NUMBER
	O/H	OVER HEAD
	PH	PHASE (ELECTRICAL)
	Р&Т	PRESSURE & TEMPERATURE
	X	EXISTING
	RD	ROOF DRAIN
I	SA	SHOCK ABSORBER/WATER HAMMER ARRESTOR
	971 980	
	IYP 	
	TD	
TP	TP	
	VTR	VENT THROUGH ROOF
	WCO	WALL CLEANOUT
$\langle 00 \rangle$		DRAWING NOTE NUMBER
\sim		
Δ		
•		
• • •		
		EXTENT OF DEMOLITION EXISTING EQUIPMENT/FIXTURE TO BE REMOVED

PLU	MBING LEGEND
ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
BTUH	BRITISH THERMAL UNIT PER HOUR
CD	CONDENSATE DRAIN
CO	
CONC	CONCRETE
CW	DOMESTIC COLD WATER
	DIAMETER
FI	FLEVATION
ELEC	ELECTRICAL
ELLO	ENTERING
EWT	
EX EXIST	EXISTING
F	
'	FLOOR
FS	
FT	
GAL	
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
НВ	
НР	HORSEPOWER
HW	
MBH	
Miin.	
PSIG	
P/I	
RPM	
RX	
SAN	
ST	STORM DRAIN
TEMP	IEMPERATURE
TP	TRAP PRIMER
TYP.	IYPICAL
U/G	UNDERGROUND
UFS	UNDER FLOOR SLAB
V	VOLTS OR VENT
WC	WATER-COOLER
W/	WITH
WH	NON-FREEZE WALL HYDRANT

PL	UMBING SYMBOLS
S NO	SOIL STACK LAST TWO DIGITS OF UNIT NO.
≥ NO	VENT STACK LAST TWO DIGITS OF UNIT NO.
W NO	WATER RISER LAST TWO DIGITS OF UNIT NO.
ST NO	STORM RISER LAST TWO DIGITS OF UNIT NO.
HWR NO	HOT WATER RETURN RISER LAST TWO DIGITS OF UNIT NO.
	CONDENSATE RISER LAST TWO DIGITS OF UNIT NO.
GNO	GAS RISER LAST TWO DIGITS OF UNIT NO.

STORM DRAIN RISER DIAGRAM

PLUMBING GENERAL NOTES:

- 1. PLUMBING INSTALLATION SHALL COMPLY WITH THE LATEST ALL STATE AND LOCAL CODES, AND ALL UTILITY COMPANY REGULATIONS.
- PLUMBING WORK INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. PLUMBING CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND PAY ALL FEES RELATIVE TO THE INSTALLATION OF HIS WORK.
- 3. COORDINATE THE WORK WITH WORK OF OTHER TRADES AND FIELD CONDITIONS. CAREFULLY CHECK SPACE REQUIREMENTS AND UTILITIES TO INSURE ALL EQUIPMENT CAN BE INSTALLED IN THE SPACES ALLOTTED THERETO AND COORDINATE ALL NECESSARY UTILITY SERVICE REQUIREMENTS. THE INSTALLATION OF NEW WORK MAY REQUIRE A PHASED INSTALLATION SEQUENCE. COORDINATE, PROTECT AND SCHEDULE WORK WITH WORK OF OTHER TRADES IN ACCORDANCE WITH THE REQUIRED CONSTRUCTION SCHEDULE. INSTALL ALL WORK IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS INSTALLATION INSTRUCTIONS.
- 4. ALL PIPING SHOWN IS SCHEMATIC. THE PLUMBING CONTRACTOR SHALL FABRICATE PIPING BASED ON FIELD REQUIREMENTS TO MAKE SURE A PROPER WATER DISTRIBUTION SYSTEM. NO ADDITIONAL COST WILL BE ALLOWED FOR THESE OFFSET AND TRANSITION FITTINGS THAT ARE REQUIRED FOR A COMPLETE WORKING SYSTEM IN ACCORDANCE WITH ALL OF THE REQUIREMENTS OF THE CODES AND REGULATIONS.
- 5. SEAL ALL WALL/FLOOR OPENING TO MAINTAIN THE INTEGRITY OF WALL OR FLOOR CONSTRUCTION REQUIREMENTS.
- 6. ALL PIPING SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. PIPING HUNG FROM JOISTS SHALL BE HUNG FROM THE TOP CHORDS OF THE JOISTS.
- 7. ALL PLUMBING EQUIPMENT, FIXTURES, AND PIPING SYSTEMS SHALL BE GUARANTEED FOR A PERIOD OF TWO YEAR AFTER ACCEPTANCE BY OWNER.

(S.5) (9.5) (9.5)	(5) 1	SENERAL NOTES:	MIN ENGINEERING, INC. Consulting Engineers 10 Sudbrook Ln Pikesville, MD 21208 Phone:(410) 486-4692 Fax:(410) 486-0452
		<section-header><section-header><text><text><text><text><text><text></text></text></text></text></text></text></section-header></section-header>	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. <u>29683</u> , EXPIRATION DATE <u>01/16/21</u> , SEAL
			DEPARTMENT OF GENERAL SERVICES CAPITAL PROJECTS AND ENERGY DIVISION REVISIONS NO DATE DESCRIPTION 1 10/15/19 95% CD 2 02/5/20 3 10/12/20 RE-BID
			BALTIMORE STREET BALTIMORE STREET GARAGE REPAIRS 15 GUILFORD AVENUE, BALTMORE, MD 21202 CONTRACT NO. GS 19817R
			LEVEL 2 PLAN - PLUMBING
		<u>GRAPHIC SCALE:</u> 0 4' 8' 16' SCALE: 1/8" = 1'-0"	10/12/2020 SHEET P-102

	1
	MIN ENGINEERING, INC. Consulting Engineers
GENERAL NOTES:	Pikesville, MD 21208 Fax:(410) 486-0452
 ALL PIPING INDICATED ON THIS SHEET LOCATED ABOVE FLOOR SLAB. 	
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE
	ME, AND THAT I AM A DULY LICENSED PROFESSIONAL
1. INDICATED AREA IS ALLOWED AREA OF WORK FOR STORM WATER DEMOLITION AND NEW WORK. CONTRACTOR SHALL NOT IMPEDE THE	ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
DURING CONSTRUCTION. CONTRACTOR TO COORDINATE MATERIAL HANDLING AND STORAGE ON SITE WITH OWNER. REFER TO DIVISION 1	LICENSE NO. <u>29683</u> ,
2. EXISTING FLOOR DRAIN COVER AND BODY TO REMAIN. REMOVE	EXFIRATION DATE 01/10/21,
FLOOR DRAIN COVER AND PROVIDE POWER - JET CLEANING TO FLOOR DRAIN BODY AND COVER TO REMOVE ANY DEBRIS. REINSTALL FLOOR DRAIN COVER AFTER CLEANING.	SEAL
 REMOVE EXISTING STORM WATER RISER AND ALL ASSOCIATED SUPPORTS AND CLAMPS. PROVIDE NEW RISER IN THE LOCATION OF 	ETESAULT
 REMOVED PIPING USING THE EXISTING CORE DRILL. REMOVE EXISTING STORM WATER HORIZONTAL BRANCH PIPING AND 	Participation
ALL ASSOCIATED SUPPORTS AND HANGERS FROM RISER TO THE BODY OF EXISTING FLOOR DRAIN, PROVIDE NEW HORIZONTAL BRANCH PIPING, IN PLACE OF REMOVED BRANCH PIPING, FROM NEW	100. 100. 29683
RISER AND CONNECT TO EXISTING BODY OF FLOOR DRAIN ON THE FLOOR ABOVE. PROVIDE PROPER PIPE FITTINGS TO CONNECT NEW PVC PIPE TO EXISTING CAST IRON DRAIN BODY.	SONAL ENGINI
5. REMOVE EXISTING COLUMN MOUNTED PIPE GUARD AND RETAIN FOR REINSTALLATION . PROVIDE POWER-JET CLEANING TO PIPE GUARDS	S OF GENERA
AND APPLY NEW YELLOW PAINT FINISH AND WATER RESISTANT SEALANT. REINSTALL PIPE GUARD AFTER INSTALLATION OF PIPE RISER WITH NEW CONCRETE BOLTS AS REQUIRED.	
6. PROVIDE NEW 4"x36" BOLT DOWN FLANGED BOLLARD ADJACENT TO RISER ON THE OPPOSITE SIDE FROM THE EXISTING COLUMN. REFER	top of BALTINOR
TO BOLLARD INSTALLATION DETAIL FOR MORE INFORMATION.CLOSE UP ABANDONED ROUND OPENING IN SLAB. REFER TO	CITY OF BALTIMORE
STRUCTURAL DETAILS FOR MORE INFORMATION.	GENERAL SERVICES
	AND ENERGY DIVISION
	REVISIONS NO DATE DESCRIPTION
	1 10/15/19 95% CD 2 02/5/20 100% CD
	З 10/12/20 RE-BID
	N
	μ Π
	PLUMBING
GRAPHIC SCALE:	SHEET
	P-104
SCALE: 1/8" = 1'-0"	22 OF 25

LEGEND	HVAC LEGEND & ABBREVIATIONS			HVAC ABBREVIATIONS		
DOUBLE LINE SINGLE LINE	SYMBOL	ABBREVIATION	DESCRIPTION		ABBREVIATION	DESCRIPTION
			NEW PIPING (DARK LINED))	AC	AIR CONDITIONING UNIT
RADIUS ELBOW	15" FX			·	AFF	ABOVE FINISHED FLOOR
	— — — 1.0" EX — — —	RETRUN PIPING	EXISTING PIPING (LIGHT L	_INED)	AMP	AMPERE
	— — — — 2.0" RX — — — —	RX	EXISTING TO BE REMOVE	D	AHU	
		Н		ע וססו	BTUH	
	2.0" HR	HB			CKTS	CIRCUITS
GBDD GBDD GBDD GRAVITY BACKDRAFT DAMPER	2.0" G	G	GAS PIPING		CONC.	CONCRETE
	2.0" R	R	REFRIGERANT		СО	CLEAN OUT
			PIPE TURNING UP		CFM	CUBIC FEET PER MINUTE
			PIPE TURNING DOWN		CP	CIRCULATING PUMP
		CW	DOMESTIC COLD WATER		CUH	CABINET UNIT HEATER
		CHR	CHILLED WATER RETURN	J	CWP	CHILLED WATER PUMP
DIFFUSER-CEILING MOUNTED/SUSPENDED (DIRECTION OF BLOW INDICATED)		CHS	CHILLED WATER SUPPLY	,	(E/L) DB	DRY BULB (ENTERING/LEAVING)
			UNION		DDC	DIRECT DIGITAL CONTROL
	-2772	RPBP	REDUCED PRESSURE BA	CKFLOW PREVENTER	DIA, Ø	DIAMETER
SUPPLY AIR REGISTER (WALL MOUNTED)			SHUT-OFF VALVE		EA	
	ə+		ISOLATION VALVE IN VER	TICAL	EAD	
		BV	BALANCING VALVE		EER	
AD ACCESS DOOR		CV	CHECK VALVE		ENT	ENTERING
			AUTOMATIC CONTROL VA	ALVE- 2 WAY	EF	EXHAUST FAN
			AUTOMATIC CONTROL VA	ALVE- 3 WAY	EL	ELEVATION
		PRV	PRESSURE REDUCING V	ALVE	ERV	ENERGY RECOVERY VENTILATOR
			STRAINER WITH HOSE EN VALVE WITH CAP & CHAIN	ND DRAIN	EUH	ELECTRIC UNIT HEATER
	¥_		DRAIN VALVE		ELEC	ELECTRICAL
	-182				ET	EXPANSION TANK
	· · · · · · · · · · · · · · · · · · ·				EXT.	EXTERNAL
			THERMOMETER		EWT	
	Q Q		PRESSURE GAUGE		EX., EXIST.	FAHRENHEIT
RETURN/EXHAUST/OUTDOOR AIR DUCT TURNNING UP(IN DIRECTION OF AIR FLOW)	÷ -+0	ECO/CO		NOUT	FCU	
		FD	FLOOR DRAIN		FD	FLOOR DRAIN
DROP IN DUCT (IN DIRECTION OF AIR FLOW)	(7)		THERMOSTAT/TEMPERAT	TURE SENSOR	FFWH	FAN FORCED WALL HEATER
DN DN	\bullet		CONNECTION OF NEW T	O EXISTING	FPM	FEET PER MINUTE
			EXTENT OF DEMOLITION		GA	GAUGE
			DRAWING NOTE NUMBER	2	GAL	GALLONS
			AIR DISTRIBUTION DEVIC	CE SCHEDULE	GBDD	GRAVITY BACKDRAFT DAMPER
	$\begin{pmatrix} 1\\ 80 \end{pmatrix}$		AIRFLOW CFM		GPH	GALLONS PER HOUR
		X	EXISTING		GPM	GALLONS PER MINUTE
A BD 3 WAY MAIN SPLIT-SUM OF AREA. "B+C+D"=AREA "A"					HP	HORSEPOWER / HEAT PUMP
					HWP	HEATING WATER CIRCULATING PUMP
		ON OR SECTION IDENTIFICA	ATION	- DETAIL NO	HZ LAT	
				DE IME NO.	LWT	
A 2 WAY MAIN SPLIT-SUM OF AREA. "B+C"=AREA "A"	DIAWING	SHO, WHERE SHOWN	9	• SHOWN	MBH	THOUSAND BTUH
		NO. WHERE TAKEN	τ	TAKEN	MCA	MINIMUM CIRCUIT AMPERE
	[7	MIN.	MINIMUM
	ΗνΔ		ATIONS		MOCP	MAXIMUM OVER CURRENT
TRANSITION- RECTANGULAR TO ROUND			JND		N.C.	
\vdash	ин	UNIT HEATEF	R - HYDRONIC		No.	
	V	VOLTS OR VE	ENT			
	VAV	VARIABLE AI	R VOLUME			
MITERED ELBOW W/ TURNING VANES	VEL	VELOCITY			PD	PRESSURE DROP
	VFD				PH, Ø	PHASE (ELECTRICAL)
EXISTING EQUIPMENT TO BE REMOVED		(ENTERING/L			PRV	POWER ROOF VENTILATOR
•••••• DEMOLITION OF DUCT	W/.	WITH			PSI	POUNDS PER SQUARE INCH
		•		L	PSIG	PSI GAUGE
					RA	RETURN AIR
DDC CONTROL - ADDREVIATI					RAD	RETURN AIR DUCT
					RAG	RETURN AIR GRILLE
RAF RETURN AIR FAN		Ħ	AIR FLOW MEASURING STATION		RD	ROOF DRAIN
SAF SUPPLY AIR FAN	AL PRESSURE SENSUR	E			RPM	REVOLUTIONS PER MINUTE
SA SUPPLY AIR TS		- - -			RTU	
	TURE SENSOR		AIR FILTER & DIFFERENTIAL		KX	
OA OUTSIDE AIR			AIR-PRESSURE			
EA EXHAUST AIR H		П рь	T		SENS	SENSIBI F
	AT		TWO-WAY CONTROL VALVE		SP SP	STATIC PRESSURE
					TAD	TRANSFER AIR DUCT
			AUTOMATIC AIR DAMPER		ТЕМР	TEMPERATURE
	ETECTOR	}	· · · · · · · · ·		TS	TEMPERATURE SENSOR
		N CS			TYP.	TYPICAL
CO2 CARBON DIOXIDE SENSOR		<u></u>	CURRENTSENSOR		U/G.	UNDERGROUND
	COIL	Н	HEATING COII		V	VOLTS OR VENT
		∕ c			WB	WET BULB
					W/	WITH

DDC CONTROL - ABBREVIATION	AND	LEGEN
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LE	GEND	HVA	C LEGEND	& ABBREVIATIO	ONS	HVAC	CABBREVIATIONS
UBLE LINE	SINGLE LINE	SYMBOL		DESCRIPTION		ABBREVIATION	
	RADIUS ELBOW		RETRUN PIPING	NEW PIPING (DARK LINE	D)	AC	ABOVE FINISHED FLOOR
			SUPPLY PIPING RETRUN PIPING	EXISTING PIPING (LIGHT	LINED)	AMP	AMPERE
		— — — 2.0" RX — — —	RX	EXISTING TO BE REMOVI	ED	AHU	AIR HANDLING UNIT
SD		2.0" CD	CD			AS	
	MANUAL VOLUME DAMPER	2.0" HS	HR	HEATING HOT WATER SI		CKTS	CIRCUITS
		2.0" G	G	GAS PIPING		CONC.	CONCRETE
		2.0" R	R	REFRIGERANT		СО	CLEAN OUT
► FD	FD FIRE DAMPER W/ ACCESS DOOR	&		PIPE TURNING UP		CFM	CUBIC FEET PER MINUTE
		→ ⊃		PIPE TURNING DOWN		CP	
	PITOT TUBE TRAVERSE LOCATION		CW	DOMESTIC COLD WATER		CWP	CABINET UNIT HEATER
β.	DIFFUSER-CEILING MOUNTED/SUSPENDED (DIRECTION OF		CHR	CHILLED WATER RETOR	N Y	(E/L) DB	DRY BULB (ENTERING/LEAVI
				UNION		DDC	DIRECT DIGITAL CONTROL
	RETURN/EXHAUST AIR GRILLE (CEILING MOUNTED)	->	RPBP	REDUCED PRESSURE B/	ACKFLOW PREVENTER	DIA, Ø	DIAMETER
<u>ш</u> -	SUPPLY AIR REGISTER (WALL MOUNTED)			SHUT-OFF VALVE		EA	EXHAUST AIR
	RETURN AIR GRILLE (WALL MOUNTED)	<u> </u>		ISOLATION VALVE IN VER	RTICAL	EAD	ENTERING AIR TEMPERATUR
рці - 53			BV			EER	ENERGY EFFICIENCY RATE
AD			CV			ENT	ENTERING
	UP RISE IN DUCT (IN DIRECTION OF AIR FLOW)			AUTOMATIC CONTROL V	ALVE- 3 WAY	EF	EXHAUST FAN
			PRV	PRESSURE REDUCING V	/ALVE		
\leq	SUPPLY AIR DUCT TURNNING UP (IN DIRECTION OF AIR FLOW)	<u> </u>		STRAINER WITH HOSE E	ND DRAIN	EUH	ELECTRIC UNIT HEATER
_	SUPPLY AIR DUCT TURNNING DOWN (IN DIRECTION OF AIR	²⁴ x		VALVE WITH CAP & CHAI	N	ELEC	ELECTRICAL
\leq	FLOW)	-bx		DRAIN VALVE		ET	EXPANSION TANK
				PRESSURE RELIEF VALV	E	EXT.	EXTERNAL
				THERMOMETER		EWT	ENTERING WATER TEMPERA
_		Q V		PRESSURE GAUGE		F	FAHRENHEIT
2	DIRECTION OF AIR FLOW)	-+©	FCO/CO	FLOOR CLEANOUT/CLEA	NOUT	FCU	FAN COIL UNIT
	. 1 .		FD	FLOOR DRAIN		FD	FLOOR DRAIN
		<u> </u>		THERMOSTAT/TEMPERA	TURE SENSOR	FFWH	FAN FORCED WALL HEATER
					TO EXISTING	FPM	GAUGE
						GAL	GALLONS
						GBDD	GRAVITY BACKDRAFT DAMP
\exists						GPH	GALLONS PER HOUR
			x	EXISTING		GPM	GALLONS PER MINUTE
	A 3 WAY MAIN SPLIT-SUM OF AREA. "B+C+D"=AREA "A"					HP	
	C (PROPORTIONATELY)					HWP	FREQUENCY HERTZ
		ELEVATIO	N OR SECTION IDENTIFIC	CATION	DETAIL NO.	LAT	LEAVING AIR TEMPERATURE
		DRAWING	NO. WHERE SHOWN		SHOWN	LWT	LEAVING WATER TEMPERAT
	BCT (PROPORTIONATELY)	DRAWING	NO. WHERE TAKEN	4	TAKEN	MBH	
	\square					MIN.	MINIMUM CIRCUIT AMPERE
						МОСР	MAXIMUM OVER CURRENT
	BRANCH TAKE-OFF W/ VOLUME DAMPER						CIRCUIT PROTECTION
	TRANSITION- RECTANGULAR TO ROUND	U/G	UNDERGRO			N.C.	
Į		UH	UNIT HEAT	ER - HYDRONIC		N.O.	NUMBER
\square	ELBOW	V	VOLTS OR	VENT		OA	OUTDOOR AIR
]		VAV	VARIABLE A	AIR VOLUME		OAD	OUTDOOR AIR DUCT
	MITERED ELBOW W/ TURNING VANES	VEL VED	VELOCITY VARIABLE F	FREQUENCY DRIVE		PD	PRESSURE DROP
· · ·		(E/L) WB	(ENTERING	/LEAVING) WET BULB	1	PH, Ø	PHASE (ELECTRICAL)
		W.C.	WATER CO	LUMN		PRV	
••••		W/	WITH				
						RA	RETURN AIR
	DUC CONTROL - ADDREVIAT	ION AND LEG				RAD	RETURN AIR DUCT
						RAG	RETURN AIR GRILLE
RAF R			E	AIR FLOW MEASURING STATION		RD	ROOF DRAIN
SAF S	SUPPLY AIR FAN		H			RPM 	
SA S RA R		RATURE SENSOR	٩ -	ו		RX	REMOVE EXISITING
RIF R			=	AIR FILTER & DIFFERENTIAL		SA	SUPPLY AIR
OA O	DUTSIDE AIR			- T		SAD	SUPPLY AIR DUCT
EA E		STAT				SENS.	SENSIBLE
EMT E		5.7A	—————————————————————————————————————	TWO-WAY CONTROL VALVE			
VFD V	ARIABLE FREQUENCY DRIVE						
		DETECTOR	>	AUTUMATIC AIR DAMPER			TEMPERATURE SENSOR
Н ниг		DETECTUK	∖ cs			TYP.	TYPICAL
CO2 CAF	RBON DIOXIDE SENSOR) (M	CURRENT SENSOR		U/G	UNDERGROUND
		IG COIL	Н	HEATING COIL		V	VOLTS OR VENT
			/ c			WB	WET BULB
						11 W/	WITH

HVAC GENERAL NOTES:

- LOCAL CODES AND ORDINANCES.
- 3. ALL SURFACES DAMAGED IN THE COURSE OF THE WORK SHALL BE RESTORED TO THE ORIGINAL CONDITION AND IN ACCORDANCE TO DRAWINGS AND SPECIFICATIONS.
- 4. REMOVE ALL SUPERFLUOUS/ABANDONED HANGERS, SUPPORTS, PIPING, DUCTWORK, ETC,.
- 5. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
- 6. ALL MECHANICAL EQUIPMENT AND SYSTEMS SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS AFTER ACCEPTANCE BY OWNER. 7. AIR DISTRIBUTION DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL AS RECOMMENDED IN SMACNA PRESSURE DUCT CONSTRUCTION STANDARDS, LATEST EDITION. ALL JOINTS AND SEAMS IN ALL SHEET METAL DUCTWORK SHALL BE SEALED WITH LOW VOC DUCT SEALER. DUCTWORK DIMENSIONS SHOWN ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.
- 8. SHEET METAL SUPPLY, RETURN, & OUTDOOR AIR DUCTWORK SHALL BE INSULATED WITH 2" THICK FIBERGLASS DUCT INSULATION (MINIMUM R-6/AS INDICATED ON SPECIFICATION) WITH FOIL VAPOR BARRIER. EXHAUST DUCTWORK SHALL BE SHEET METAL AND SHALL NOT BE INSULATED UNLESS NOTED OTHERWISE.
- 9. ALL DUCTWORK AND PIPING SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. DUCT SUPPORTS AND ATTACHMENT TO STRUCTURE SHALL BE AS PER SMACNA STANDARDS. 10. AFTER CONSTRUCTION, THE ENTIRE HVAC SYSTEM SHALL BE TESTED, ADJUSTED, AND BALANCED IN ACCORDANCE WITH AABC OR NEBB STANDARDS, TO DELIVER THE AIR AND WATER FLOW
- QUANTITIES SHOWN ON THE DRAWINGS. SUBMIT CERTIFIED TEST AND BALANCE REPORTS TO ENGINEER FOR APPROVAL. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR INSULATION IS APPLIED.

- STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING ANY STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER. 12. HVAC CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER CONTRACTORS BEFORE INSTALLATION OF HIS WORK IN CEILING SPACES AND OTHER AREAS WHERE CONFLICTION MAY OCCUR.
- 13. ALL DUCTWORK SHOWN ARE DIAGRAMMATIC. PROVIDE ALL MATERIALS AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE. THE MECHANICAL CONTRACTOR SHALL FABRICATE DUCTWORK BASED ON FIELD REQUIREMENTS IN ACCORDANCE WITH THE SMACNA DUCT CONSTRUCTION STANDARDS. NO ADDITIONAL COST WILL BE ALLOWED FOR THESE OFFSET AND TRANSITION FITTINGS THAT ARE REQUIRED FOR A COMPLETE WORKING SYSTEM. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT.
- 14. ALL WORK SHALL BE COORDINATED AND PERFORMED WITH PRIOR APPROVAL FROM THE PARKING AUTHORITY TO SUIT THEIR OPERATING CONDITIONS. NOTIFY THE OWNER IN WRITING AT LEAST 7 DAYS IN ADVANCE OF ANY SHUTDOWN OF WATER, HVAC, ELECTRICAL SERVICE, OR ANY OTHER UTILITY. UPON RECEIPT OF APPROVAL FROM THE OWNER, SHUTDOWNS SHALL BE PERFORMED BETWEEN THE HOURS AS DIRECTED AS TO NOT SHUTDOWN THE TENANTS OPERATION DURING NORMAL BUSINESS HOURS, AND SHALL BE ACCOMPLISHED AT NO ADDITIONAL COST TO THE OWNER.

1. ALL MECHANICAL EQUIPMENT AND INSTALLATIONS SHALL CONFORM WITH THE REQUIREMENTS OF THE LATEST INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL ENERGY CONSERVATION CODE WITH ASHRAE 90.1-2010, NFPA, INTERNATIONAL GREEN CONSTRUCTION CODE 2012, UNDERWRITERS LABORATORIES AND ALL APPLICABLE

2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND PAY ALL FEES RELATIVE TO THE INSTALLATION OF HIS WORK.

11. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. TO FIT WITHIN THE SPACE ALLOWED BY THE ARCHITECTURAL AND

NOT TO SCALE

LOUVER SCHE							
UNIT NO.	LOCATION	TYPE	SIZE (W x H x D)	BLADE ANGLE			
L-1	SECOND FLOOR	INTAKE	40"x70"x6"	37.5°			
NOTES: 1. LOUVER C	OLOR TO BE SELECTE	D BY OWNER OR A	RCHITECT.				

LEVEL 2 ELEVATION - HVAC NEW WORK

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

