# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS

# DETROIT MICHIGAN

## LIST OF DRAWINGS


CIVIL ENGINEERING
C15 STORM WATER MANAGEMENT DETAILS
C16 CALCULATIONS/ OPERATIONS AND MAINTENANCE
C1 BOUNDRY & TOPOGRAPHIC SURVEY
C2 SOIL BORING & TEST PIT LOCATIONS
C3 SOIL BORING DATA
C4 SOIL BORING & TEST PIT DATA
C5 TEST PIT DATA
C6 REMOVAL & SOIL EROS. & SEDIMENT CONTR. PLAN
C7 PAVING AND LAYOUT PLAN
C8 UTILITY PLAN
C9 ROOF DRAINAGE PLAN
C10 GRADING PLAN
C11 STREETSCAPE GRADING PLAN
C12 DRAINAGE DISTRICT MAP
C13 SEWER PROFILES AND CALCULATIONS
C14 POST-CONSTR. STORM WATER MANAGE. ORD. PLAN
C17 DETAILS
C18 CITY OF DETROIT DETAILS
C19 CITY OF DETROIT DETAILS
C20 CITY OF DETROIT DETAILS
C21 CITY OF DETROIT DETAILS
C22 CITY OF DETROIT DETAILS

LANDSCAPING
L.101 LANDSCAPE LAYOUT PLAN
L.102 LANDSCAPE LAYOUT PLAN
L.301 LANDSCAPE PLAN
L.302 LANDSCAPE PLAN
L.601 LANDSCAPE SPECIFICATIONS
L.602 LANDSCAPE SPECIFICATIONS
L.603 LANDSCAPE SPECIFICATIONS

ARCHITECTURAL
A.C.001 TYPICAL ACCESSIBILITY DIAGRAMS, SIGNAGE & ABBREVIATIONS
A.C.002 ACCESSORY MOUNTING HEIGHTS & DOOR CLEARANCES
A.C.003 LIFE SAFETY PLANS
A.S.101 ARCHITECTURAL SITE PLAN
A.S.102 SITE DETAILS
A.101 FIRST FLOOR PLAN
A.102 TYPICAL FLOOR PLAN
A.109 ROOF PLAN
A.191 ROOF DETAILS
A.201 EXTERIOR ELEVATIONS
A.202 EXTERIOR ELEVATIONS
A.301 BUILDING SECTIONS
A.302 BUILDING SECTIONS
A.321 NORTH STAIR PLAN AND SECTIONS
A.322 SOUTH STAIR PLAN AND SECTIONS
A.323 STAIR DETAILS
A.324 ELEVATOR PLANS & SECTIONS
A.331 CANOPY SECTIONS & DETAILS
A.401 EXTERIOR WALL SECTIONS
A.402 EXTERIOR WALL SECTIONS
A.403 EXTERIOR WALL SECTIONS
A.404 EXTERIOR WALL SECTIONS
A.405 EXTERIOR WALL SECTIONS
A.406 EXTERIOR WALL SECTIONS
A.407 EXTERIOR WALL SECTIONS
A.408 EXTERIOR WALL SECTIONS
A.421 INTERIOR WALL SECTIONS
A.422 INTERIOR WALL SECTIONS
A.423 INTERIOR WALL SECTIONS
A.424 INTERIOR WALL SECTIONS
A.491 WALL SECTION DETAILS
A.501 PARTIAL FLOOR PLANS
A.511 UNIT A & A.1 PLANS AND ELEVATIONS
A.512 UNIT B & B.1 PLANS AND ELEVATIONS
A.513 UNIT B.2 & B.3 PLANS AND ELEVATIONS
A.514 UNIT B.4 & B.5 PLANS AND ELEVATIONS
A.515 BF UNIT PLANS AND ELEVATIONS
A.601 INTERIOR ELEVATIONS
A.621 INTERIOR DETAILS
A.711 DOOR / BORROWED LITE & WINDOW SCHEDULE
A.712 DOOR DETAILS, ZIP SYSTEM DETAILS
A.713 DOOR DETAILS
A.714 WINDOW DETAILS
A.721 WALL TYPES
A.722 FLOOR / ROOF TYPES
A.801 FIRST FLOOR REFLECTED CEILING PLAN
A.802 TYPICAL FLOOR REFLECTED CEILING PLAN

STRUCTURAL
S.001 ABBREVIATIONS & SYMBOLS
S.002 GENERAL NOTES
S.003 SPECIAL INSPECTIONS
S.101 FOUNDATION PLAN
S.102 SECOND FLOOR FRAMING PLAN
S.103 THIRD FLOOR FRAMING PLAN
S.104 FOURTH FLOOR FRAMING PLAN
S.105 ROOF FRAMING PLAN
S.301 FOUNDATION DETAILS
S.302 FOUNDATION DETAILS
S.303 FOUNDATION DETAILS
S.401 MASONRY DETAILS
S.402 MASONRY DETAILS
S.601 WOOD SECTIONS AND DETAILS
S.602 WOOD SECTIONS AND DETAILS
S.603 WOOD SECTIONS AND DETAILS
S.604 WOOD SECTIONS AND DETAILS
S.605 WOOD SECTIONS AND DETAILS
S.610 WOOD SHEAR WALL DETAILS
S.611 WOOD SHEAR WALL DETAILS
S.701 FRAMING SCHEDULES

MECHANICAL
M000 MECHANICAL COVERSHEET
M201 LEVEL 01 PLAN - MECHANICAL
M202 LEVEL 02 PLAN - MECHANICAL
M203 LEVEL 03 PLAN - MECHANICAL
M204 LEVEL 04 PLAN - MECHANICAL
M205 ROOF PLAN - MECHANICAL
M300 MECHANICAL UNIT ENLARGED PLANS
M301 MECHANICAL UNIT ENLARGED PLANS
M302 MECHANICAL LAUNDRY ENLARGED PLANS
M400 MECHANICAL DETAILS
M600 MECHANICAL SCHEDULES

PLUMBING
P000 PLUMBING COVERSHEET
P200 UNDERFLOOR PLAN
P201 LEVEL 01 PLAN - PLUMBING
P202 LEVEL 02 PLAN - PLUMBING
P203 LEVEL 03 PLAN - PLUMBING
P204 LEVEL 04 PLAN - PLUMBING
P205 ROOF PLAN - PLUMBING
P300 PLUMBING UNIT ENLARGED PLAN
P301 PLUMBING UNIT ENLARGED PLAN
P302 PLUMBING LAUNDRY ENLARGED PLAN
P400 PLUMBING DETAILS
P500 PLUMBING DIAGRAMS
P501 PLUMBING DIAGRAMS
P600 PLUMBING SCHEDULES

ELECTRICAL
E000 ELECTRICAL COVERSHEET
E001 ELECTRICAL SYSTEMS COVERSHEET
E100 ELECTRICAL SITE PLAN
E101 ELECTRICAL SITE PHOTOMETRICS PLAN
E201 LEVEL 01 PLAN - LIGHTING
E202 LEVEL 02 PLAN - LIGHTING
E203 LEVEL 03 PLAN - LIGHTING
E204 LEVEL 04 PLAN - LIGHTING
E211 LEVEL 01 PLAN - POWER AND SYSTEMS
E212 LEVEL 02 PLAN - POWER AND SYSTEMS
E213 LEVEL 03 PLAN - POWER AND SYSTEMS
E214 LEVEL 04 PLAN - POWER AND SYSTEMS
E215 ROOF PLAN - ELECTRICAL
E300 ELECTRICAL UNIT ENLARGED PLANS
E301 ELECTRICAL UNIT ENLARGED PLANS
E302 ELECTRICAL UNIT ENLARGED PLANS
E303 ELECTRICAL UNIT ENLARGED PLANS
E304 ELECTRICAL UNIT ENLARGED PLANS
E305 ELECTRICAL UNIT ENLARGED PLANS
E306 ELECTRICAL UNIT ENLARGED PLANS
E307 ELECTRICAL UNIT ENLARGED PLANS
E308 ELECTRICAL UNIT ENLARGED PLANS
E309 ELECTRICAL UNIT ENLARGED PLANS
E400 ELECTRICAL DETAILS
E401 ELECTRICAL DETAILS
E500 ELECTRICAL DIAGRAMS
E600 ELECTRICAL SCHEDULES
E601 ELECTRICAL SCHEDULES
E700 ELECTRICAL PANEL SCHEDULES
E701 ELECTRICAL PANEL SCHEDULES

VAPOR MITIGATION
1 COVER SHEET
2 FOUNDATION LEVEL VAPOR COLLECTION SYSTEM
3 FIRST LEVEL RISER PLAHN
4 SECOND LEVEL RISER PLAN
5 THIRD LEVEL RISER PLAN
6 FOURTH LEVEL RISER PLAN
7 ROOF PLAN
8 DETAILS
9 SPECIFICATIONS


## DEVELOPMENT TEAM

### OWNER
**CASS CORRIDOR NEIGHBORHOOD DEVELOPMENT CORP.**
**DETROIT, MICHIGAN 48201**

### ARCHITECT
**FUSCO, SHAFFER & PAPPAS, INC.**
**550 NINE MILE ROAD**
**FERNDALE, MICHIGAN 48220**
**248.543.4100**

### CIVIL ENGINEER
**GEORGE JEROME & CO**
**28304 HAYES ROAD**
**ROSEVILLE, MICHIGAN 48066**
**586.774.3000**

### LANDSCAPE ARCHITECT
**DEAK PLANNING + DESIGN**
**143 CADYCENTER #79**
**NORTHVILLE, MICHIGAN 48167**
**866.355.4204**

### STRUCTURAL ENGINEER
**RESURGET ENGINEERING PC**
**28 W. ADAMS AVENUE, SUITE 1710**
**DETROIT, MICHIGAN 48226**
**313.315.3290**

### MECHANICAL / ELECTRICAL ENGINEER
**IMEG CORP.**
**3001 BROADWAY STREET NE, SUITE 601**
**MINNEAPOLIS, MINNESOTA 55413**
**612.540.5000**

### GENERAL CONTRACTOR
**G. FISHER CONSTRUCTION COMPANY**
**31313 NORTHWESTERN HWY # 206**
**FARMINGTON HILLS, MI 48334**
**248.855.3500**

## SUMMARY TABLE

**SITE DATA**

| | |
|---|---|
| SITE AREA | 0.65 ACRES |
| ZONING | |
| PROPOSED | SD2 SPECIAL DISTRICT<br>R-2 (MULTIPLE FAMILY DWELLING DISTRICT)<br>TYPE B ON THE FIRST FLOOR |
| BUILDING SETBACKS | |
| FRONT | 0 FEET |
| SIDES (LEAST/TOTAL) | 0 FEET |
| REAR | 10 FEET |
| SITE DENSITY | EXISTING |
| MINIMUM LOT WIDTH | EXISTING |
| MINIMUM LOT SIZE | EXISTING |
| MAXIMUM LOT COVERAGE | EXISTING |

**PARKING**

| | |
|---|---|
| REQUIRED | |
| 0.75 SPACES PER UNIT FOR SENIOR DEVELOPMENT | |
| 0.75 x 49 UNITS = | 37 SPACES |
| PROVIDED | |
| ON-SITE PARKING | 14 SPACES |
| ADJACENT SITE PARKING | 23 SPACES |
| TOTAL | 37 SPACES |

**LOT COVERAGE**

| | |
|---|---|
| SITE | 28,500 SF |
| BUILDING | 12,734 SF |
| IMPERVIOUS SURFACES | 21,417 SF (0.492 ACRES) |
| MAX ALLOWABLE LOT COVERAGE | N/A |
| PERCENT OF LOT COVERAGE | 12,734 SF / 28,500 SF = 44.7% |
| F.A.R. | N/A |

**BUILDING DATA**

| UNIT COUNT | GROSS AREA (SQ. FT.) | |
|---|---|---|
| UNIT A (1 BEDROOM) | 632 | 16 UNITS |
| UNIT A.1 (1 BEDROOM) | 675 | 4 UNIT |
| UNIT A-BF (1 BEDROOM) | 632 | 4 UNITS |
| UNIT B (2 BEDROOM) | 900 | 7 UNITS |
| UNIT B.1 (2 BEDROOM) | 909 | 3 UNITS |
| UNIT B.2 (2 BEDROOM) | 924 | 4 UNITS |
| UNIT B.3 (2 BEDROOM) | 975 | 4 UNITS |
| UNIT B.4 (2 BEDROOM) | 971 | 3 UNITS |
| UNIT B.5 (2 BEDROOM) | 917 | 3 UNITS |
| UNIT B-BF (2 BEDROOM) | 902 | 1 UNIT |
| TOTAL | | 49 UNITS |

| | |
|---|---|
| BUILDING HEIGHT | |
| PROPOSED | 44'-10" |
| GROSS BUILDING AREA | |
| 1ST FLOOR | 12,734 S.F. |
| 2ND FLOOR | 12,818 S.F. |
| 3RD FLOOR | 12,818 S.F. |
| 4TH FLOOR | 12,818 S.F. |
| TOTAL GROSS AREA | 51,188 S.F. |

**CODE DATA**

| | |
|---|---|
| BUILDING CODE: | MICHIGAN BUILDING CODE 2015 |
| USE GROUP: | MIXED USE UNSEPARATED (A-3, B & R-2) |
| CONSTRUCTION TYPE: | VA |

| DATE | ISSUE |
|---|---|
| 09.23.24 | PERMITS |
| 07.11.25 | ADDENDUM #1 |
| 09.12.25 | ADDENDUM #2 |
| 09.18.25 | ADDENDUM #3 |
| 10.30.25 | ADDENDUM #4 |
| 12.19.25 | ADDENDUM #5 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 06.19.26 | BULLETIN #1 |

**SIGNATURE BLOCK**

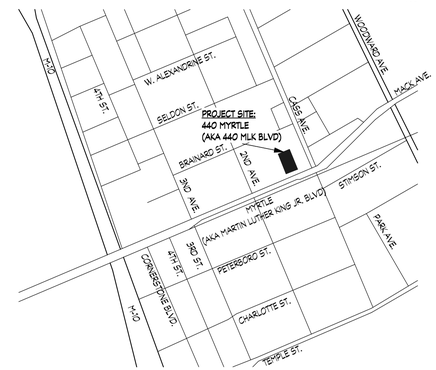
| | SIGNATURE | INITIALS | DATE |
|---|---|---|---|
| OWNER | | | |
| ARCHITECT | | | |
| GENERAL CONTRACTOR | | | |
| SURETY COMPANY | | | |

STATE OF MICHIGAN
JAMES T. PAPPAS
ARCHITECT
NO. 29064
LICENSED PROFESSIONAL ARCHITECT

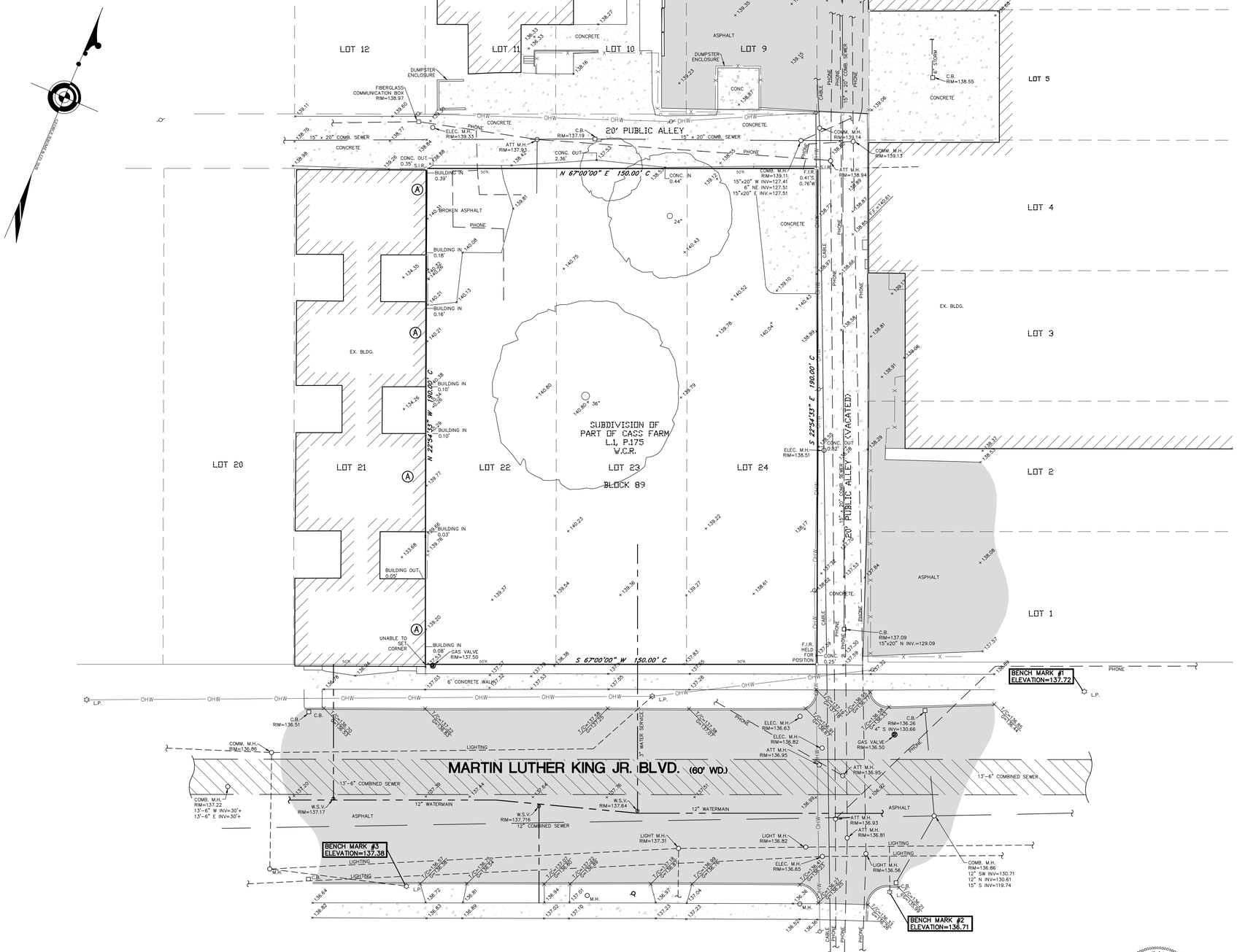
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FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

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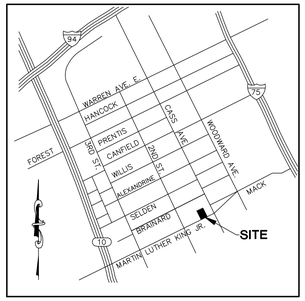



LOCATION MAP
NOT TO SCALE
NORTH




## LEGEND

- R. — RECORD
- M. — MEASURED
- C. — CALCULATED
- F.I.R. — FOUND IRON ROD
- S.I.R. — SET IRON ROD
- S.P.K. — SET P.K. NAIL
- F.P.K. — FOUND P.K. NAIL
- B/C — BACK OF CURB
- G — GUTTER
- B/W — BACK OF WALK
- T/W — TOP OF WALK
- FF — FINISHED FLOOR
- C.B. — CATCH BASIN
- U.P. — UTILITY POLE
- M.H. — MANHOLE
- C.O. — CLEAN OUT
- D.S. — DOWNSPOUT
- L.P. — LIGHT POLE
- L.L. — LANDSCAPE LIGHT
- GVW — GATE VALVE AND WELL
- WSV — WATER STOP VALVE
- HYD. — FIRE HYDRANT
- BOL. — BOLLARD
- M.W. — MONITORING WELL
- SIGN
- NUMBER PARKING SPACES
- HANDICAP PARKING
- G.W. — GUY WIRE
- FENCE
- SANITARY/COMBINED SEWER
- STORM SEWER
- WATERMAIN
- OHW — OVERHEAD UTILITY LINES
- BURIED PHONE CABLE
- LIGHTING CIRCUIT
- EXISTING CONCRETE
- EXISTING ASPHALT PAVEMENT SECTION
- 696.46 — EXISTING ELEVATION




## LOCATION MAP
NOT TO SCALE

## SITE BENCHMARKS

REFERENCE BENCHMARK
FOUND BRASS DISC #30-353 IN HAND HOLE @ NE CORNER ALEXANDRINE & 2ND STREET
ELEV:140.585 (CITY OF DETROIT DATUM)

SITE BENCHMARK #1
S.W. BOLT OF LIGHT POLE ON NORTH SIDE OF MARTIN LUTHER KING BLVD. NEAR CASS AVE.
ELEV:137.72 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 2
N.W. BOLT OF LIGHT POLE ON S.E. CORNER OF MARTIN LUTHER KING BLVD. AND 20' ALLEY
ELEV:136.71 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 3
N.E. BOLT OF LIGHT POLE ON SOUTH SIDE OF MARTIN LUTHER KING BLVD.
ELEV:137.38 (CITY OF DETROIT DATUM)

## SHEET INDEX


C1 — TOPOGRAPHIC SURVEY
C2 — SOIL BORING AND TEST PIT LOCATIONS
C3 — SOIL BORING DATA
C4 — SOIL BORING & TEST PIT DATA
C5 — TEST PIT DATA
C6 — REMOVAL AND SOIL EROSION & SEDIMENTATION CONTROL PLAN
C7 — PAVING AND LAYOUT PLAN
C8 — UTILITY PLAN
C9 — ROOF DRAINAGE PLAN
C10 — GRADING PLAN
C11 — STREETSCAPE GRADING PLAN
C12 — DRAINAGE DISTRICT MAP
C13 — STORM SEWER PROFILES AND CALCULATIONS
C14 — POST CONSTRUCTION STORMWATER MAINTENANCE ORDNANCE PLAN
C15 — VOID
C16 — VOID
C17 — DETAILS
C18 — DETAILS
C19 — CITY OF DETROIT DETAILS
C20 — CITY OF DETROIT DETAILS
C21 — CITY OF DETROIT DETAILS
C22 — CITY OF DETROIT DETAILS


## NOTES

Utility maps in this area appear to conflict with respect to different utilities. Consultation of individual utility maps should be done before any design is completed.

## BASIS OF BEARINGS

The Basis of Bearings for this survey is the centerline of Brainard St. which bears N 67 °00' 00" E as measured.

## TABLE OF ENCROACHMENTS

(A) Building encroaches onto property from the west.

## LEGAL DESCRIPTION (Old Republic National Title Insurance Company, Commitment No: 704440, Dated: November 25, 2020)

Land situated in the City of Detroit, County of Wayne, State of Michigan, described as follows:

Parcel 1:
Lot 24, Block 89, Subdivision PT Cass Farm, as recorded in Liber 1, Page 175 of Plats, Wayne County Records.
Address: 446 Martin Luther King Jr. Blvd., Detroit, MI 48201

Parcel 2:
Lot 23, Block 89, Subdivision PT Cass Farm, as recorded in Liber 1, Page 175 of Plats, Wayne County Records.
Address: 446 Martin Luther King Jr. Blvd., Detroit, MI 48201

Parcel 3:
Lot 22, Block 89, Subdivision PT Cass Farm, as recorded in Liber 1, Page 175 of Plats, Wayne County Records.
Address: 460 Martin Luther King Jr. Blvd., Detroit, MI 48201

## BOUNDARY CERTIFICATION

George Jerome & Co. hereby certifies to Bob Zinser that it has surveyed the above described property, description furnished by you, for the purpose of establishing outline boundaries, and that the boundaries and corners of said property are as indicated herein.

STATE OF MICHIGAN · GEORGE G. JEROME, JR. · PROFESSIONAL SURVEYOR · No. 4001048672 · LICENSED PROFESSIONAL SURVEYOR

George Jerome Jr., P.S. P.E.
46672
George@GeorgeJerome.com

UTILITY NOTE:
ALL PUBLIC UTILITY LINES, AS SHOWN HEREON, ARE TAKEN FROM THE BEST AVAILABLE RECORDS AS DISCLOSED BY THE VARIOUS UTILITY COMPANIES AND/OR MUNICIPALITIES. OTHER UTILITY INFORMATION WAS NOT AVAILABLE AT THE TIME OF SURVEY. NO GUARANTEE CAN BE GIVEN BY US AS TO THE ACCURACY OR COMPLETENESS THEREOF.

GRAPHIC SCALE
20 0 10 20 40 80
( IN FEET )
1 INCH = 20 FEET

| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 02-13-24 | N.L.R. | SLU | 12-19-25 | W.J.C. | ISSUED FOR CONSTR |
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |

# BOUNDARY & TOPOGRAPHIC SURVEY

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

SURVEY BY D.K./R.S.
DRAWN BY L.D.J.
CHECKED BY G.J.JR.
APPROVED BY G.J.JR.

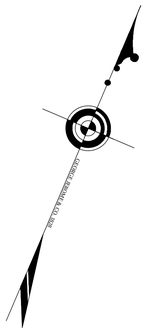

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28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
www.GeorgeJerome.com

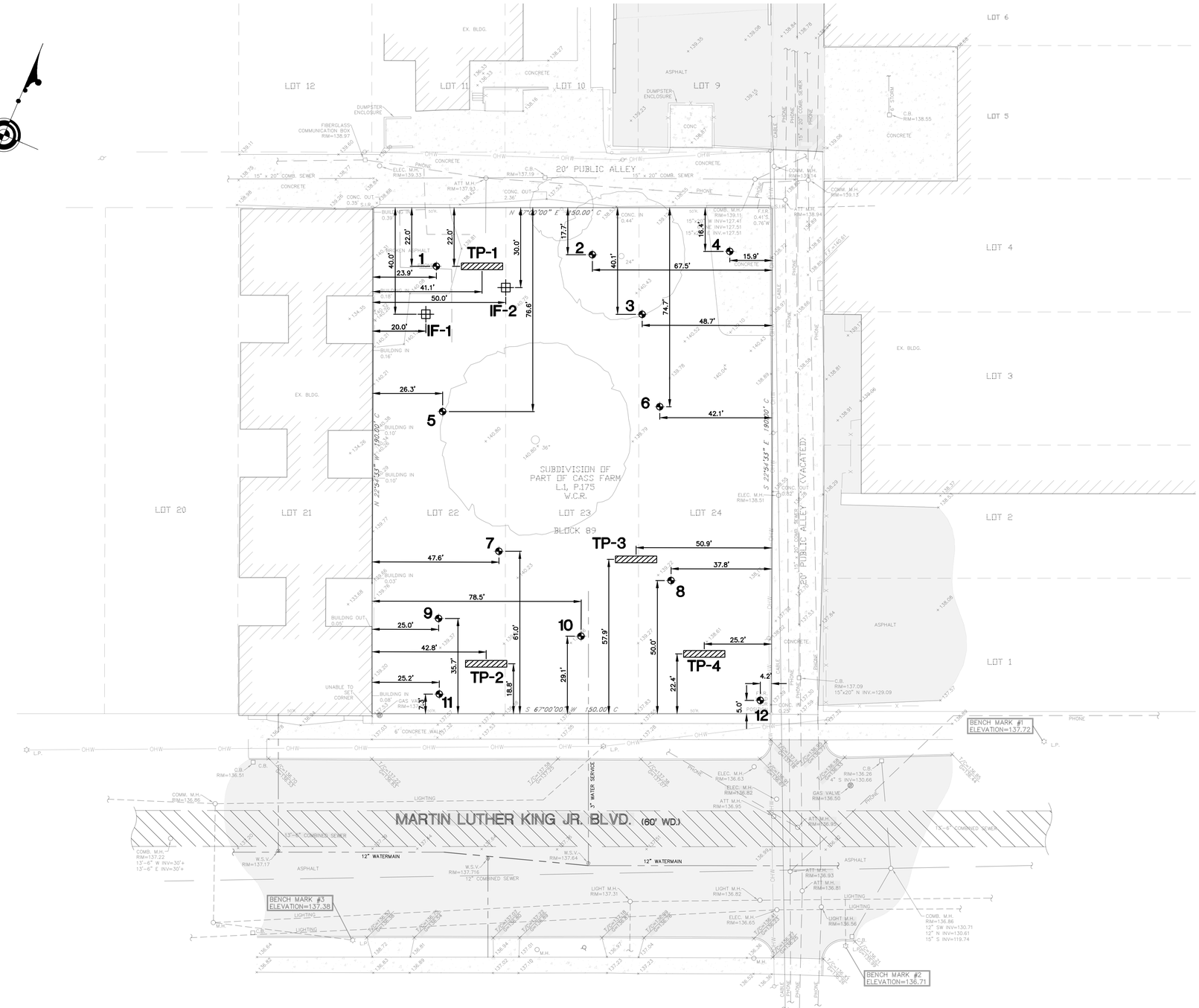

SCALE 1"=20' | FOR CASS CORRIDOR | DATE 01-12-21

ORDER NO. 26-301
FIELD BOOK 1428-52
DRAWING FILE NO.

SHT. NO. C1

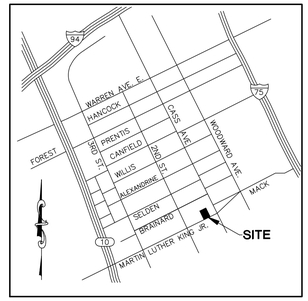
\\SERVER-PC\Users\JOBS\JOBS 26-300 THRU 26-399\26-301 - CCNDC - Greystone Sewer\CAD FOLDER\26-301 BOUNDARY AND TOPO\Proj. C1 - BOUNDARY AND TOPO.dwg, C1 - BOUNDARY AND TOPO, 12/18/2025 3:36:38 PM




## LEGEND

| | |
|---|---|
| R. | RECORD |
| M. | MEASURED |
| C. | CALCULATED |
| F.I.R. | FOUND IRON ROD |
| H. | HEARNE BROTHERS |
| F.C.M. | FOUND CONCRETE MONUMENT |
| S.I.R. | SET IRON ROD |
| S.P.K. | SET P.K. NAIL |
| F.P.K. | FOUND P.K. NAIL |
| T/C | TOP OF CURB |
| G | GUTTER |
| FF | FINISHED FLOOR |
| T/W | TOP OF WALL |
| T/P | TOP OF PIPE |
| C.B. | CATCH BASIN |
| U.P. | UTILITY POLE |
| M.H. | MANHOLE |
| C.O. | CLEAN OUT |
| D.S. | DOWNSPOUT |
| L.P. | LIGHT POLE |
| L.L. | LANDSCAPE LIGHT |
| GVW | GATE VALVE AND WELL |
| WSV | WATER STOP VALVE |
| HYD. | FIRE HYDRANT |
| S.P. | STEEL POST |
| M.W. | MONITORING WELL |
| | SIGN |
| G.W. | GUY WIRE |
| x x | FENCE |
| | SANITARY/COMBINED SEWER |
| | STORM SEWER |
| | WATERMAIN |
| OHW | OVERHEAD UTILITY LINES |
| | BURIED PHONE CABLE |
| | LIGHTING CIRCUIT |
| TP | TEST PIT |
| IF | INFILTRATION TEST SITE |




## LOCATION MAP

NOT TO SCALE

## SITE BENCHMARKS

REFERENCE BENCHMARK
FOUND BRASS DISC #30-353 IN HAND HOLE @ NE CORNER ALEXANDRINE & 2ND STREET
ELEV:140.585 (CITY OF DETROIT DATUM)

SITE BENCHMARK #1
S.W. BOLT OF LIGHT POLE ON NORTH SIDE OF MARTIN LUTHER KING BLVD. NEAR CASS AVE.
ELEV:137.72 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 2
N.W. BOLT OF LIGHT POLE ON S.E. CORNER OF MARTIN LUTHER KING BLVD. AND 20' ALLEY
ELEV:136.71 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 3
N.E. BOLT OF LIGHT POLE ON SOUTH SIDE OF MARTIN LUTHER KING BLVD.
ELEV:137.38 (CITY OF DETROIT DATUM)

NOTE:
SEE GROTECHNICAL REPORT JOB NO. 22-428 BY McDOWELL & ASSOCIATES.

UTILITY NOTE:
ALL PUBLIC UTILITY LINES, AS SHOWN HEREON, ARE TAKEN FROM THE BEST AVAILABLE RECORDS AS DISCLOSED BY THE VARIOUS UTILITY COMPANIES AND/OR MUNICIPALITIES. OTHER UTILITY INFORMATION WAS NOT AVAILABLE AT THE TIME OF SURVEY. NO GUARANTEE CAN BE GIVEN BY US AS TO THE ACCURACY OR COMPLETENESS THEREOF.

GRAPHIC SCALE

20 0 10 20 40 80

( IN FEET )
1 INCH = 20 FEET

STATE OF MICHIGAN
RICHARD L GOLDSZER
ENGINEER
No. 6201033163
LICENSED PROFESSIONAL ENGINEER

| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |
| 12-19-25 | W.J.C. | ISSUED FOR CONSTR | | | |

# SOIL BORING & TEST PIT LOCATIONS

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

| | |
|---|---|
| SURVEY BY | D.K./R.S. |
| DRAWN BY | N.L.R. |
| CHECKED BY | R.L.G. |
| APPROVED BY | R.L.G. |

GEORGE JEROME & CO.
CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS
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www.GeorgeJerome.com

| | | | |
|---|---|---|---|
| SCALE | 1"=20' | FOR | CASS CORRIDOR |
| DATE | 01-12-21 | | |

| | |
|---|---|
| ORDER NO. | 26-301 |
| FIELD BOOK | 1428-52 |
| DRAWING FILE NO. | |

SHT. NO. C2

\\SERVER-PC\Users\JOBS\JOBS 26-300 THRU 26-399\26-301 - CCSDC - Greyhound Tenant\CAD FOLDER\26-301 BOUNDARY AND TOPO\Proj. C2 - SOIL BORING & TEST PIT LOCATIONS_12-18-2025 3:38:15 PM

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

**LOG OF SOIL BORING NO.** 1
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** _____ **DATE** 11-16-2022

| Sample & Type | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | | 0'2" ASPHALT | | | | | | |
| A | 2 | | Compact moist dark brown clayey SAND with topsoil and bricks, fill | 4 | | | | | |
| UL | 3 | | | 8 | 13.6 | 119 | | | |
| | 4 | | 4'0" | 6 | | | | | |
| B | 5 | | Very compact moist dark brown clayey SAND with bricks and topsoil, fill | 10 | 9.6 | 105 | | | |
| UL | 6 | | 6'0" | 9 | | | | | |
| C | 7 | | | 15 | | | | | |
| UL | 8 | | | 16 | 14.0 | 134 | | | |
| | 9 | | | 10/3" | | | * | (9000+) | |
| D | 10 | | | 10 | | | | | |
| UL | 11 | | | 16 | | | | | |
| | 12 | | Extremely stiff moist variegated silty CLAY with sand and pebbles | 10/3" | | | | | |
| | 13 | | | | | | | | |
| | 14 | | | | | | | | |
| E | 15 | | | 13 | | | | | |
| UL | 16 | | | 16 | | | | | |
| | 17 | | | 18 | | | | | |
| | 18 | | 18'0" | | | | | | |
| F | 19 | | Stiff moist blue silty CLAY with sand and pebbles and wet gray silt seams | 7 | | | | | |
| UL | 20 | | | 7 | | | | | |
| | 21 | | 20'6" | 12 | | | | | |
| | 22 | | | | | | | | |
| | 23 | | | | | | | | |
| | 24 | | | | | | | | |
| | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT 19 FT. 0 INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION DRY FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES LIGHT

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**LOG OF SOIL BORING NO.** 2
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 139.6 **DATE** 11-17-2022

| Sample & Type | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | | Moist dark brown sandy TOPSOIL with vegetation and bricks, fill 1'6" | | | | | | |
| A | 2 | | | 17 | | | | | |
| UL | 3 | | Extremely compact moist dark brown clayey SAND with sandy clay seams, topsoil, bricks, concrete and asphalt, fill | 30 | 9.9 | | | | |
| | 4 | | | --- | | | | | |
| B | 5 | | 4'6" | 12 | | | | | |
| UL | 6 | | | 16 | 13.5 | | | | |
| C | 7 | | Extremely stiff moist variegated silty CLAY with sand and pebbles | 18 | | | * | (9000+) | |
| UL | 8 | | | 11 | | | | | |
| | 9 | | 8'6" | 16 | | | | | |
| D | 10 | | | 10/3" | | | | | |
| UL | 11 | | | 30 | | | | | |
| | 12 | | Extremely stiff moist brown silty CLAY with sand and pebbles | --- | | | | | |
| | 13 | | | --- | | | | | |
| | 14 | | 14'0" | | | | | | |
| E | 15 | | Extremely stiff moist variegated silty CLAY with sand and pebbles | 17 | | | | | |
| UL | 16 | | 15'3" | 26 | | | | | |
| | 17 | | | 10/3" | | | | | |
| | 18 | | | | | | | | |
| | 19 | | | | | | | | |
| | 20 | | | | | | | | |
| | 21 | | | | | | | | |
| | 22 | | | | | | | | |
| | 23 | | | | | | | | |
| | 24 | | | | | | | | |
| | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT FT. INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

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Phone: (248) 399-2066 • Fax: (248) 399-2157

**LOG OF SOIL BORING NO.** 3
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 140.2 **DATE** 11-17-2022

| Sample & Type | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | | Moist dark brown sandy TOPSOIL with vegetation and bricks, fill 1'6" | | | | | | |
| A | 2 | | | 6 | | | | | |
| UL | 3 | | Extremely compact moist dark brown clayey SAND with sandy clay seams, topsoil, asphalt and concrete, fill | 16 | 7.2 | 98 | | | |
| | 4 | | 4'0" | 12 | | | | | |
| B | 5 | | Stiff moist dark brown sandy CLAY with topsoil and moist brown silty sand seams, fill | 6 | 15.0 | | | | |
| UL | 6 | | 6'0" | 8 | | | * | (9000+) | |
| C | 7 | | | 8 | | | | | |
| UL | 8 | | | 12 | 12.7 | 127 | | | |
| | 9 | | | 14 | | | * | (9000+) | |
| D | 10 | | | 8 | | | | | |
| UL | 11 | | Extremely stiff moist variegated silty CLAY with traces of sand and pebbles | 16 | | | | | |
| | 12 | | | 10/3" | | | | | |
| | 13 | | | | | | | | |
| | 14 | | | | | | | | |
| E | 15 | | 15'3" | 10 | | | | | |
| UL | 16 | | | 16 | | | | | |
| | 17 | | | 10/3" | | | | | |
| | 18 | | | | | | | | |
| | 19 | | | | | | | | |
| | 20 | | | | | | | | |
| | 21 | | | | | | | | |
| | 22 | | | | | | | | |
| | 23 | | | | | | | | |
| | 24 | | | | | | | | |
| | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT FT. INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

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**LOG OF SOIL BORING NO.** 4
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 138.5 **DATE** 11-17-2022

| Sample & Type | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | | Moist dark brown sandy TOPSOIL with vegetation and clay, fill 1'6" | | | | | | |
| A | 2 | | | 14 | | | | | |
| UL | 3 | | Extremely stiff moist brown silty CLAY with topsoil, bricks and asphalt, fill | 14 | 10.8 | 123 | | | |
| | 4 | | 4'0" | 13 | | | | | |
| B | 5 | | | 7 | | | | | |
| UL | 6 | | Very compact moist dark brown fine to medium SAND with asphalt and asphalt millings, fill | 8 | 7.2 | 102 | | | |
| C | 7 | | | 9 | | | | | |
| UL | 8 | | 7'6" | 1 | | | | | |
| | 9 | | Stiff moist variegated silty CLAY with sand and pebbles | 1 | 16.0 | 126 | | | |
| D | 10 | | 9'0" | 8 | | | * | (9000+) | |
| UL | 11 | | | 10 | | | | | |
| | 12 | | | 16 | 15.2 | 132 | | | |
| | 13 | | Extremely stiff moist brown silty CLAY with sand and pebbles | 20 | | | * | (9000+) | |
| | 14 | | | | | | | | |
| E | 15 | | | 15 | | | | | |
| UL | 16 | | | 15 | | | | | |
| | 17 | | | 16 | | | | | |
| | 18 | | 18'0" | | | | | | |
| F | 19 | | Stiff moist blue silty CLAY with wet gray silt seams | 7 | | | | | |
| UL | 20 | | | 8 | | | | | |
| | 21 | | 20'6" | 7 | | | | | |
| | 22 | | | | | | | | |
| | 23 | | | | | | | | |
| | 24 | | | | | | | | |
| | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT 20 FT. 0 INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION DRY FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES LIGHT

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**LOG OF SOIL BORING NO.** 5
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 140.8 **DATE** 11-18-2022

| Sample & Type | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | | Moist dark brown sandy TOPSOIL with vegetation and slag, fill 1'6" | | | | | | |
| A | 2 | | | 11 | | | | | |
| UL | 3 | | Very compact moist dark brown clayey SAND with brick, slag and metal, fill | 18 | | | | | |
| | 4 | | 4'0" | 8 | | | | | |
| B | 5 | | Very stiff moist dark brown silty CLAY with topsoil seams, fill | 6 | | | | | |
| UL | 6 | | 5'0" | 9 | 13.1 | 122 | | | |
| C | 7 | | Very stiff moist variegated silty CLAY | 14 | | | * | (7000) | |
| UL | 8 | | 7'6" | 8 | | | | | |
| | 9 | | | 9 | 18.3 | 122 | | | |
| D | 10 | | | 12 | | | * | (6500) | |
| UL | 11 | | | 8 | | | | | |
| | 12 | | Extremely stiff moist brown silty CLAY with traces of sand and pebbles | 17 | | | | | |
| | 13 | | | 10/3" | | | | | |
| | 14 | | | | | | | | |
| E | 15 | | | 8 | | | | | |
| UL | 16 | | | 18 | | | | | |
| | 17 | | | 26 | | | | | |
| | 18 | | 17'6" | | | | | | |
| F | 19 | | Very stiff moist blue silty CLAY with sand and pebbles | 6 | | | | | |
| UL | 20 | | | 9 | | | | | |
| | 21 | | 20'6" | 10 | | | | | |
| | 22 | | | | | | | | |
| | 23 | | | | | | | | |
| | 24 | | | | | | | | |
| | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT FT. INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

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**LOG OF SOIL BORING NO.** 6
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 139.7 **DATE** 11-17-2022

| Sample & Type | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | | Moist dark brown sandy TOPSOIL with vegetation and trace of concrete, fill 1'6" | | | | | | |
| A | 2 | | | 7 | | | | | |
| UL | 3 | | Compact moist dark brown clayey SAND with topsoil, bricks and asphalt, fill | 7 | 8.9 | | | | |
| | 4 | | | 7 | | | | | |
| B | 5 | | Extremely compact moist dark brown clayey SAND with moist discolored brown sand seams and asphalt millings, fill 4'6" | 10 | | | | | |
| UL | 6 | | | 21 | 6.1 | 107 | | | |
| C | 7 | | Compact moist dark brown fine to medium SAND with topsoil, slag and asphalt millings, fill 6'6" | 10/3" | | | | | |
| UL | 8 | | | 8 | | | | | |
| | 9 | | 8'6" | 4 | 7.1 | 97 | | | |
| D | 10 | | | 7 | | | | | |
| UL | 11 | | Extremely stiff moist variegated silty CLAY with sand and pebbles | 15 | 15.3 | 128 | | | |
| | 12 | | | 16 | | | * | (9000+) | |
| | 13 | | | | | | | | |
| | 14 | | 14'0" | | | | | | |
| E | 15 | | Extremely stiff moist blue silty CLAY 15'6" | 13 | | | | | |
| UL | 16 | | | 15 | | | | | |
| | 17 | | | 17 | | | | | |
| | 18 | | | | | | | | |
| | 19 | | | | | | | | |
| | 20 | | | | | | | | |
| | 21 | | | | | | | | |
| | 22 | | | | | | | | |
| | 23 | | | | | | | | |
| | 24 | | | | | | | | |
| | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT FT. INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

McDOWELL & ASSOCIATES
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**LOG OF SOIL BORING NO.** 7
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 140.2 **DATE** 11-18-2022

| Sample & Type | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | | Moist dark brown sandy TOPSOIL with vegetation and brick, fill 1'6" | | | | | | |
| A | 2 | | | 15/6" | | | | | |
| UL | 3 | | Extremely stiff moist brown and dark brown silty CLAY with silty sand layers, brick and concrete, fill | --- | 8.3 | 88 | | | |
| | 4 | | 4'0" | --- | | | | | |
| B | 5 | | Very stiff moist brown and dark brown clayey SAND with brick and moist variegated silty clay seams, fill | 7 | | | | | |
| UL | 6 | | 6'0" | 8 | 11.2 | 103 | | | |
| C | 7 | | | 11 | | | | | |
| UL | 8 | | | 6 | | | | | |
| | 9 | | Very stiff moist variegated silty CLAY with sand and pebbles | 8 | 17.8 | 122 | | | |
| D | 10 | | | 10 | | | * | (5500) | |
| UL | 11 | | | 7 | | | | | |
| | 12 | | | 8 | | | | | |
| | 13 | | 13'0" | 12 | | | | | |
| | 14 | | Extremely stiff moist variegated silty CLAY with sand and pebbles | | | | | | |
| E | 15 | | | 10 | | | | | |
| UL | 16 | | 15'6" | 18 | | | | | |
| | 17 | | | 10/3" | | | | | |
| | 18 | | | | | | | | |
| | 19 | | | | | | | | |
| | 20 | | | | | | | | |
| | 21 | | | | | | | | |
| | 22 | | | | | | | | |
| | 23 | | | | | | | | |
| | 24 | | | | | | | | |
| | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT FT. INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

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**LOG OF SOIL BORING NO.** 8
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 139.0 **DATE** 11-18-2022

| Sample & Type | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | | Moist dark brown sandy TOPSOIL with vegetation and clay, fill 1'6" | | | | | | |
| A | 2 | | | 12 | | | | | |
| UL | 3 | | Extremely compact moist brown and dark brown clayey SAND with sandy clay seams, brick and asphalt, fill | 15 | 9.5 | 118 | | | |
| | 4 | | 4'0" | 13 | | | | | |
| B | 5 | | | 3 | | | | | |
| UL | 6 | | Compact moist discolored brown clayey SAND with brick, concrete and asphalt, fill | 5 | 15.6 | | | | |
| C | 7 | | | 7 | | | | | |
| UL | 8 | | 7'0" | 7 | | | | | |
| | 9 | | Extremely stiff moist variegated silty CLAY with traces of sand and pebbles | 15 | 15.4 | 134 | | | |
| D | 10 | | 9'0" | 13 | | | * | (8000) | |
| UL | 11 | | | 13 | | | | | |
| | 12 | | | 16 | | | | | |
| | 13 | | Extremely stiff moist brown silty CLAY with sand and pebbles | 10/3" | | | | | |
| | 14 | | 13'0" | | | | | | |
| E | 15 | | | 9 | | | | | |
| UL | 16 | | | 8 | | | | | |
| | 17 | | Extremely stiff moist variegated silty CLAY with sand and pebbles | 12 | | | | | |
| | 18 | | 18'0" | | | | | | |
| F | 19 | | Stiff moist blue silty CLAY | 5 | | | | | |
| UL | 20 | | | 6 | | | | | |
| | 21 | | 20'6" | 8 | | | | | |
| | 22 | | | | | | | | |
| | 23 | | | | | | | | |
| | 24 | | | | | | | | |
| | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT FT. INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

STATE OF MICHIGAN
RICHARD L. GOLDSZER
ENGINEER
No. 6201033163
REGISTERED PROFESSIONAL ENGINEER

| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |
| 12-19-25 | W.J.C. | ISSUED FOR CONSTR | | | |

# SOIL BORING DATA

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

SURVEY BY D.K./R.S.
DRAWN BY N.L.R.
CHECKED BY R.L.G.
APPROVED BY R.L.G.

GEORGE JEROME & CO.
CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS
28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
www.GeorgeJerome.com

SCALE 1"=20' FOR CASS CORRIDOR DATE 01-12-21

ORDER NO. 26-301
FIELD BOOK 1428-52
DRAWING FILE NO.

SHT. NO. C3

\\SERVER-PC\Jerry\JOBS\JOBS 26-300 THRU 26-399\26-301 - CCNDC - Greystone Senior\CAD FOLDER\26-301 BOUNDARY AND TOPO.dwg, C3 - SOIL BORING DATA, 12/18/2025 3:39:16 PM

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

**LOG OF SOIL BORING NO.** 9
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 139.6 **DATE** 11-18-2022

| Sample & Type | | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | Moist dark brown sandy TOPSOIL with vegetation and brick, fill | | | | | | |
| | | | | 1'6" | | | | | | |
| A | | 2 | | | 9 | | | | | |
| UL | | 3 | | Extremely stiff moist brown and dark brown silty sandy CLAY with topsoil, asphalt and brick, fill | 10 | | | | | |
| | | 4 | | | | | | | | |
| B | | 5 | | | 10 | | | | | |
| UL | | 6 | | | 16 | 15.5 | 94 | | | |
| | | | | | 12 | | | | | |
| C | | 7 | | 7'0" | 5 | | | | | |
| UL | | 8 | | | 7 | 19.6 | 123 | | | |
| | | 9 | | | 10 | | | | * | (5000) |
| D | | 8 | | | | | | | | |
| UL | | 10 | | Very stiff moist variegated silty CLAY with traces of sand and pebbles | 11 | | | | | |
| | | 11 | | | 12 | | | | | |
| | | 12 | | | | | | | | |
| | | 13 | | | | | | | | |
| | | 14 | | | | | | | | |
| E | | 15 | | | 10 | | | | | |
| UL | | 16 | | | 18 | | | | | |
| | | | | | 10/3" | | | | | |
| | | 17 | | 17'0" | | | | | | |
| | | 18 | | | | | | | | |
| | | 19 | | Very stiff moist blue silty CLAY with traces of sand and pebbles | | | | | | |
| F | | 6 | | | 6 | | | | | |
| UL | | 20 | | | 6 | | | | | |
| | | | | 20'6" | 12 | | | | | |
| | | 21 | | | | | | | | |
| | | 22 | | | | | | | | |
| | | 23 | | | | | | | | |
| | | 24 | | | | | | | | |
| | | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT - FT. INS.
G.W. ENCOUNTERED AT - FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

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**LOG OF SOIL BORING NO.** 10
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 139.4 **DATE** 11-21-2022

| Sample & Type | | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | Moist dark brown sandy TOPSOIL with vegetation and brick, fill | | | | | | |
| A | | 2 | | | 16 | | | | | |
| UL | | 3 | | 2'0" Moist brown and dark brown SAND with clay, concrete and brick, fill | 30/5" | 5.3 | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | 4'6" 5'0" CONCRETE and brick rubble, fill | | | | | | |
| B | | 6 | | Very stiff moist variegated silty CLAY with traces of sand and pebbles | 5 | | | | | |
| UL | | 7 | | 6'6" | 7 | 14.2 | | | | |
| | | | | | 11 | | | | * | (6000) |
| C | | | | | 10 | | | | | |
| UL | | 8 | | | 14 | 15.3 | | | * | |
| | | 9 | | Extremely stiff moist variegated silty CLAY with traces of sand and pebbles | 16 | | | | | (6000) |
| D | | | | | 14 | | | | | |
| UL | | 10 | | | 30 | | | | | |
| | | 11 | | | --- | | | | | |
| | | 12 | | | | | | | | |
| | | 13 | | | | | | | | |
| | | 14 | | 14'0" | | | | | | |
| E | | 15 | | Extremely stiff moist blue silty CLAY with sand and pebbles | 10 | | | | | |
| UL | | 16 | | 15'6" | 12 | | | | | |
| | | | | | 16 | | | | | |
| | | 17 | | | | | | | | |
| | | 18 | | | | | | | | |
| | | 19 | | | | | | | | |
| | | 20 | | | | | | | | |
| | | 21 | | | | | | | | |
| | | 22 | | | | | | | | |
| | | 23 | | | | | | | | |
| | | 24 | | | | | | | | |
| | | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT - FT. INS.
G.W. ENCOUNTERED AT - FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

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**LOG OF SOIL BORING NO.** 11
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 138.8 **DATE** 11-18-2022

| Sample & Type | | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | Moist dark brown sandy TOPSOIL with vegetation, brick and trace of concrete, fill | | | | | | |
| | | | | 1'6" | | | | | | |
| A | | 2 | | | 10 | | | | | |
| UL | | 3 | | Very compact moist brown and dark brown clayey SAND with brick and concrete, fill | 11 | 7.6 | 95 | | | |
| | | 4 | | | 14 | | | | | |
| | | | | 3'6" | | | | | | |
| B | | 5 | | | 3 | | | | | |
| UL | | 6 | | Compact moist discolored brown clayey SAND with brick and concrete, fill | 5 | 11.1 | 85 | | | |
| | | | | | 10/1" | | | | | |
| C | | 7 | | 6'0" | 5 | | | | | |
| UL | | 8 | | | 7 | 18.6 | 128 | | | |
| | | 9 | | | 12 | | | | * | (6000) |
| D | | | | | | | | | | |
| UL | | 10 | | Very stiff moist variegated silty CLAY with traces of sand and pebbles | 6 | | | | | |
| | | 11 | | | 9 | | | | | |
| | | 12 | | | 14 | | | | | |
| | | 13 | | | | | | | | |
| | | 14 | | | | | | | | |
| E | | 15 | | | 10 | | | | | |
| UL | | 16 | | | 16 | | | | | |
| | | | | | 10/3" | | | | | |
| | | 17 | | 17'0" | | | | | | |
| | | 18 | | | | | | | | |
| | | 19 | | Very stiff moist blue silty CLAY with traces of sand and pebbles | | | | | | |
| F | | 8 | | | 8 | | | | | |
| UL | | 20 | | | 10 | | | | | |
| | | | | 20'6" | 12 | | | | | |
| | | 21 | | | | | | | | |
| | | 22 | | | | | | | | |
| | | 23 | | | | | | | | |
| | | 24 | | | | | | | | |
| | | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT - FT. INS.
G.W. ENCOUNTERED AT - FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

McDOWELL & ASSOCIATES
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**LOG OF SOIL BORING NO.** 12
**PROJECT** Soils Investigation & Infiltration Study
**LOCATION** Proposed Greystone Senior Living
440 Martin Luther King Jr. Boulevard
Detroit, Michigan

**JOB NO.** 22-428
**SURFACE ELEV.** 137.4 **DATE** 11-21-2022

| Sample & Type | | Depth | Legend | SOIL DESCRIPTION | Penetration Blows for 6" | Moisture % | Natural Wt. P.C.F. | Dry Den Wt. P.C.F. | Unc. Comp. Strength PSF. | Str. % |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | Moist dark brown sandy TOPSOIL with vegetation, traces of clay and concrete, fill | | | | | | |
| | | | | 1'6" | | | | | | |
| A | | 2 | | | 14 | | | | | |
| UL | | 3 | | Extremely compact moist dark brown clayey SAND with moist brown topsoil seams, fill | 14 | 5.6 | | | | |
| | | 4 | | | 17 | | | | | |
| | | | | 4'0" | | | | | | |
| B | | 5 | | | 10 | | | | | |
| UL | | 6 | | | 16 | 13.3 | | | | |
| | | | | | 20 | | | | * | (8000) |
| C | | 7 | | | 16 | | | | | |
| UL | | 8 | | Extremely stiff moist brown silty CLAY with sand and pebbles | 17 | 14.7 | | | | |
| | | 9 | | | 10/3" | | | | * | (9000+) |
| D | | | | | 16 | | | | | |
| UL | | 10 | | | 18 | | | | | |
| | | 11 | | | 10/3" | | | | | |
| | | 12 | | 12'0" | | | | | | |
| | | 13 | | | | | | | | |
| | | 14 | | Very stiff moist blue silty CLAY with traces of sand and pebbles | | | | | | |
| E | | 5 | | | 5 | | | | | |
| UL | | 15 | | | 8 | | | | | |
| | | | | 15'6" | 10 | | | | | |
| | | 16 | | | | | | | | |
| | | 17 | | | | | | | | |
| | | 18 | | | | | | | | |
| | | 19 | | | | | | | | |
| | | 20 | | | | | | | | |
| | | 21 | | | | | | | | |
| | | 22 | | | | | | | | |
| | | 23 | | | | | | | | |
| | | 24 | | | | | | | | |
| | | 25 | | | | | | | | |

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS
G.W. ENCOUNTERED AT - FT. INS.
G.W. ENCOUNTERED AT - FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES NONE

## Test Pit Log

McDowell & Associates

**Test Pit #:** IF-1

**Job Number:** 22-428
**Project:** Proposed Greystone Senior Living
**Location:** 440 Martin L. King Jr. Blvd., Detroit, Michigan

**Date:** 11/22/2022
**Weather:** Sunny
**Ground Elv.:** 140.2

**Soil Stratigraphy:**

0 - 4" Moist dark brown sandy Topsoil with debris, fill
4" - 6" Asphalt
6" - 3'4" Moist dark brown clayey Sand with trace of silt and bricks and topsoil, fill
3'4" - 4'7" Moist dark brown clayey Sand with topsoil, fill
4'7" - 10' Moist variegated silty Clay with sand and pebbles

**Pipe Installation #1**
Soil Depth: 7'
Inner Pipe Dia.: 6"
Outer Pipe Dia. 10"
Embedment: 2"
Stick-up: 5"

**Pipe Installation #2**
Soil Depth: 7'
Inner Pipe Dia.: 6"
Outer Pipe Dia. 10"
Embedment: 2"
Stick-up: 5"

Groundwater Depth: Not Encountered
Pipe Distance: 3'

**Soak Period (Pipe #1)**
Start Date: 11/22/2022 Start Time:
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:

**Soak Period (Pipe #2)**
Start Date: N/A Start Time:
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:

**Test Period (Pipe #1)**
Time: 30 Water Drop: 0.00 inches
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:
Time: Water Drop: inches
Notes:
Time: Water Drop: inches
Notes:
Time: Water Drop: inches
Notes:
Notes: No noticeable infiltration in 30-minute test period readings

**Test Period (Pipe #2)**
Time: 30 Water Drop: 0.00 inches
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:
Time: Water Drop: inches
Notes:
Time: Water Drop: inches
Notes:
Time: Water Drop: inches
Notes:
Notes: No noticeable infiltration in 30-minute test period readings

## Test Pit Log

McDowell & Associates

**Test Pit #:** IF-2

**Job Number:** 22-428
**Project:** Proposed Greystone Senior Living
**Location:** 440 Martin L. King Jr. Blvd., Detroit, Michigan

**Date:** 11/22/2022
**Weather:** Sunny
**Ground Elv.:** 140.3

**Soil Stratigraphy:**

0 - 1'1" Moist dark brown sandy Topsoil with debris, fill
1'1" - 5'2" Moist dark brown clayey Sand with trace of silt and bricks and topsoil, fill
5'2" - 10' Moist variegated silty Clay with sand and pebbles

**Pipe Installation #1**
Soil Depth: 7'
Inner Pipe Dia.: 6"
Outer Pipe Dia. 10"
Embedment: 2"
Stick-up: 5"

**Pipe Installation #2**
Soil Depth: 7'
Inner Pipe Dia.: 6"
Outer Pipe Dia. 10"
Embedment: 2"
Stick-up: 5"

Groundwater Depth: Not Encountered
Pipe Distance: 2'6"

**Soak Period (Pipe #1)**
Start Date: 11/22/2022 Start Time:
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:

**Soak Period (Pipe #2)**
Start Date: N/A Start Time:
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:

**Test Period (Pipe #1)**
Time: 30 Water Drop: 0.00 inches
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:
Time: Water Drop: inches
Notes:
Time: Water Drop: inches
Notes:
Time: Water Drop: inches
Notes:
Notes: No noticeable infiltration in 30-minute test period readings

**Test Period (Pipe #2)**
Time: 30 Water Drop: 0.00 inches
Notes:
Time: 30 Water Drop: 0.00 inches
Notes:
Time: Water Drop: inches
Notes:
Time: Water Drop: inches
Notes:
Time: Water Drop: inches
Notes:
Notes: No noticeable infiltration in 30-minute test period readings

McDowell & Associates
21355 Hatcher Ave
Ferndale, MI 48220
Phone: (248) 399-2066
Fax: (248) 399-2157

## TEST PIT LOG REPORT

**PROJECT:** Proposed Greystone Senior Living
**REPORT NO.:**
**LOCATION:** 440 Martin Luther King Jr. Boulevard - Detroit, Michigan
**OUR JOB NO.:** 22-428
**CLIENT:** C.C.N.P.C.
**ELEVATION:** 139.9

**WEATHER:** Sunny **TEMPERATURE RANGE:** 32° - 42° °F
**DATE:** 11/22/2022 **TIME:** 10:00 AM

**TEST PIT NO.:** 1

| DEPTH | SOIL | DEPTH | SOIL DESCRIPTION | |
|---|---|---|---|---|
| 1' | | 0'4" | Moist dark brown sandy TOPSOIL, fill | |
| 2' | | 0'6" | ASPHALT | |
| 3' | | | | |
| 4' | | | Moist dark brown clayey SAND with bricks, topsoil and debris, fill | |
| 5' | | 4'8" | | |
| 6' | | | | |
| 7' | | | Moist variegated silty CLAY with sand and pebbles | |
| 8' | | 8'0" | | |
| 9' | | | | |
| 10' | | | Note: Existing footing (14" wide) encountered at 8" below existing grade and extended to depth of about 4'6". | |
| 11' | | | | |
| 12' | | | | |
| 13' | | | | |
| 14' | | | | |
| 15' | | | | |
| 16' | | | | |
| 17' | | | | |
| 18' | | | | |
| 19' | | | | |
| 20' | | | | |

Groundwater was not encountered

jb

**FIELD REPRESENTATIVE:** Ihsan Aljawaheri

McDowell & Associates
21355 Hatcher Ave
Ferndale, MI 48220
Phone: (248) 399-2066
Fax: (248) 399-2157

## TEST PIT LOG REPORT

**PROJECT:** Proposed Greystone Senior Living
**REPORT NO.:**
**LOCATION:** 440 Martin Luther King Jr. Boulevard - Detroit, Michigan
**OUR JOB NO.:** 22-428
**CLIENT:** C.C.N.P.C.
**ELEVATION:** 139.5

**WEATHER:** Sunny **TEMPERATURE RANGE:** 32° - 42° °F
**DATE:** 11/22/2022 **TIME:** 10:00 AM

**TEST PIT NO.:** 2

| DEPTH | SOIL | DEPTH | SOIL DESCRIPTION | |
|---|---|---|---|---|
| 1' | | 0'8" | Moist dark brown sandy TOPSOIL, fill | |
| 2' | | | | |
| 3' | | | Moist dark brown clayey SAND with bricks, topsoil and debris, fill | |
| 4' | | | | |
| 5' | | 4'8" | | |
| 6' | | | | |
| 7' | | | Moist variegated silty CLAY with sand and pebbles | |
| 8' | | 8'0" | | |
| 9' | | | | |
| 10' | | | | |
| 11' | | | Note: Existing masonry brick (basement) wall encountered | |
| 12' | | | at west portion of the trench. The wall includes the footing | |
| 13' | | | extended to a depth of about 7'3" below the existing grade. | |
| 14' | | | | |
| 15' | | | | |
| 16' | | | | |
| 17' | | | | |
| 18' | | | | |
| 19' | | | | |
| 20' | | | | |

Groundwater was not encountered

STATE OF MICHIGAN
RICHARD L GOLDSZER
ENGINEER
No. 6201033163
LICENSED PROFESSIONAL ENGINEER

jb

**FIELD REPRESENTATIVE:** Ihsan Aljawaheri

| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |
| 12-19-25 | W.J.C. | ISSUED FOR CONSTR | | | |

# SOIL BORING & TEST PIT DATA

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

SURVEY BY D.K./R.S.
DRAWN BY N.L.R.
CHECKED BY R.L.G.
APPROVED BY R.L.G.

GEORGE JEROME & CO.
CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS
28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
www.GeorgeJerome.com

SCALE 1"=20' FOR CASS CORRIDOR DATE 01-12-21

ORDER NO. 26-301
FIELD BOOK 1428-52
DRAWING FILE NO.

SHT. NO. C4

\\SERVER-PC\Jerry\JOBS\JOBS 26-300 THRU 26-399\26-301 - CCNDC - Greystone Senior\CAD FOLDER\26-301 BOUNDARY AND TOPO.dwg, C4 - SOIL BORING & TEST PIT DATA, 1/19/2026 3:41:13 PM

McDowell & Associates
21355 Hatcher Ave
Ferndale, MI 48220
Phone: (248) 399-2066
Fax: (248) 399-2157

## TEST PIT LOG REPORT

**PROJECT:** Proposed Greystone Senior Living
**REPORT NO.:**
**LOCATION:** 440 Martin Luther King Jr. Boulevard - Detroit, Michigan
**OUR JOB NO.:** 22-428
**CLIENT:** C.C.N.P.C.
**ELEVATION:** 139.5

**WEATHER:** Sunny
**TEMPERATURE RANGE:** 32° - 42° °F
**DATE:** 11/22/2022
**TIME:** 10:00 AM

**TEST PIT NO.:** 3

| DEPTH | SOIL | DEPTH | SOIL DESCRIPTION | |
|---|---|---|---|---|
| 1' | | 0'8" | Moist dark brown sandy TOPSOIL, fill | |
| 2' | | 2'1" | Moist dark brown clayey SAND with bricks, topsoil and debris, fill | |
| 3' | | 2'6" | Buried moist dark brown sandy TOPSOIL | |
| 4' | | | Moist brown silty SAND, fill | |
| 5' | | 4'8" | | |
| 6' | | | | |
| 7' | | | Moist variegated silty CLAY with sand and pebbles | |
| 8' | | 8'0" | | |
| 9' | | | | |
| 10' | | | | |
| 11' | | | Note: Existing masonry brick and rubble (basement) walls | |
| 12' | | | encountered at the center and west portions of the trench | |
| 13' | | | walls extended to a depth of about 7' below the existing | |
| 14' | | | grade. | |
| 15' | | | | |
| 16' | | | | |
| 17' | | | | |
| 18' | | | | |
| 19' | | | | |
| 20' | | | | |

Groundwater was not encountered

jb

**FIELD REPRESENTATIVE:** Ihsan Aljawaheri

McDowell & Associates
21355 Hatcher Ave
Ferndale, MI 48220
Phone: (248) 399-2066
Fax: (248) 399-2157

## TEST PIT LOG REPORT

**PROJECT:** Proposed Greystone Senior Living
**REPORT NO.:**
**LOCATION:** 440 Martin Luther King Jr. Boulevard - Detroit, Michigan
**OUR JOB NO.:** 22-428
**CLIENT:** C.C.N.P.C.
**ELEVATION:** 138.4

**WEATHER:** Sunny
**TEMPERATURE RANGE:** 32° - 42° °F
**DATE:** 11/22/2022
**TIME:** 10:00 AM

**TEST PIT NO.:** 4

| DEPTH | SOIL | DEPTH | SOIL DESCRIPTION | |
|---|---|---|---|---|
| 1' | | | Moist dark brown sandy TOPSOIL with debris and | |
| 2' | | 1'2" | asphalt, fill | |
| 3' | | | | |
| 4' | | | Moist dark brown clayey SAND with bricks, topsoil and | |
| 5' | | 4'6" | debris, fill | |
| 6' | | | | |
| 7' | | 6'6" | Moist variegated silty CLAY with sand and pebbles | |
| 8' | | | | |
| 9' | | | | |
| 10' | | | Note: Existing shallow footing and concrete slab | |
| 11' | | | encountered. | |
| 12' | | | | |
| 13' | | | | |
| 14' | | | | |
| 15' | | | | |
| 16' | | | | |
| 17' | | | | |
| 18' | | | | |
| 19' | | | | |
| 20' | | | | |

Groundwater was not encountered

jb

**FIELD REPRESENTATIVE:** Ihsan Aljawaheri

McDowell & Associates

STATE OF MICHIGAN
RICHARD L GOLDSZER
ENGINEER
No. 6201033163
LICENSED PROFESSIONAL ENGINEER

\\SERVER-PC\Jerry's JOBS\JOBS 26-300 THRU 26-399\26-301 - CCNDC - Greystone Senior\CAD FOLDER\26-301 BOUNDARY AND TOPO.dwg, C5 - TEST PIT DATA, 12/18/2025 3:42:34 PM

| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |
| 12-19-25 | W.J.C. | ISSUED FOR CONSTR | | | |

# TEST PIT DATA

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

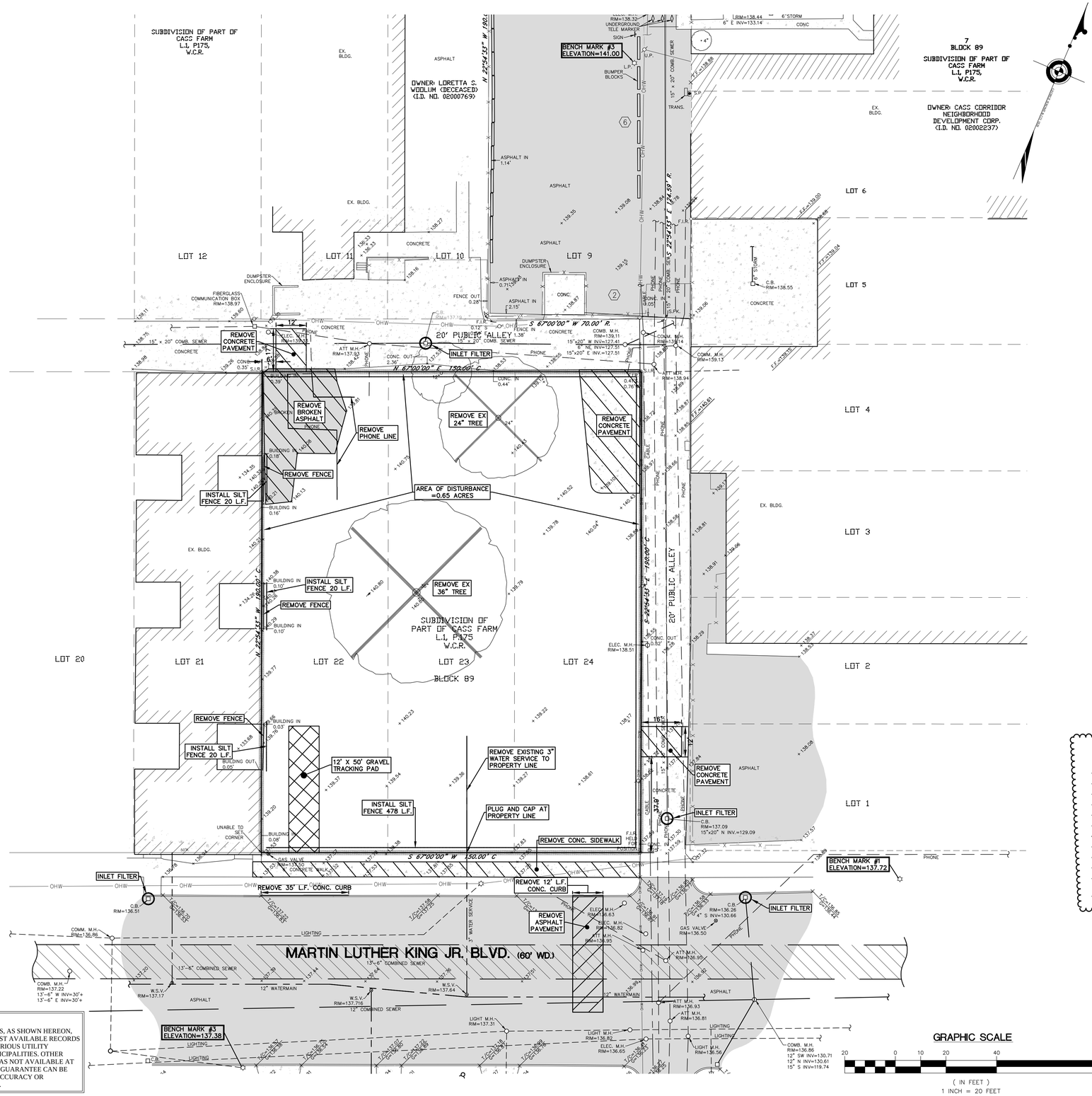
SURVEY BY D.K./R.S.
DRAWN BY N.L.R.
CHECKED BY R.L.G.
APPROVED BY R.L.G.

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28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
www.GeorgeJerome.com

SCALE 1"=20' | FOR CASS CORRIDOR | DATE 01-12-21

ORDER NO. 26-301
FIELD BOOK 1428-52
DRAWING FILE NO.

SHT. NO. C5



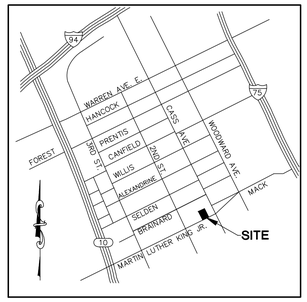

## SITE BENCHMARKS

REFERENCE BENCHMARK
FOUND BRASS DISC #30-353 IN HAND HOLE @ NE CORNER ALEXANDRINE & 2ND STREET
ELEV:140.585 (CITY OF DETROIT DATUM)

SITE BENCHMARK #1
S.W. BOLT OF LIGHT POLE ON NORTH SIDE OF MARTIN LUTHER KING BLVD. NEAR CASS AVE.
ELEV:137.72 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 2
N.W. BOLT OF LIGHT POLE ON S.E. CORNER OF MARTIN LUTHER KING BLVD. AND 20' ALLEY
ELEV:136.71 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 3
N.E. BOLT OF LIGHT POLE ON SOUTH SIDE OF MARTIN LUTHER KING BLVD.
ELEV:137.38 (CITY OF DETROIT DATUM)




## LOCATION MAP
NO SCALE

## GENERAL NOTES FOR SEDIMENTATION AND EROSION CONTROL OPERATIONS

1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF THE WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES, LAND RESOURCE MANAGEMENT DIVISION (LRMD).
2. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR TO DETERMINE EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES, AND ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.
3. EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFFSITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
4. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. HE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES AND OTHER EARTH CHANGES HAVE BEEN ACCOMPLISHED.
5. STAGING THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS AND AS REQUIRED TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH.
6. IMMEDIATELY AFTER SEEDING, MULCH ALL SEEDED AREAS WITH UNWEATHERED SMALL GRAIN STRAW OR HAY, SPREAD UNIFORMLY AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE, OR 100 POUNDS (2 OR 3 BALES) PER 1,000 SQUARE FEET. THIS MULCH SHOULD BE ANCHORED WITH A DISC-TYPE MULCH ANCHORING TOOL OR OTHER MEANS, AS APPROVED BY WAYNE COUNTY LRMD.
7. ALL MUD/DIRT TRACKED ONTO EXISTING STATE/COUNTY ROADS FROM THIS SITE, DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR/BUILDER. ALL MUD/DIRT TRACKED OR SPILLED ON PAVED ROADS/SURFACES WITHIN THIS SITE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR/BUILDER.
8. PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH CHANGE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH CHANGE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH CHANGE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 30 CALENDAR DAYS. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED. ALL PERMANENT SOIL EROSION CONTROL MEASURES WILL BE IMPLEMENTED AND ESTABLISHED BEFORE A CERTIFICATE OF COMPLIANCE IS ISSUED.

## LEGEND

| | |
|---|---|
| R. | RECORD |
| M. | MEASURED |
| C. | CALCULATED |
| F.I.R. | FOUND IRON ROD |
| S.I.R. | SET IRON ROD |
| S.P.K. | SET P.K. NAIL |
| F.P.K. | FOUND P.K. NAIL |
| T/C | TOP OF CURB |
| G | GUTTER |
| FF | FINISHED FLOOR |
| T/W | TOP OF WALL |
| T/P | TOP OF PIPE |
| C.B. | CATCH BASIN |
| U.P. | UTILITY POLE |
| M.H. | MANHOLE |
| C.O. | CLEAN OUT |
| D.S. | DOWNSPOUT |
| L.P. | LIGHT POLE |
| L.L. | LANDSCAPE LIGHT |
| GVW | GATE VALVE AND WELL |
| WSV | WATER STOP VALVE |
| HYD. | FIRE HYDRANT |
| BOL. | BOLLARD |
| M.W. | MONITORING WELL |
| | SIGN |
| | NUMBER PARKING SPACES |
| | HANDICAP PARKING |
| G.W. | GUY WIRE |
| X X | FENCE |
| | SANITARY/COMBINED SEWER |
| | STORM SEWER |
| | WATERMAIN |
| OHW | OVERHEAD UTILITY LINES |
| | EXISTING CONCRETE |
| | EXISTING ASPHALT PAVEMENT SECTION |

SEE CITY OF DETROIT SOIL EROSION AND SEDIMENTATION CONTROL DETAILS SHEET C18

## NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL AND SHALL PROVIDE ALL NECESSARY MATERIALS, EQUIPMENT AND LABOR TO KEEP DUST FROM LEAVING THE PROJECT SITE. THE CONTRACTOR SHALL RESPOND IMMEDIATELY TO ANY AND ALL COMPLAINTS.

## NOTES:

THIS PLAN ILLUSTRATES THE MINIMUM SOIL EROSION AND SEDIMENTATION CONTROLS NEEDED TO PREVENT SILTS FROM LEAVING THE SITE AND IS SUBJECT TO CHANGES AS CONDITIONS IN THE FILE WARRANT.

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DETROIT SOIL EROSION AND SEDIMENTATION CONTROL STANDARDS.

## SOIL EROSION CONTROL SEQUENCE OF CONSTRUCTION

| START DATE | END DATE | |
|---|---|---|
| 8/11/2025 | 8/12/2025 | 1. INSTALL SILT FENCE AND INLET FILTER SACKS. **(WEEKLY)** |
| 8/12/2025 | 9/8/2525 | 2. GRADE AND BALANCE SITE AS REQUIRED. |
| 9/8/2025 | 3/9/2026 | 3. BUILDING CONSTRUCTION. |
| 9/8/2005 | 9/29/2025 | 4. INSTALL UNDERGROUND UTILITIES. |
| 9/29/2025 | 10/3/2025 | 5. INSTALL INLET FILTER SACKS ON ALL NEW CATCH BASINS. **(MONTHLY)** |
| 10/3/2025 | 10/17/2025 | 6. INSTALL SITE CURBS AND GUTTERS, SIDEWALKS AND ASPHALT PAVEMENT BASE COURSE. |
| 3/9/2026 | 3/20/2026 | 7. INSTALL ASPHALT PAVEMENT TOP COURSE AND STRIPE PARKING LOT. |
| 4/13/2026 | 4/17/2026 | 8. ESTABLISH VEGETATION FOR ALL DISTURBED AREAS AND ROAD RIGHT OF WAYS. |
| 4/20/2026 | 4/20/2026 | 9. INSTALL LANDSCAPING AND COMPLETE SITE RESTORATION. |
| 4/20/2026 | 4/24/2026 | 10. CLEAN OUT STORM SEWER SYSTEMS. |
| 5/4/2026 | 5/5/2026 | 11. REMOVE SILT FENCE AND CATCH BASIN FILTERS FOLLOWING CITY OF DETROIT ENGINEERING DEPARTMENT APPROVAL (CALL FOR FINAL INSPECTION). |

## STREET CLEANING SCHEDULE

| | SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|---|---|---|---|---|---|---|
| SCRAPE STREETS | | X | X | X | X | X | X |
| SWEEP STREETS | | | | X | | | |

## ESTIMATED QUANTITIES

| | |
|---|---|
| SILT FENCE | 538 L.F. |
| GRAVEL TRACKING PAD | 67 S.Y. |
| INLET FILTER | 4 EA. |
| AREA OF DISTURBANCE | 0.654 ACRES |
| TOTAL AREA | 0.654 ACRES |

## UTILITY NOTE:

ALL PUBLIC UTILITY LINES, AS SHOWN HEREON, ARE TAKEN FROM THE BEST AVAILABLE RECORDS AS DISCLOSED BY THE VARIOUS UTILITY COMPANIES AND/OR MUNICIPALITIES. OTHER UTILITY INFORMATION WAS NOT AVAILABLE AT THE TIME OF SURVEY. NO GUARANTEE CAN BE GIVEN BY US AS TO THE ACCURACY OR COMPLETENESS THEREOF.

STATE OF MICHIGAN
RICHARD L. GOLDSZER
ENGINEER
No. 6201033183
LICENSED PROFESSIONAL ENGINEER

NOTE:
THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH THE CURRENT DWSD STANDARD SPECIFICATIONS AND DETAILS.

| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 12-20-23 | N.L.R. | PER SPA REVIEW | 09-23-24 | W.J.C. | PERMITS |
| 02-13-24 | N.L.R. | SLU | 07-11-25 | W.J.C. | ADDENDUM #1 |
| 02-21-24 | N.L.R. | PER CITY REVIEW CYCLE 2 | 12-19-25 | W.J.C. | ISSUED FOR CONSTR |
| 08-20-24 | W.J.C. | BID UPDATE | | | |

# REMOVAL AND SOIL EROSION & SEDIMENTATION CONTROL PLAN

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

| | |
|---|---|
| SURVEY BY | D.K./R.S. |
| DRAWN BY | N.L.R. |
| CHECKED BY | R.L.G. |
| APPROVED BY | R.L.G. |

GEORGE JEROME & CO.
CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS
28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
www.GeorgeJerome.com

| | | | |
|---|---|---|---|
| SCALE | 1"=20' | FOR | CASS CORRIDOR |
| DATE | 10-16-23 | | |

| | |
|---|---|
| ORDER NO. | 26-301 |
| FIELD BOOK | 1428-52 |
| DRAWING FILE NO. | |

SHT. NO. C6

\\SERVER-PC\Jerry\JOBS\JOBS 26-300 THRU 26-399\26-301 - CCNDC - Corrywood Investor\CAD FOLDER\26-301 GRAYSTONE SENIOR LIVING - ENGINEERING\26-26-25.dwg, C6 - REMOVAL AND SESC PLAN, 12/16/2025 2:29:54 PM

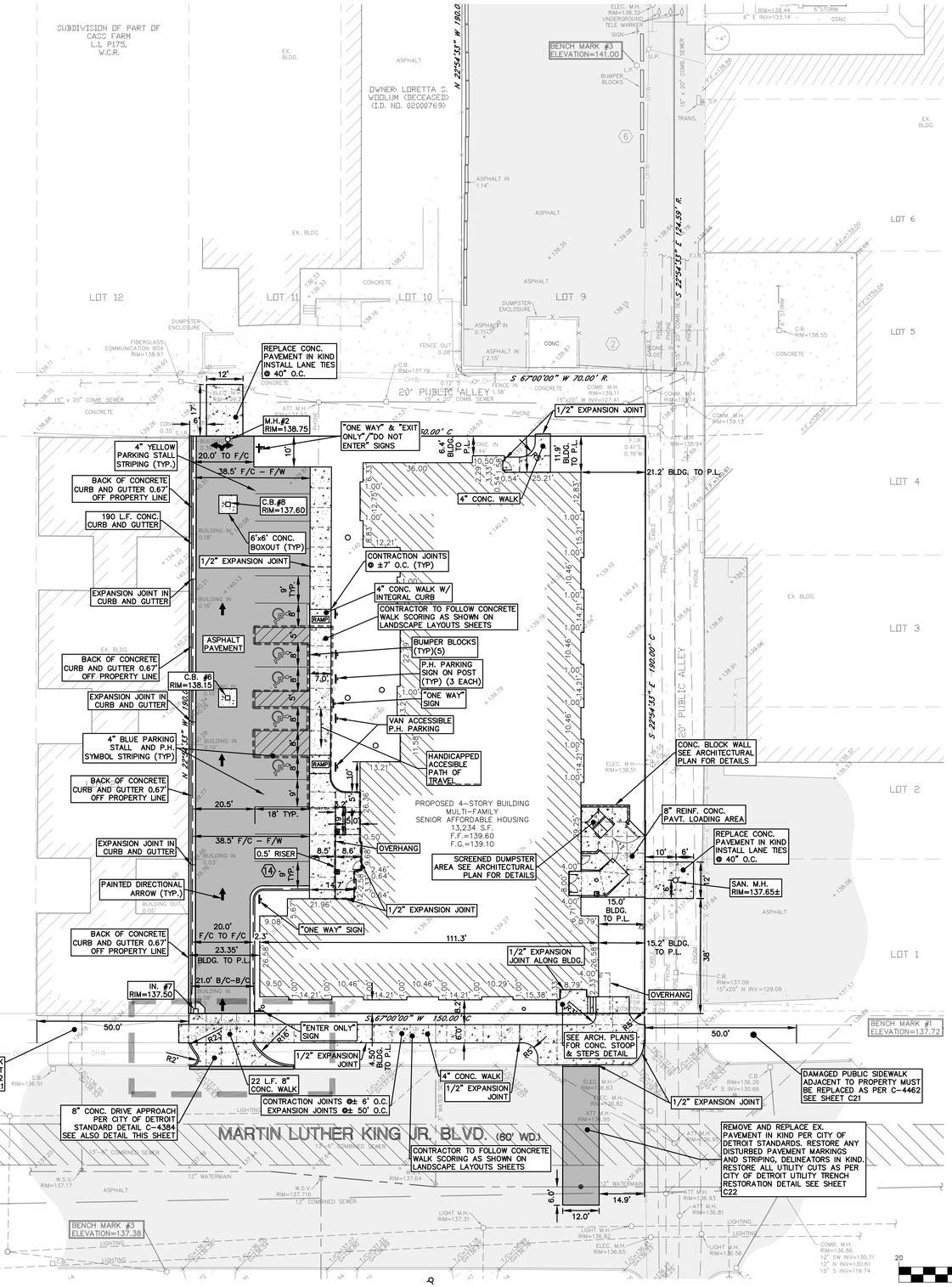
## SITE BENCHMARKS

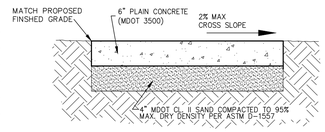
REFERENCE BENCHMARK
FOUND BRASS DISC #30-353 IN HAND HOLE @
NE CORNER ALEXANDRINE & 2ND STREET
ELEV:140.585 (CITY OF DETROIT DATUM)

SITE BENCHMARK #1
S.W. BOLT OF LIGHT POLE ON NORTH SIDE OF
MARTIN LUTHER KING BLVD. NEAR CASS AVE.
ELEV:137.72 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 2
N.W. BOLT OF LIGHT POLE ON S.E. CORNER OF
MARTIN LUTHER KING BLVD. AND 20' ALLEY
ELEV:136.71 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 3
N.E. BOLT OF LIGHT POLE ON SOUTH SIDE OF
MARTIN LUTHER KING BLVD.
ELEV:137.38 (CITY OF DETROIT DATUM)

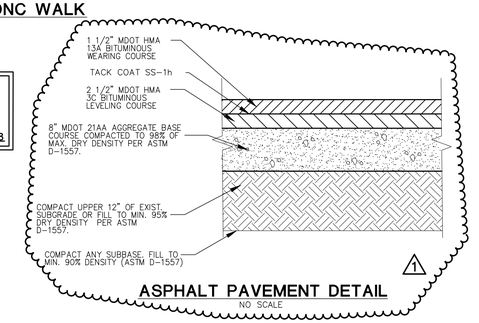



## 4"/6"/"8" CONC WALK

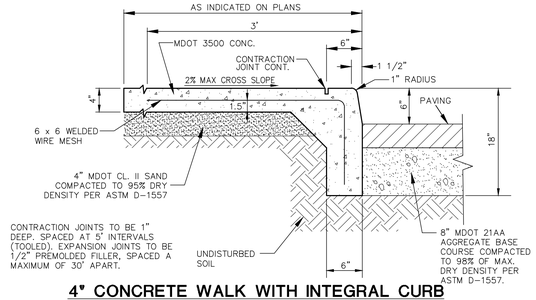
NO SCALE (SEE PLAN)

NOTE:
ASPHALT PAVEMENT SECTION MEETS RECOMMENDATIONS OF SOILS REPORT BY McDOWELL & ASSOCIATES DATED 12–01–2022 JOB NO. 22–428



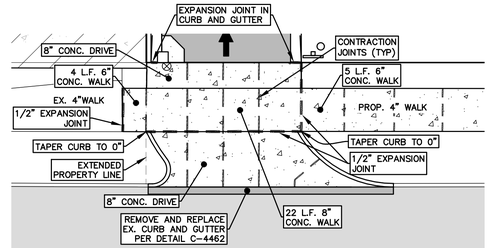

## ASPHALT PAVEMENT DETAIL

NO SCALE



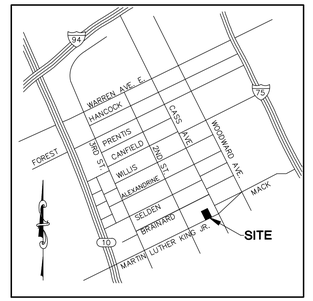

## 4" CONCRETE WALK WITH INTEGRAL CURB

NO SCALE




## DRIVE APPROACH DETAIL

SCALE: 1 INCH = 10 FEET




## LOCATION MAP

NO SCALE

## LEGEND

| | |
|---|---|
| R. | RECORD |
| M. | MEASURED |
| C. | CALCULATED |
| F.I.R. | FOUND IRON ROD |
| S.I.R. | SET IRON ROD |
| S.P.K. | SET P.K. NAIL |
| F.P.K. | FOUND P.K. NAIL |
| B/C | BACK OF CURB |
| G | GUTTER |
| B/W | BACK OF WALK |
| T/W | TOP OF WALK |
| FF | FINISHED FLOOR |
| C.B. | CATCH BASIN |
| U.P. | UTILITY POLE |
| M.H. | MANHOLE |
| C.O. | CLEAN OUT |
| D.S. | DOWNSPOUT |
| L.P. | LIGHT POLE |
| L.L. | LANDSCAPE LIGHT |
| GVW | GATE VALVE AND WELL |
| WSV | WATER STOP VALVE |
| HYD. | FIRE HYDRANT |
| BOL. | BOLLARD |
| M.W. | MONITORING WELL |
| | SIGN |
| | NUMBER PARKING SPACES |
| | HANDICAP PARKING |
| G.W. | GUY WIRE |
| X | FENCE |
| | SANITARY/COMBINED SEWER |
| | STORM SEWER |
| | WATERMAIN |
| OHW | OVERHEAD UTILITY LINES |
| | EXISTING CONCRETE |
| | EXISTING ASPHALT PAVEMENT SECTION |
| | PROPOSED CONCRETE |
| | PROPOSED ASPHALT PAVEMENT SECTION |
| | 1/2" EXPANSION JOINT |
| | CONTRACTION JOINT |

SEE ADDITIONAL PAVING DETAILS ON SHEET C17
SEE CITY OF DETROIT DETAILS ON SHEET C18 – C22

NOTE: SEE CITY OF DETROIT HMA SURFACE ON CONCRETE BASE UTILITY TRENCH CONSTRUCTION PAVEMENT RESTORATION DETAIL ON SHEET C22

NOTE:
CONTRACTOR MUST RESTORE ALL UTILITY CUTS AS PER CITY OF DETROIT UTILITY TRENCH RESTORATION DETAIL

NOTE:
SEE CITY OF DETROIT STANDARD DETAIL OF ALLEY RETURN AND DRIVE APPROACH (C–4384) ON SHEET C22

UTILITY NOTE:
ALL PUBLIC UTILITY LINES, AS SHOWN HEREON, ARE TAKEN FROM THE BEST AVAILABLE RECORDS AS DISCLOSED BY THE VARIOUS UTILITY COMPANIES AND/OR MUNICIPALITIES. OTHER UTILITY INFORMATION WAS NOT AVAILABLE AT THE TIME OF SURVEY. NO GUARANTEE CAN BE GIVEN BY US AS TO THE ACCURACY OR COMPLETENESS THEREOF.

GRAPHIC SCALE

20 0 10 20 40 80

( IN FEET )
1 INCH = 20 FEET

STATE OF MICHIGAN
RICHARD L. GOLDSZER
ENGINEER
No. 6201033163
PROFESSIONAL ENGINEER

NOTE:
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| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 12–20–23 | N.L.R. | PER SPA REVIEW | 09–23–24 | W.J.C. | PERMITS |
| 02–13–24 | N.L.R. | SLU | 07–11–25 | W.J.C. | ADDENDUM #1 |
| 02–21–24 | N.L.R. | PER CITY REVIEW CYCLE 2 | 12–19–25 | W.J.C. | ISSUED FOR CONSTR |
| 08–20–24 | W.J.C. | BID UPDATE | | | |

# PAVING AND LAYOUT PLAN

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

| | |
|---|---|
| SURVEY BY | D.K./R.S. |
| DRAWN BY | N.L.R. |
| CHECKED BY | R.L.G. |
| APPROVED BY | R.L.G. |

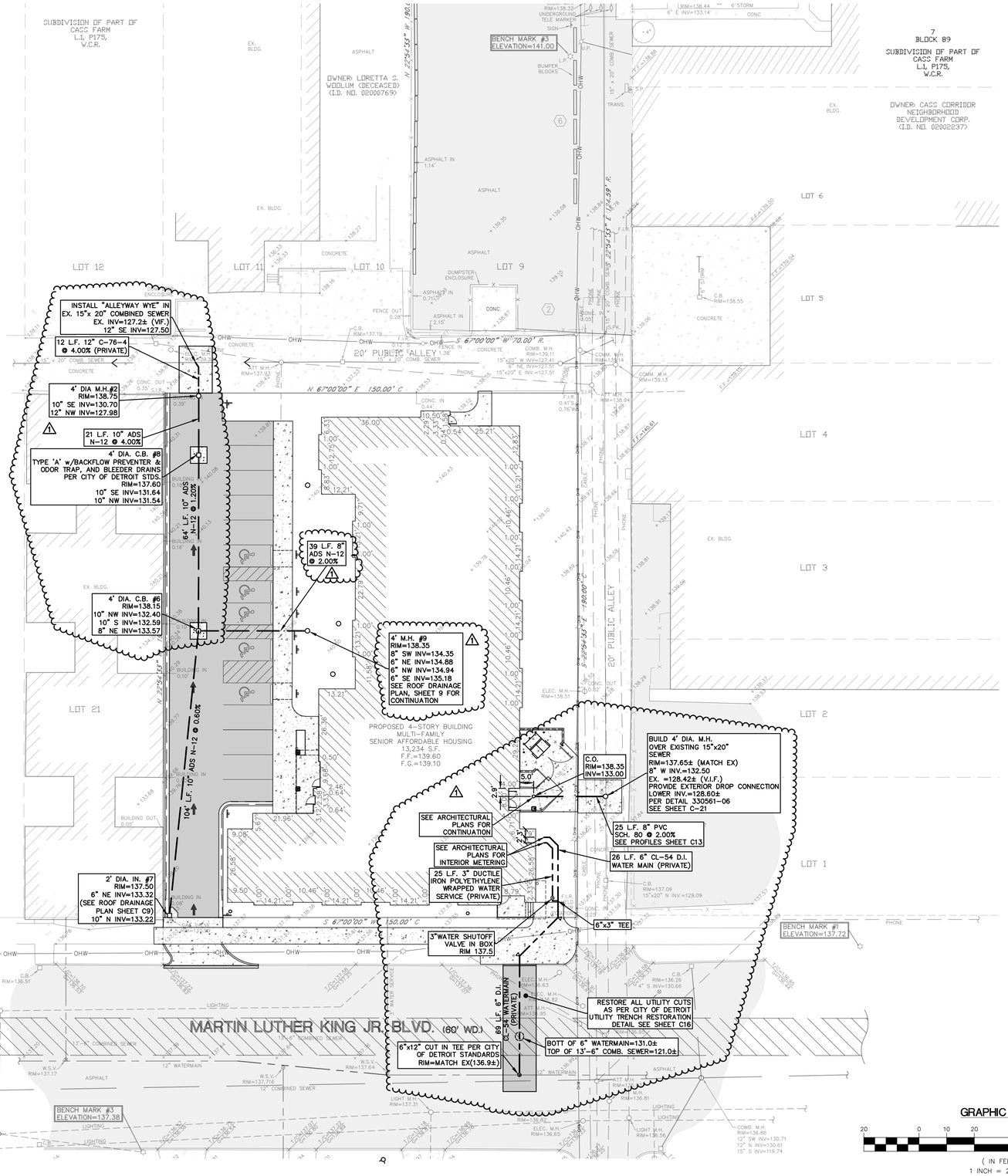
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28304 HAYES ROSEVILLE, MI 48066 (586) 774–3000
www.GeorgeJerome.com

| | | |
|---|---|---|
| SCALE 1"=20' | FOR CASS CORRIDOR | DATE 10–16–23 |

| | |
|---|---|
| ORDER NO. | 26–301 |
| FIELD BOOK | 1428–52 |
| DRAWING FILE NO. | |

SHT. NO. C7

I:\SERVER-PC\Active\26301\26301 26-399\26-301 - CCSDC - Greystone Tenant\CAD\FOLDER\26-301 GRAYSTONE SENIOR LIVING - ENGINEERING 09-24-25.dwg, C7 - PAVING AND LAYOUT PLAN, 12/18/2025 2:41:58 PM



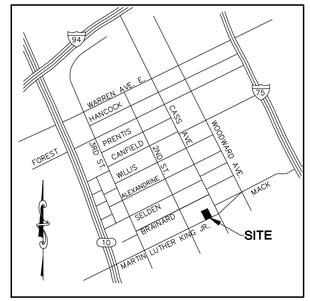

## SITE BENCHMARKS

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SITE BENCHMARK # 3
N.E. BOLT OF LIGHT POLE ON SOUTH SIDE OF MARTIN LUTHER KING BLVD.
ELEV:137.38 (CITY OF DETROIT DATUM)




LOCATION MAP
NO SCALE

## ESTIMATED QUANTITIES

**WATER MAIN**

| | |
|---|---|
| 6"x12" CUT IN TEE | 1 EA. |
| 6"x3" TEE | 1 EA. |
| 3" POLYETHYLENE-WRAPPED DUCTILE IRON WATER SERVICE | 25 L.F. |
| 3" WATER SHUTOFF VALVE IN BOX-COMPLETE | 1 EA. |
| 6" DUCTILE IRON CL.-54 WATERMAIN | 95 L.F. |

**SANITARY SEWER**

| | |
|---|---|
| 4' MANHOLE OUTSIDE DROP OVER EX. 15"x20" SEWER - COMPLETE | 1 EA. |
| CLEAN OUT | 1 EA. |
| 8" PVC SCH. 80 LEAD | 25 L.F. |

**STORM SEWER**

| | |
|---|---|
| 6" ADS N-12 STORM SEWER | 217 L.F. |
| 8" ADS N-12 STORM SEWER | 39 L.F. |
| 10" ADS N-12 STORM SEWER | 168 L.F. |
| 12" C-74-4 STORM SEWER | 12 L.F. |
| 2' DIA. INLET - COMPLETE | 1 EA. |
| 4' DIA. CATCH BASIN - COMPLETE | 1 EA. |
| 4' DIA. MANHOLE - COMPLETE W/ DOME COVER | 1 EA.. |
| 4' DIA. TYPE A MANHOLE W/ ODOR TRAP, BACKFLOW PREVENTER AND BLEEDER DRAINS | 1 EA. |
| 4' DIA. MANHOLE - COMPLETE W/ SOLID COVER | 1 EA. |
| WYE | 4 EA. |
| CLEANOUT | 6 EA. |

UTILITY NOTES:
1. HYDRANTS CONNECTED TO DWSD SYSTEM SHALL BE PAINTED RED. PRIVATE HYDRANTS SHALL BE PAINTED YELLOW. NON-POTABLE HYDRANTS SHALL BE PAINTED VIOLET/GRAY.
2. PRIVATE HYDRANTS WILL ONLY BE ABLE TO BE TURNED OFF VIA A GATE VALVE NEXT TO THE HYDRANT, NOT BY INTERNAL MEANS.
3. NO FIRE HYDRANT IS TO BE USED WITHOUT OBTAINING A PERMIT.
4. WINTER WORK ON WATER MAINS/SERVICES DEPENDS ON PROVIDING PROPER CONDITIONS SUCH AS WARM GASKETS, HEATED WATER, HEATED SAND/CONCRETE MATERIAL, ETC. AND IS SUBJECT TO DWSD'S REPRESENTATIVE'S APPROVAL.
5. PRESSURE TESTING OF THE PIPING IS REQUIRED BEFORE CONNECTING TO DWSD SYSTEM.
6. BACTERIOLOGICAL TESTING BY DWSD IS REQUIRED BEFORE INSTALL A METER AND CONNECTING THE PIPE GOT DWSD SYSTEM.
7. ONLY DWSD PERSONNEL/CONTRACTORS ARE ALLOWED TO OPERATE DWSD GATE VALVES UNLESS PERMISSION IS GRANTED.
8. ONLY DWSD PERSONNEL/CONTRACTORS ARE ALLOWED TO OPERATE HYDRANTS UNLESS A PERMIT IS OBTAINED.
9. DWSD INSPECTION IS REQUIRED WHILE WORK IS UNCOVERED.

## LEGEND

| | |
|---|---|
| R. | RECORD |
| M. | MEASURED |
| C. | CALCULATED |
| F.I.R. | FOUND IRON ROD |
| S.I.R. | SET IRON ROD |
| S.P.K. | SET P.K. NAIL |
| F.P.K. | FOUND P.K. NAIL |
| B/C | BACK OF CURB |
| G | GUTTER |
| B/W | BACK OF WALK |
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| U.P. | UTILITY POLE |
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| C.O. | CLEAN OUT |
| D.S. | DOWNSPOUT |
| L.P. | LIGHT POLE |
| L.L. | LANDSCAPE LIGHT |
| GVW | GATE VALVE AND WELL |
| WSV | WATER STOP VALVE |
| HYD. | FIRE HYDRANT |
| BOL. | BOLLARD |
| M.W. | MONITORING WELL |
| | SIGN |
| | NUMBER PARKING SPACES |
| | HANDICAP PARKING |
| G.W. | GUY WIRE |
| X X | FENCE |
| | SANITARY/COMBINED SEWER |
| | STORM SEWER |
| | WATERMAIN |
| OHW | OVERHEAD UTILITY LINES |
| | EXISTING CONCRETE |
| | EXISTING ASPHALT PAVEMENT SECTION |
| | PROPOSED CONCRETE |
| | PROPOSED ASPHALT PAVEMENT SECTION |

SEE DETAILS ON SHEET C17
SEE CITY OF DETROIT DETAILS ON SHEET C18 – C21

NOTE: SEE STORM CALCULATIONS SHEET C13

NOTE: SEE CASTING SCHEDULE SHEET C13

⚠ NOTE: PRIOR TO TAPPING ANY DWSD ASSET, A TAP PERMIT IS REQUIRED FROM DWSD

UTILITY NOTE:
ALL PUBLIC UTILITY LINES, AS SHOWN HEREON, ARE TAKEN FROM THE BEST AVAILABLE RECORDS AS DISCLOSED BY THE VARIOUS UTILITY COMPANIES AND/OR MUNICIPALITIES. OTHER UTILITY INFORMATION WAS NOT AVAILABLE AT THE TIME OF SURVEY. NO GUARANTEE CAN BE GIVEN BY US AS TO THE ACCURACY OR COMPLETENESS THEREOF.

GRAPHIC SCALE
20 0 10 20 40 80
( IN FEET )
1 INCH = 20 FEET

STATE OF MICHIGAN
RICHARD L GOLDSZER
ENGINEER
No. 6201033163
LICENSED PROFESSIONAL ENGINEER

NOTE:
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| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 02-13-24 | N.L.R. | SLU | 07-11-25 | W.J.C. | ADDENDUM #1 |
| 02-21-24 | N.L.R. | PER CITY REVIEW CYCLE 2 | 12-19-25 | W.J.C. | ISSUED FOR CONSTR |
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |

# UTILITY PLAN

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

SURVEY BY D.K./R.S.
DRAWN BY N.L.R.
CHECKED BY R.L.G.
APPROVED BY R.L.G.

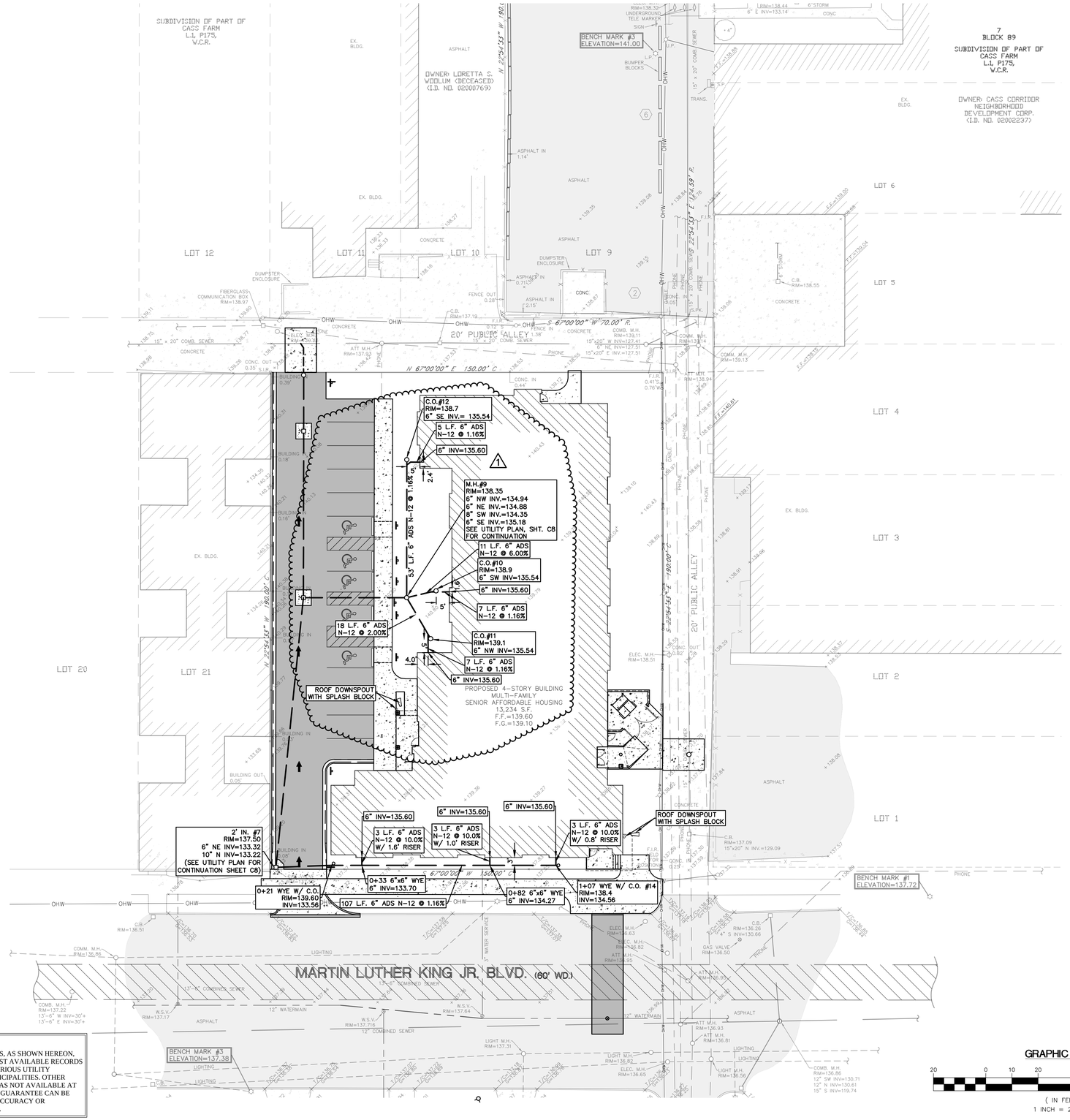
GEORGE JEROME & CO.
CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS
28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
www.GeorgeJerome.com

SCALE 1"=20' | FOR CASS CORRIDOR | DATE 10-16-23

ORDER NO. 26-301
FIELD BOOK 1428-52
DRAWING FILE NO.

SHT. NO. C8

\\GEOJER-PC-Data\JOBS\JOBS 26-300 THRU 26-399\26-301 - CCNDC - Corporate Season\CAD FOLDER\26-301 GRAYSTONE SENIOR LIVING - ENGINEERING\26-26-25.dwg, C8 - UTILITY PLAN, 12/18/2025 3:43:37 PM



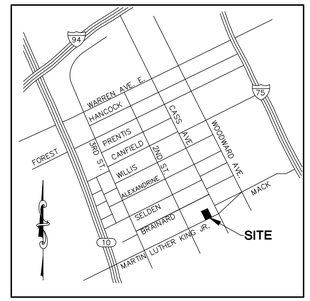

## SITE BENCHMARKS

REFERENCE BENCHMARK
FOUND BRASS DISC #30-353 IN HAND HOLE @ NE CORNER ALEXANDRINE & 2ND STREET
ELEV:140.585 (CITY OF DETROIT DATUM)

SITE BENCHMARK #1
S.W. BOLT OF LIGHT POLE ON NORTH SIDE OF MARTIN LUTHER KING BLVD. NEAR CASS AVE.
ELEV:137.72 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 2
N.W. BOLT OF LIGHT POLE ON S.E. CORNER OF MARTIN LUTHER KING BLVD. AND 20' ALLEY
ELEV:136.71 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 3
N.E. BOLT OF LIGHT POLE ON SOUTH SIDE OF MARTIN LUTHER KING BLVD.
ELEV:137.38 (CITY OF DETROIT DATUM)




## LOCATION MAP
NO SCALE

## LEGEND

| | |
|---|---|
| R. | RECORD |
| M. | MEASURED |
| C. | CALCULATED |
| F.I.R. | FOUND IRON ROD |
| S.I.R. | SET IRON ROD |
| S.P.K. | SET P.K. NAIL |
| F.P.K. | FOUND P.K. NAIL |
| B/C | BACK OF CURB |
| G | GUTTER |
| B/W | BACK OF WALK |
| T/W | TOP OF WALK |
| FF | FINISHED FLOOR |
| C.B. | CATCH BASIN |
| U.P. | UTILITY POLE |
| M.H. | MANHOLE |
| C.O. | CLEAN OUT |
| D.S. | DOWNSPOUT |
| L.P. | LIGHT POLE |
| L.L. | LANDSCAPE LIGHT |
| GVW | GATE VALVE AND WELL |
| WSV | WATER STOP VALVE |
| HYD. | FIRE HYDRANT |
| BOL. | BOLLARD |
| M.W. | MONITORING WELL |
| | SIGN |
| 1 | NUMBER PARKING SPACES |
| | HANDICAP PARKING |
| G.W. | GUY WIRE |
| X | FENCE |
| | SANITARY/COMBINED SEWER |
| | STORM SEWER |
| | WATERMAIN |
| OHW | OVERHEAD UTILITY LINES |
| | EXISTING CONCRETE |
| | EXISTING ASPHALT PAVEMENT SECTION |
| | PROPOSED CONCRETE |
| | PROPOSED ASPHALT PAVEMENT SECTION |

SEE DETAILS ON SHEET C17
SEE CITY OF DETROIT DETAILS ON SHEET C18 – C21

NOTE: SEE STORM CALCULATIONS SHEET C13

NOTE: SEE CASTING SCHEDULE SHEET C13

UTILITY NOTES:
1. HYDRANTS CONNECTED TO DWSD SYSTEM SHALL BE PAINTED RED. PRIVATE HYDRANTS SHALL BE PAINTED YELLOW. NON-POTABLE HYDRANTS SHALL BE PAINTED VIOLET/GRAY.
2. PRIVATE HYDRANTS WILL ONLY BE ABLE TO BE TURNED OFF VIA A GATE VALVE NEXT TO THE HYDRANT, NOT BY INTERNAL MEANS.
3. NO FIRE HYDRANT IS TO BE USED WITHOUT OBTAINING A PERMIT.
4. WINTER WORK ON WATER MAINS/SERVICES DEPENDS ON PROVIDING PROPER CONDITIONS SUCH AS WARM GASKETS, HEATED WATER, HEATED SAND/CONCRETE MATERIAL, ETC. AND IS SUBJECT TO DWSD'S REPRESENTATIVE'S APPROVAL.
5. PRESSURE TESTING OF THE PIPING IS REQUIRED BEFORE CONNECTING TO DWSD SYSTEM.
6. BACTERIOLOGICAL TESTING BY DWSD IS REQUIRED BEFORE INSTALL A METER AND CONNECTING THE PIPE GOT DWSD SYSTEM.
7. ONLY DWSD PERSONNEL/CONTRACTORS ARE ALLOWED TO OPERATE DWSD GATE VALVES UNLESS PERMISSION IS GRANTED.
8. ONLY DWSD PERSONNEL/CONTRACTORS ARE ALLOWED TO OPERATE HYDRANTS UNLESS A PERMIT IS OBTAINED.
9. DWSD INSPECTION IS REQUIRED WHILE WORK IS UNCOVERED.

UTILITY NOTE:
ALL PUBLIC UTILITY LINES, AS SHOWN HEREON, ARE TAKEN FROM THE BEST AVAILABLE RECORDS AS DISCLOSED BY THE VARIOUS UTILITY COMPANIES AND/OR MUNICIPALITIES. OTHER UTILITY INFORMATION WAS NOT AVAILABLE AT THE TIME OF SURVEY. NO GUARANTEE CAN BE GIVEN BY US AS TO THE ACCURACY OR COMPLETENESS THEREOF.

GRAPHIC SCALE
20 0 10 20 40 80
( IN FEET )
1 INCH = 20 FEET

STATE OF MICHIGAN
RICHARD L GOLDSZER
ENGINEER
No. 6201033163
REGISTERED PROFESSIONAL ENGINEER

NOTE:
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| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 02-21-24 | N.L.R. | PER CITY REVIEW CYCLE 2 | 12-19-25 | W.J.C. | ISSUED FOR CONSTR |
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |

# ROOF DRAINAGE PLAN
440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

SURVEY BY D.K./R.S.
DRAWN BY N.L.R.
CHECKED BY R.L.G.
APPROVED BY R.L.G.

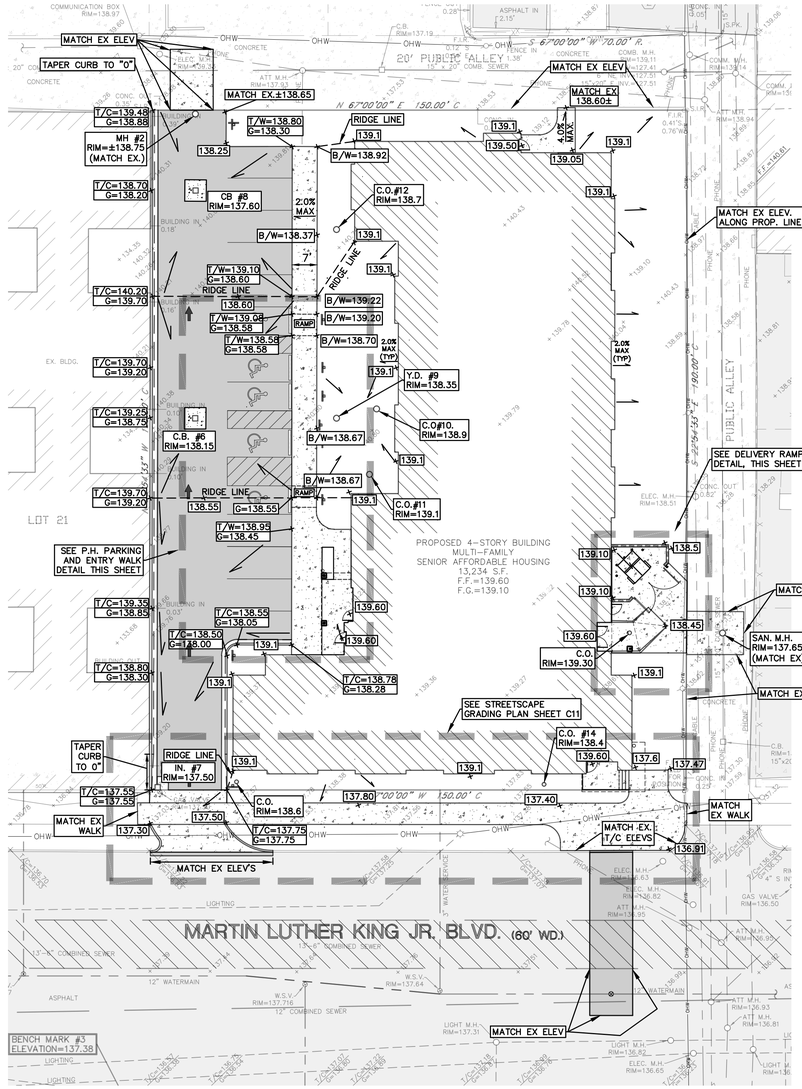
GEORGE JEROME & CO.
CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS
28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
www.GeorgeJerome.com

SCALE 1"=20' | FOR CASS CORRIDOR | DATE 10-16-23

ORDER NO. 26-301
FIELD BOOK 1428-52
DRAWING FILE NO.

SHT. NO. C9

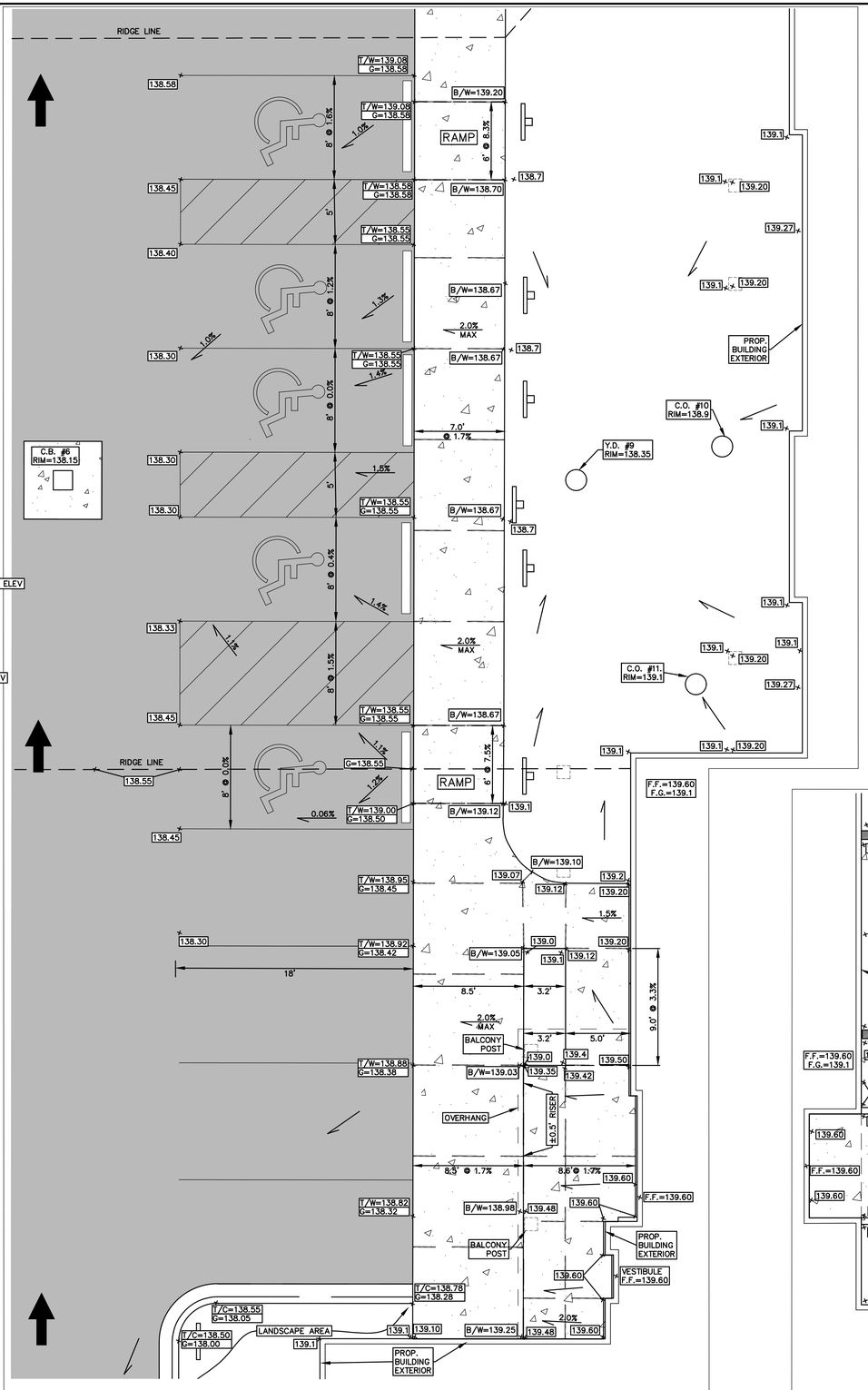
\\SERVER-PC\Active\JOBS\JOBS 26-300\26-301 - CCNDC - Canyons Senior\CAD FOLDER\26-301 CANYONS SENIOR LIVING - ENGINEERING 05-26-25.dwg, C9 - ROOF DRAINAGE PLAN, 12/19/2025 2:49:08 PM




## GRAPHIC SCALE

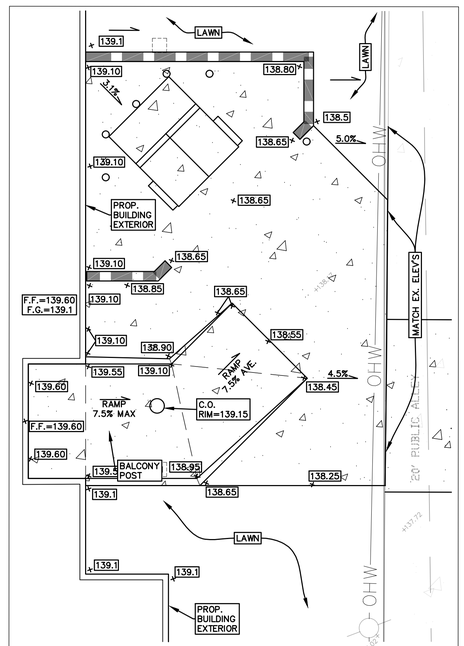
20 0 10 20 40 80

( IN FEET )
1 INCH = 20 FEET




## P.H. PARKING AND ENTRY WALK DETAIL

SCALE: 1"=5'

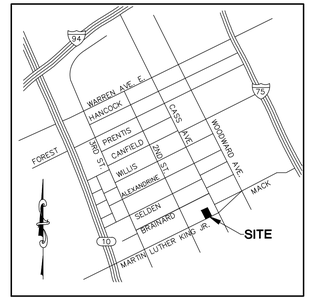



## DELIVERY RAMP DETAIL

SCALE: 1"=5'

## LEGEND

| | |
|---|---|
| R. | RECORD |
| M. | MEASURED |
| C. | CALCULATED |
| F.I.R. | FOUND IRON ROD |
| S.I.R. | SET IRON ROD |
| S.P.K. | SET P.K. NAIL |
| F.P.K. | FOUND P.K. NAIL |
| B/C | BACK OF CURB |
| G | GUTTER |
| B/W | BACK OF WALK |
| T/W | TOP OF WALK |
| FF | FINISHED FLOOR |
| C.B. | CATCH BASIN |
| U.P. | UTILITY POLE |
| M.H. | MANHOLE |
| C.O. | CLEAN OUT |
| D.S. | DOWNSPOUT |
| L.P. | LIGHT POLE |
| L.L. | LANDSCAPE LIGHT |
| GVW | GATE VALVE AND WELL |
| WSV | WATER STOP VALVE |
| HYD. | FIRE HYDRANT |
| BOL. | BOLLARD |
| M.W. | MONITORING WELL |
| | SIGN |
| | NUMBER PARKING SPACES |
| | HANDICAP PARKING |
| G.W. | GUY WIRE |
| X X | FENCE |
| | SANITARY/COMBINED SEWER |
| | STORM SEWER |
| | WATERMAIN |
| OHW | OVERHEAD UTILITY LINES |
| | EXISTING CONCRETE |
| | EXISTING ASPHALT PAVEMENT SECTION |
| | PROPOSED CONCRETE |
| | PROPOSED ASPHALT PAVEMENT SECTION |
| +696.46 | EXISTING ELEVATION |
| 697.01 | PROPOSED ELEVATION |




## LOCATION MAP

NO SCALE

## SITE BENCHMARKS

REFERENCE BENCHMARK
FOUND BRASS DISC #30-353 IN HAND HOLE @ NE CORNER ALEXANDRINE & 2ND STREET
ELEV:140.585 (CITY OF DETROIT DATUM)

SITE BENCHMARK #1
S.W. BOLT OF LIGHT POLE ON NORTH SIDE OF MARTIN LUTHER KING BLVD. NEAR CASS AVE.
ELEV:137.72 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 2
N.W. BOLT OF LIGHT POLE ON S.E. CORNER OF MARTIN LUTHER KING BLVD. AND 20' ALLEY
ELEV:136.71 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 3
N.E. BOLT OF LIGHT POLE ON SOUTH SIDE OF MARTIN LUTHER KING BLVD.
ELEV:137.38 (CITY OF DETROIT DATUM)

NOTE:
MATCH EXISTING ELEVATIONS ALONG PROPERTY LINES EXCEPT AS SHOWN

STATE OF MICHIGAN
RICHARD L GOLDSZER
ENGINEER
No. 6201033163
LICENSED PROFESSIONAL ENGINEER

NOTE:
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| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 12-20-23 | N.L.R. | PER SPA REVIEW | 09-23-24 | W.J.C. | PERMITS |
| 02-13-24 | N.L.R. | SLU | 07-11-25 | W.J.C. | ADDENDUM #1 |
| 02-21-24 | N.L.R. | PER CITY REVIEW CYCLE 2 | 12-19-25 | W.J.C. | ISSUED FOR CONSTR |
| 08-20-24 | W.J.C. | BID UPDATE | | | |

# GRADING PLAN

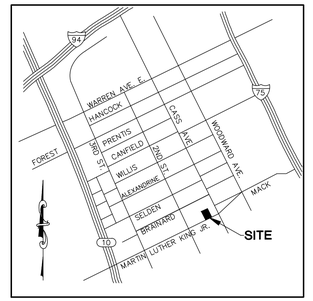
440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

| | | | |
|---|---|---|---|
| SURVEY BY | D.K./R.S. | GEORGE JEROME & CO. | ORDER NO. 26-301 |
| DRAWN BY | N.L.R. | CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS | FIELD BOOK 1428-52 |
| CHECKED BY | R.L.G. | 28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000 www.GeorgeJerome.com | DRAWING FILE NO. |
| APPROVED BY | R.L.G. | SCALE 1"=20' FOR CASS CORRIDOR DATE 10-16-23 | SHT. NO. C10 |

\\SERVER-PC\Users\JOBS\JOBS 26-300\ 26-301\ 26-301 - CIVIL - Corporate Server\CAD FILES\26-301 GRAYSTONE SENIOR LIVING\ - ENGINEERING 05-24-23.dwg, C10 - GRADING PLAN, 12/18/2025 3:52:08 PM

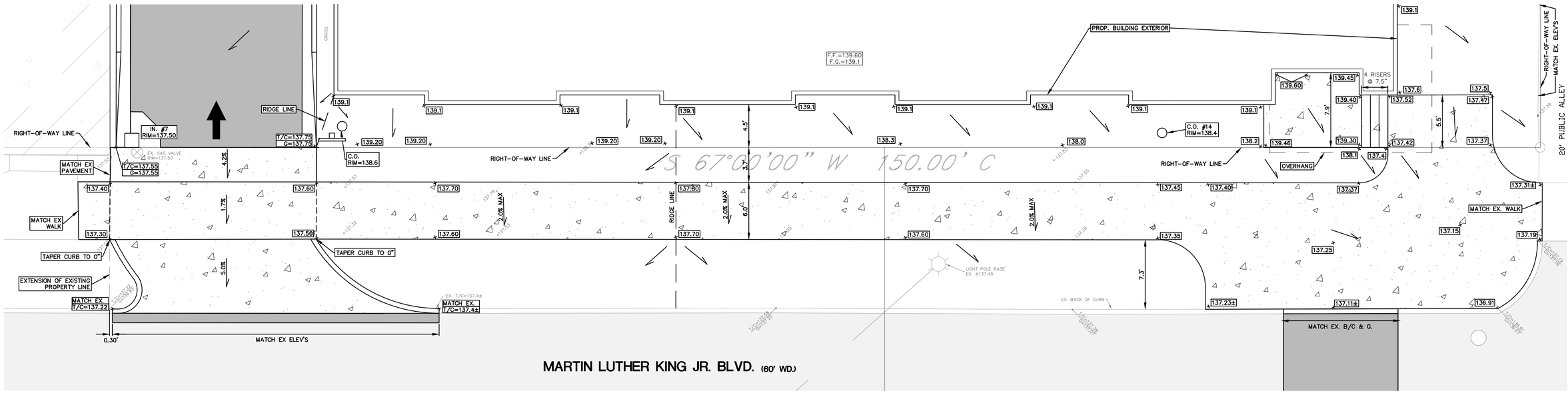
## LEGEND

| | |
|---|---|
| R. | RECORD |
| M. | MEASURED |
| C. | CALCULATED |
| F.I.R. | FOUND IRON ROD |
| S.I.R. | SET IRON ROD |
| S.P.K. | SET P.K. NAIL |
| F.P.K. | FOUND P.K. NAIL |
| B/C | BACK OF CURB |
| G | GUTTER |
| B/W | BACK OF WALK |
| T/W | TOP OF WALK |
| FF | FINISHED FLOOR |
| C.B. | CATCH BASIN |
| U.P. | UTILITY POLE |
| M.H. | MANHOLE |
| C.O. | CLEAN OUT |
| D.S. | DOWNSPOUT |
| L.P. | LIGHT POLE |
| L.L. | LANDSCAPE LIGHT |
| GVW | GATE VALVE AND WELL |
| WSV | WATER STOP VALVE |
| HYD. | FIRE HYDRANT |
| BOL. | BOLLARD |
| M.W. | MONITORING WELL |
| | SIGN |
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| G.W. | GUY WIRE |
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| | SANITARY/COMBINED SEWER |
| | STORM SEWER |
| | WATERMAIN |
| OHW | OVERHEAD UTILITY LINES |
| | EXISTING CONCRETE |
| | EXISTING ASPHALT PAVEMENT SECTION |
| | PROPOSED CONCRETE |
| | PROPOSED ASPHALT PAVEMENT SECTION |
| 698.46 | EXISTING ELEVATION |
| 697.01 | PROPOSED ELEVATION |




## LOCATION MAP
NO SCALE

**NOTE:**
**MATCH EXISTING ELEVATIONS ALONG PROPERTY LINES EXCEPT AS SHOWN**




## GRAPHIC SCALE

5 0 2.5 5 10 20

( IN FEET )
1 INCH = 5 FEET

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STATE OF MICHIGAN
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LICENSED PROFESSIONAL ENGINEER

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| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 02-13-24 | N.L.R. | SLU | 07-11-25 | W.J.C. | ADDENDUM #1 |
| 02-21-24 | N.L.R. | PER CITY REVIEW CYCLE 2 | 12-19-25 | W.J.C. | ISSUED FOR CONSTR |
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |

# STREETSCAPE GRADING PLAN

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

SURVEY BY D.K./R.S.
DRAWN BY N.L.R.
CHECKED BY R.L.G.
APPROVED BY R.L.G.

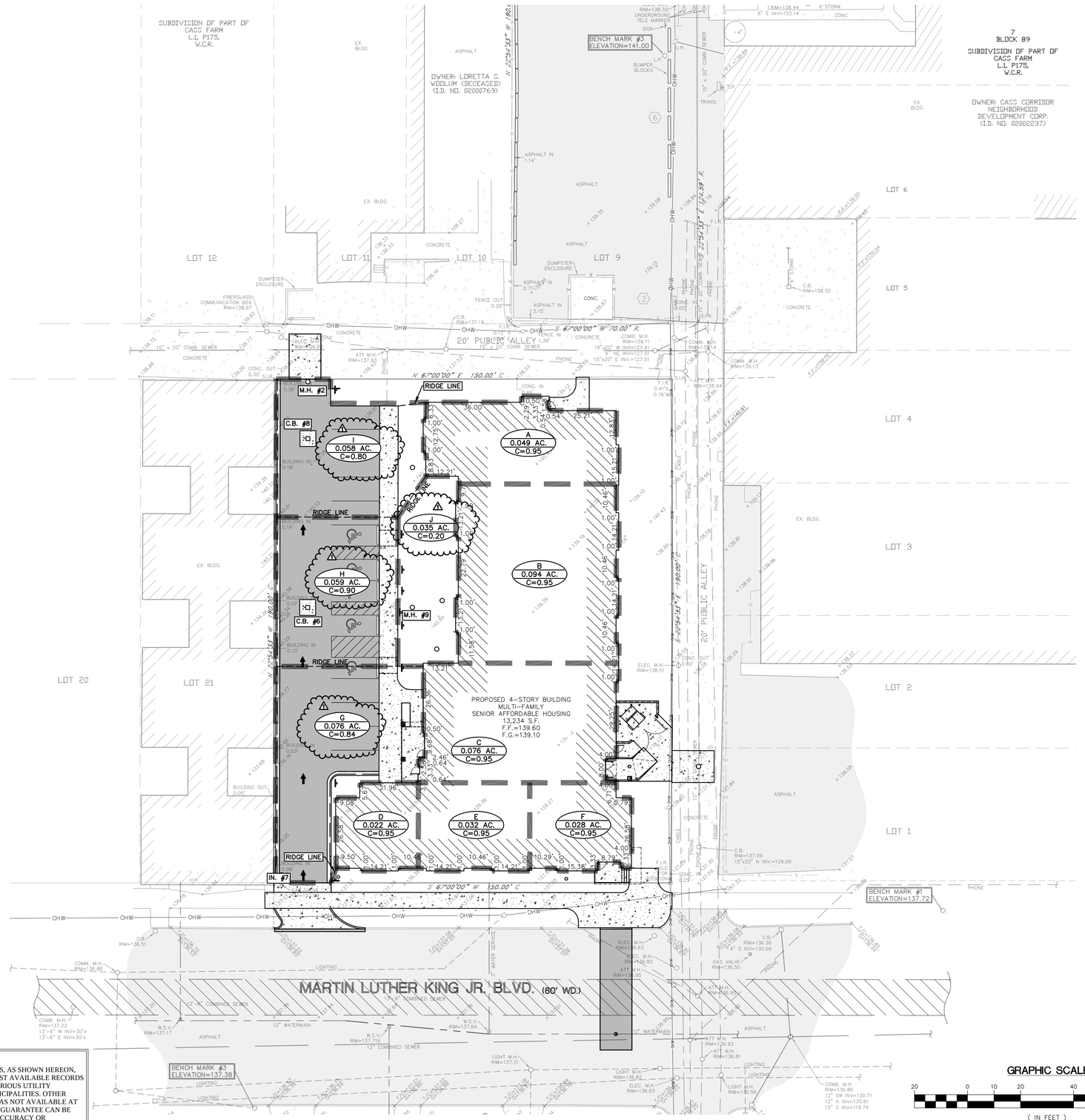

GEORGE JEROME & CO.
CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS
28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
www.GeorgeJerome.com


SCALE 1"=5' | FOR CASS CORRIDOR | DATE 10-16-23

ORDER NO. 26-301
FIELD BOOK 1428-52
DRAWING FILE NO.

SHT. NO. C11


\\SERVER-PC\Jerry\2026\26-301 1st Blvd\26-301 - CCNDC - Corrysten Senior\CAD FILES\26-301 GRATIOTSTR. SENIOR LIVING - ENGINEERING 05-26-25.dwg, C11 - STREETSCAPE GRADING PLAN, 12/18/2025 2:54:43 PM



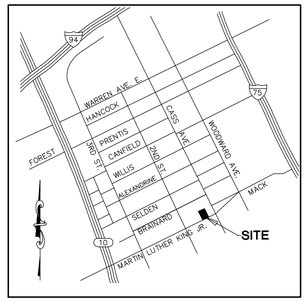

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N.W. BOLT OF LIGHT POLE ON S.E. CORNER OF MARTIN LUTHER KING BLVD. AND 20' ALLEY
ELEV:136.71 (CITY OF DETROIT DATUM)

SITE BENCHMARK # 3
N.E. BOLT OF LIGHT POLE ON SOUTH SIDE OF MARTIN LUTHER KING BLVD.
ELEV:137.38 (CITY OF DETROIT DATUM)




## LOCATION MAP
NO SCALE

## LEGEND

R. — RECORD
M. — MEASURED
C. — CALCULATED
F.I.R. — FOUND IRON ROD
S.I.R. — SET IRON ROD
S.P.K. — SET P.K. NAIL
F.P.K. — FOUND P.K. NAIL
B/C — BACK OF CURB
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BOL. — BOLLARD
M.W. — MONITORING WELL
SIGN
NUMBER PARKING SPACES
HANDICAP PARKING
G.W. — GUY WIRE
FENCE
SANITARY/COMBINED SEWER
STORM SEWER
WATERMAIN
OHW — OVERHEAD UTILITY LINES
EXISTING CONCRETE
EXISTING ASPHALT PAVEMENT SECTION
PROPOSED CONCRETE
PROPOSED ASPHALT PAVEMENT SECTION
+139.40 — EXISTING ELEVATION
697.01 — PROPOSED ELEVATION

NOTE: SEE STORM CALCULATIONS SHEET C13

NOTE: SEE CASTING SCHEDULE SHEET C13

**UTILITY NOTE:**
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GRAPHIC SCALE
20 0 10 20 40 80
( IN FEET )
1 INCH = 20 FEET

STATE OF MICHIGAN
RICHARD L GOLDSZER
ENGINEER
No. 6201033163
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| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 02-21-24 | N.L.R. | PER CITY REVIEW CYCLE 2 | 12-19-25 | W.J.C. | ISSUED FOR CONSTR |
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |

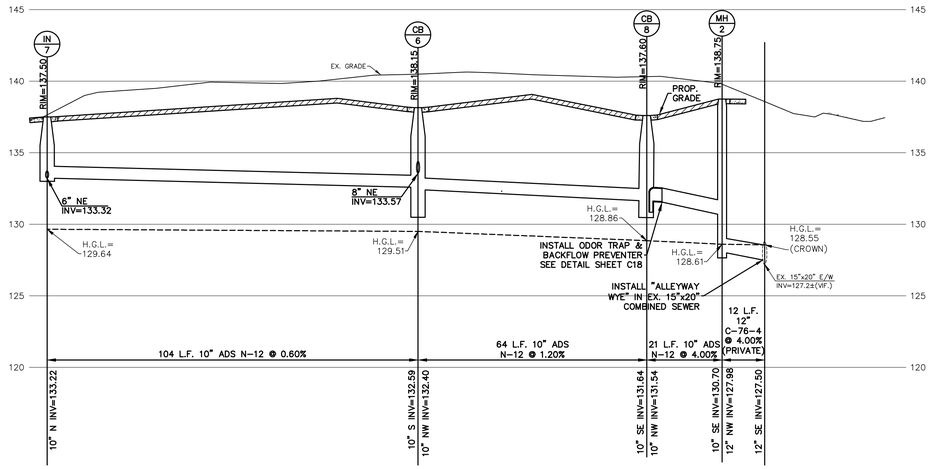
# DRAINAGE DISTRICT MAP
440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

| | |
|---|---|
| SURVEY BY | D.K./R.S. |
| DRAWN BY | N.L.R. |
| CHECKED BY | R.L.G. |
| APPROVED BY | R.L.G. |
| SCALE | 1"=20' |
| FOR | CASS CORRIDOR |
| DATE | 10-16-23 |

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CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS
28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
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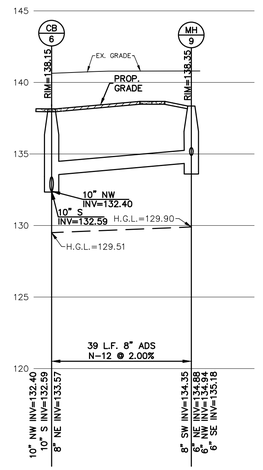
| | |
|---|---|
| ORDER NO. | 26-301 |
| FIELD BOOK | 1428-52 |
| DRAWING FILE NO. | |
| SHT. NO. | C12 |

\\SERVER-PC\Users\KOBS\KOBS 26-300\TWP\26-399\26-301 - CCNDC - Greystone Senior\CAD FILES\26-301 GRAYSTONE SENIOR LIVING - ENGINEERING\05-24-21-dwg, C13 - DRAINAGE DISTRICT MAP, 12/18/2025 2:55:31 PM



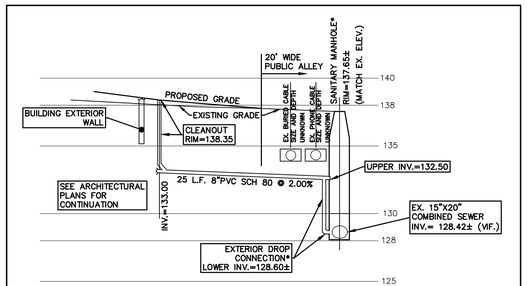

## STORM SEWER PROFILE

IN. #7 TO EX.15"x20"COMBINED SEWER
SCALE: VERT 1"=5'/HORIZ 1"=20'




## STORM SEWER PROFILE

C.B. #6 TO M.H. #9
SCALE: VERT 1"=5'/HORIZ 1"=20'




*NOTE: MANHOLE AND EXTERIOR DROP SHALL BE CONSTRUCTED IN ACCORDANCE WITH D.W.S.D. DWG. #330561

## SANITARY SEWER PROFILE

SCALE: VERT 1"=5'/HORIZ 1"=10'

**CASTING SCHEDULE**

| STRUCTURE NO. | MANUFACTURER | CATALOGUE NO. | RIM ELEV. | INVERTS | DEPTH | RISER HEIGHT |
|---|---|---|---|---|---|---|
| M.H. - 2 | E.J.I.W. | 1000 FRAME W/ TYPE A SOLID COVER | 138.75 | 10" SE INV=130.70<br>12" NW INV=127.98 | 10.51 | N/A |
| C.B. - 6 | E.J.I.W. | 5080 FRAME W/ 5000 M1 GRATE | 138.15 | 10" NW INV=132.40<br>10" S INV=132.59<br>8" NE INV=133.57 | 5.75 | N/A |
| IN. - 7 | E.J.I.W. | 5080 FRAME W/ 5000 M1 GRATE | 137.50 | 6" NE INV=133.32<br>10" N INV=133.22 | 4.28 | N/A |
| C.B. - 8 | E.J.I.W. | 5080 FRAME W/ 5000 M1 GRATE | 137.60 | 10" SE INV=131.64<br>10" NW INV=131.54 | 6.06 | N/A |
| CO - 10 | PVC | CLEANOUT CAP | 138.9 | 6" SW INV=135.54 | 3.36 | N/A |
| CO - 11 | PVC | CLEANOUT CAP | 139.1 | 6" NW INV=135.54 | 3.56 | N/A |
| CO - 12 | PVC | CLEANOUT CAP | 138.7 | 6" SE INV=135.54 | 3.16 | N/A |
| CO - 14 | PVC | CLEANOUT CAP | 138.4 | 6" SE INV=134.56 | 4.54 | N/A |

## Storm Sewer Design Sheet

Design Perameters:
Pipe Flow: Rational Method
Storm Duration: 10 Year Storm
Rainfall Intensity: I = 38.42*(T^0.208)/(12.33+D)^0.841
0.13 V min = 3.0 fts V max = 10.0 fts

Project Name: Cass Corridor Senior Living(Greystone)
GJ&C. Project #: 26-301
Designed By: R Goldszer
Date of Design: 7/31/2023, REV. 6/15/25

| Drainage District Area | From MH | To MH | Area Added ("A") | Imperv. ("C") | Equiv. Area (AxC) | Accum. Area | ("T") | ("I") Inten. In./Hr | Average Flow / Area (Qa) (cfs) | Diameter of Pipe (in) | Lenght of Line (ft) | Pipe Slope (%) | H.G. Slope (%) | Volocity (V) (fts) | Time of Flow flow (min) | H.G. Up Stream (Elev) | H.G. Down Stream (Elev) | Invert Elev. Up Stream (ft) | Invert Elev. Down Stream (ft) | Rim Elev. Up Stream (ft) | Rim Elev. Down Stream (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| C | ROOF | C.O. 11 | 0.076 | 0.95 | 0.072 | 0.072 | 5.00 | 5.644 | 0.41 | 6 | 5 | 1.16 | 0.53 | 3.08 | 0.03 | 130.23 | 130.20 | 135.60 | 135.54 | N/A | 139.10 |
| | C.O. 11 | MH # 9 | 0.000 | 0.95 | 0.000 | 0.072 | 5.03 | 5.637 | 0.41 | 6 | 18 | 2.00 | 0.53 | 4.04 | 0.07 | 130.20 | 130.10 | 135.54 | 135.18 | 139.10 | 138.35 |
| | | | | | | | 5.10 | | | | | | | | | | | | | | |
| B | ROOF | C.O. 10 | 0.094 | 0.95 | 0.089 | 0.089 | 5.00 | 5.644 | 0.50 | 6 | 5 | 1.16 | 0.82 | 3.08 | 0.03 | 130.14 | 130.10 | 135.60 | 135.54 | N/A | 138.90 |
| | C.O. 10 | MH # 9 | 0.000 | 0.95 | 0.000 | 0.089 | 5.03 | 5.637 | 0.50 | 6 | 11 | 6.00 | 0.81 | 7.00 | 0.03 | 130.10 | 130.01 | 135.54 | 134.88 | 138.90 | 138.35 |
| | | | | | | | 5.05 | | | | | | | | | | | | | | |
| A | ROOF | C.O. 12 | 0.049 | 0.95 | 0.047 | 0.047 | 5.00 | 5.644 | 0.26 | 6 | 5 | 1.16 | 0.22 | 3.08 | 0.03 | 130.02 | 130.01 | 135.60 | 135.54 | N/A | 138.70 |
| | C.O. 12 | MH # 9 | 0.000 | 0.95 | 0.000 | 0.047 | 5.03 | 5.637 | 0.26 | 6 | 52 | 1.16 | 0.22 | 3.08 | 0.28 | 130.01 | 129.90 | 135.54 | 134.94 | 138.70 | 138.35 |
| | | | | | | | 5.31 | | | | | | | | | | | | | | |
| J | MH # 9 | CB # 6 | 0.035 | 0.20 | 0.007 | 0.215 | 5.31 | 5.561 | 1.20 | 8 | 39 | 2.00 | 0.99 | 4.90 | 0.13 | 129.90 | 129.51 | 134.35 | 133.57 | 138.35 | 138.15 |
| | | | | | | | 5.44 | | | | | | | | | | | | | | |
| D, E, & F | ROOF | CO # 14 | 0.082 | 0.95 | 0.078 | 0.078 | 5.00 | 5.644 | 0.44 | 6 | 3 | 10.00 | 0.62 | 9.04 | 0.01 | 130.33 | 130.31 | 134.56 | 134.26 | N/A | 138.40 |
| D, E, & F | CO # 14 | IN # 7 | 0.000 | 0.95 | 0.000 | 0.078 | 5.01 | 5.643 | 0.44 | 6 | 107 | 1.16 | 0.62 | 3.08 | 0.58 | 130.31 | 129.64 | 134.56 | 133.32 | 138.40 | 137.50 |
| G | IN # 7 | CB # 6 | 0.076 | 0.84 | 0.064 | 0.142 | 5.58 | 5.489 | 0.78 | 10 | 104 | 0.60 | 0.13 | 3.11 | 0.56 | 129.64 | 129.51 | 133.22 | 132.59 | 137.50 | 138.15 |
| | | | | | | | 6.14 | | | | | | | | | | | | | | |
| H | CB # 6 | CB # 8 | 0.059 | 0.90 | 0.053 | 0.410 | 6.14 | 5.349 | 2.19 | 10 | 64 | 1.20 | 1.01 | 4.40 | 0.24 | 129.51 | 128.86 | 132.40 | 131.64 | 138.15 | 137.60 |
| | | | | | | | 6.38 | | | | | | | | | | | | | | |
| I | CB # 8 | MH # 2 (OCS) | 0.058 | 0.80 | 0.046 | 0.456 | 6.38 | 5.291 | 2.41 | 10 | 21 | 4.00 | 1.23 | 8.03 | 0.04 | 128.86 | 128.61 | 131.54 | 130.70 | 137.60 | 138.75 |
| | MH # 2 (OCS) | EX. 15 x 20 | 0.00 | 0.83 | 0.000 | 0.456 | 6.43 | 5.281 | 2.41 | 12 | 12 | 4.00 | 0.46 | 9.07 | 0.02 | 128.61 | 128.55 | 127.98 | 127.50 | 138.75 | N/A |
| | | | | | | | 6.45 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 128.55 | | | 127.20 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

RICHARD I. GOLDSZER ENGINEER No. 6201033163 STATE OF MICHIGAN REGISTERED PROFESSIONAL ENGINEER

| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |
| 12-19-25 | W.J.C. | ISSUED FOR CONSTR | | | |

# SEWER PROFILES AND CALCULATIONS

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

SURVEY BY D.K./R.S.
DRAWN BY N.L.R.
CHECKED BY R.L.G.
APPROVED BY R.L.G.

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SCALE 1"=20' FOR CASS CORRIDOR DATE 10-16-23

ORDER NO. 26-301
FIELD BOOK 1428-52
DRAWING FILE NO.

SHT. NO. C13

\\SERVER-PC\Jerry\JOBS\JOBS 26-300 THRU 26-399\26-301 - CCSOC - Greystone Senior\CAD FOLDER\26-301 GREYSTONE SENIOR LIVING - ENGINEERING #6-26-25.dwg, C13 - STORM SEWER PROFILES & CALCULATIONS, 12/18/2025 2:57:19 PM

**GREYSTONE Senior Living**
# 440, 446, & 460 Martin Luther King Blvd.
City of Detroit Project Name: **BLD2025-00031**
Post-Construction Storm Water Management Ordinance (PCSWMO) Plan

**PCSWMO Applicability**

Total Development Site = 28,499 S.F. = 0.654 Acres

The Construction Activity Area that creates or replaces impervious surface (the REGULATED Construction Activity)
= New Building (13,042 S.F.) + 8,696 S.F new impervious paving
= 21,738 S.F. = 0.4990 Ac. (See Regulated Areas Summary)

Since the development creates or replaces LESS than 0.5 acres of impervious surface, the PCSWMO DOES NOT APPLY.

The storm water generated by this site outlets to a DWSD 15"x 20" combined sewer flowing westerly in the alley north of the site.
TABLE 1:

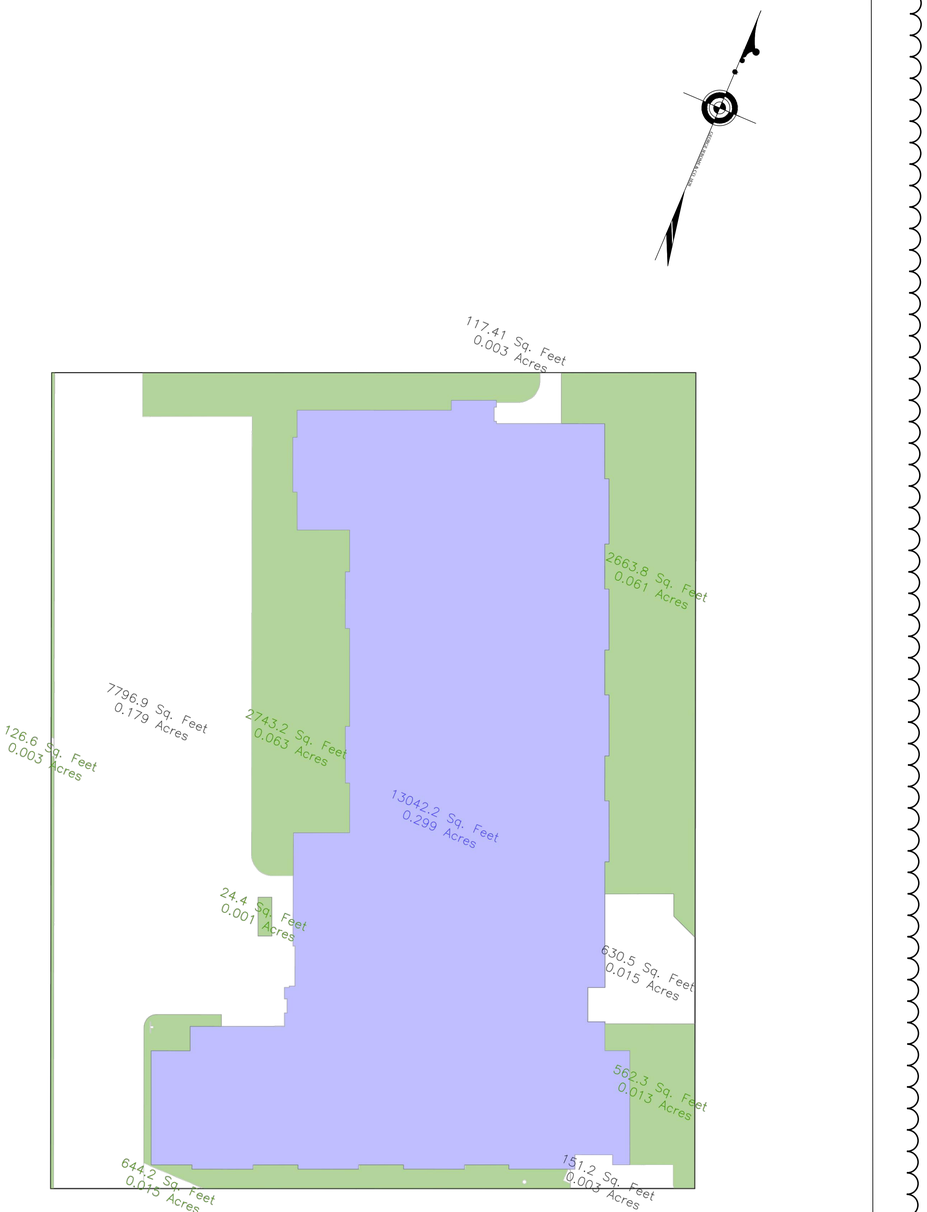
| Table 1. Site conditions | | |
|---|---|---|
| - | Value | Unit |
| Total Development Area | 0.654 | Acres |
| Construction Activity Area | 0.654 | Acres |
| Regulated Construction Activity Area | 0.4990 | Acres |
| Measured Infiltration Rate | 0.0* | In/Hr |
| Existing Site Runoff Coefficient | 0.20 | unitless |
| Proposed Site Runoff Coefficient | 0.73 | unitless |

Prepared: July 07, 2025
GJC Order Number: 26-301



**TABLE 1: STORM WATER MANAGEMENT SYSTEM LONG-TERM MAINTENANCE SCHEDULE**

| MAINTENANCE ACTIVITIES | SYSTEM COMPONENTS | CATCH BASINS, INLETS & STORM SEWERS | PAVEMENT AREAS | FREQUENCY |
|---|---|---|---|---|
| **MONITORING/INSPECTION** | | | | |
| Inspect for sediment accumulation**/clogging of stone filter | | X | X | Annually |
| Inspect for erosion and integrity of banks and berms | | | | Annually and after major events |
| Inspect for Floatables, dead vegetation and debris | | | | Annually and after major events |
| inspect all components during wet weather and compare to as-built plans | | | | Annually |
| Monitor plantings/vegetation | | | | 2 times a year |
| Ensure means of access for maintenance remain clear/open | | X | X | Annually |
| **PREVENTIVE MAINTENANCE** | | | | |
| Mowing | | | | Up to 2 times/year* |
| Remove accumulated sediment | | X | X | As needed** |
| Remove floatables, dead vegetation and debris | | | | As needed |
| Replace or wash/reuse stone riser debris | | | | Every 3 years: more frequently if needed*** |
| Remove invasive plant species | | | | Annually |
| Sweeping of pavement surfaces (streets and parking areas) | | | X | As needed |
| **REMEDIAL ACTIONS** | | | | |
| Repair/stabilize area or erosion | | | | As needed |
| Replace dead plantings, bushes, trees | | | | As needed |
| Reseed bare areas | | | | As needed |
| Structural repairs or replacement in kind | | X | X | As needed |
| Make adjustment/repairs to ensure proper functioning | | X | X | As needed |
| Oil and gasoline spills | | X | X | immediately |




## REGULATED AREAS SUMMARY

ASPH./ CONC. AREAS=7796.9+630.5+151.2+117.4=8696.0 SQ. FT.
BUILDING AREA= 13042.2 SQ FT.
TOTAL IMPERVIOUS SURFACE (REGULATED AREA)=8696.0 SQ.FT.+13042.2 SQ.FT.= 21738.2 SQ.FT.=0.4990 ACRES

STATE OF MICHIGAN
RICHARD L GOLDSZER
ENGINEER
No. 6201033163
LICENSED PROFESSIONAL ENGINEER

**NOTE:**
**THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH THE CURRENT DWSD STANDARD SPECIFICATIONS AND DETAILS.**

| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |
| 12-19-25 | W.J.C. | ISSUED FOR CONSTR | | | |

# P.C.S.W.M.O./ REGULATED AREA PLAN

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

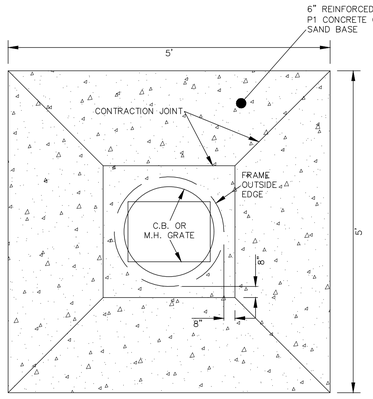
SURVEY BY D.K./R.S.
DRAWN BY N.L.R.
CHECKED BY R.L.G.
APPROVED BY R.L.G.
SCALE N/A | FOR CASS CORRIDOR | DATE 01-27-23

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SHT. NO. **C14**

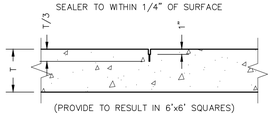
\\SERVER-PC\Users\JOBS\JOBS 26-300 THRU 26-399\26-301 - CONC - Greystone Senior\CAD FILES\26-301 GREYSTONE SENIOR LIVING - DETAILS 01-04-25.dwg, C14 - PCSWMO, 12/18/2025 3:11:42 PM




NOTE: ALL CATCH BASIN AND MANHOLE CASTINGS AND OTHER STRUCTURES WITHIN THE PAVEMENT SHALL BE BOXED OUT AS SHOWN.

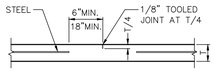
## 6' x 6' CATCH BASIN AND MANHOLE BOXOUT
NO SCALE

NOTE:
1. JOINT SHALL FIRST BE SAWED 1/4" WIDE AND 1/3 OF THICKNESS DEEP.
2. JOINT SHALL THEN BE RESAWED 1/2" WIDE AND 1" DEEP, FILL WITH JOINT SEALER TO WITHIN 1/4" OF SURFACE

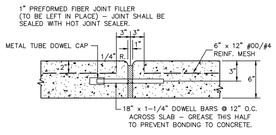



(PROVIDE TO RESULT IN 6'x6' SQUARES)

## TRANSVERSE CONTRACTION JOINT
NO SCALE

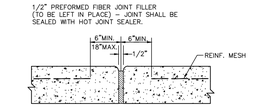



## CONTRACTION JOINT
NO SCALE



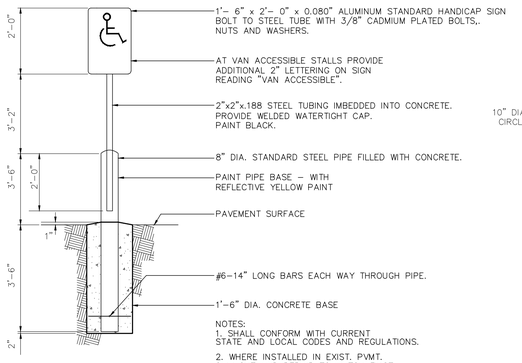

NOTE: THE FILLER STRIP SHALL BE LEFT IN PLACE AND THE JOINT FORMED WHILE THE CONCRETE IS STILL FRESH AND SHALL BE SEALED AS PROVIDED BY CURRENT M.D.S.H. STANDARDS.

## EXPANSION JOINT
NO SCALE



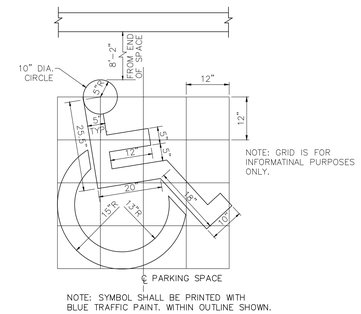

NOTE: THE FILLER STRIP SHALL BE LEFT IN PLACE AND THE JOINT FORMED WHILE THE CONCRETE IS STILL FRESH AND SHALL BE SEALED AS PROVIDED BY CURRENT M.D.S.H. STANDARDS.

## EXPANSION JOINT
NO SCALE




NOTES:
1. SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.
2. WHERE INSTALLED IN EXIST. PVMT. SAW CUT AND REPAIR TO MATCH EXIST.

## HANDICAPPED PARKING SIGN
NO SCALE

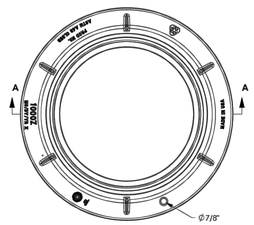


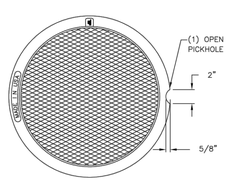

NOTE: GRID IS FOR INFORMATINAL PURPOSES ONLY.

℄ PARKING SPACE

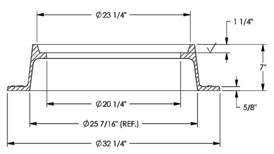
NOTE: SYMBOL SHALL BE PRINTED WITH BLUE TRAFFIC PAINT. WITHIN OUTLINE SHOWN.

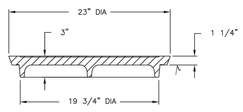
## STANDARD "HANDICAPPED" SYMBOL FOR PARKING SPACE
NO SCALE




PLAN VIEW

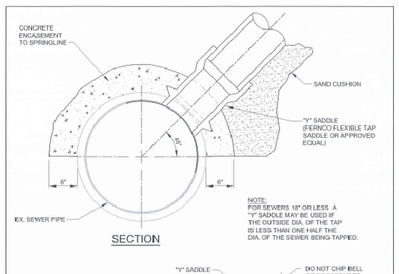



COVER SECTION

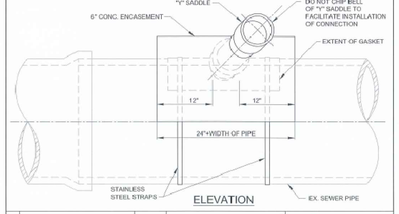
## EJIW 1000Z FRAME W/ 1000A COVER
NO SCALE

NOTE:
THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH THE CURRENT DWSD STANDARD SPECIFICATIONS AND DETAILS.




NOTE:
FOR SEWERS 18" OR LESS A "Y" SADDLE MAY BE USED IF THE OUTSIDE DIA. OF THE TAP IS LESS THAN ONE HALF THE DIA. OF THE SEWER BEING TAPPED.

SECTION



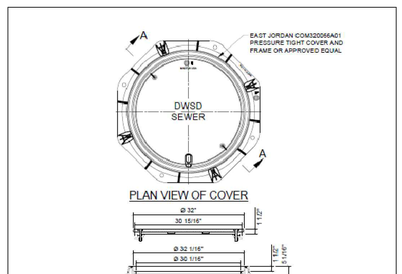

ELEVATION

| REV | DESCRIPTION | DATE |
|---|---|---|
| | REVISIONS | |

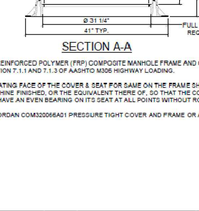
CONNECTION, SADDLE TO LATERAL SEWER

CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
ENGINEERING DIVISION

SCALE NONE | SHEET 1 OF 1
DATE 09/2015 | DWG. No. 3331 11-01




PLAN VIEW OF COVER




SECTION A-A

NOTES:
1. FIBER REINFORCED POLYMER (FRP) COMPOSITE MANHOLE FRAME AND COVER, AS NOTED IN SECTION 7.1.1 AND 7.1.3 OF AASHTO M306 HIGHWAY LOADING.

THE SEATING FACE OF THE COVER & SEAT FOR SAME ON THE FRAME SHALL BE MACHINE FINISHED, OR THE EQUIVALENT THERE OF, SO THAT THE COVER SHALL HAVE AN EVEN BEARING ON ITS SEAT AT ALL POINTS WITHOUT ROCKING OR TILTING.

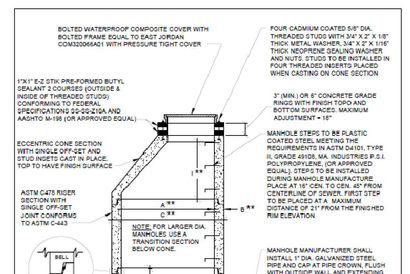
2. EAST JORDAN COM3200668A01 PRESSURE TIGHT COVER AND FRAME OR APPROVED EQUAL.

| REV | DESCRIPTION | DATE |
|---|---|---|
| | REVISIONS | |

MANHOLE FRAME AND COVER WITH LOGO - SEWER

CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
ENGINEERING DIVISION

SCALE NONE | SHEET 1 OF 1
DATE 9/2018 | DWG. No. 3305610-03




NOTE:
REFER TO DETAIL SHEET 330561-05 FOR MANHOLE ASSEMBLY TABLE **.

| REV | DESCRIPTION | DATE |
|---|---|---|
| | REVISIONS | |

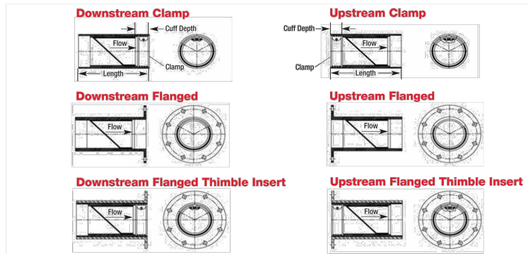
STANDARD MANHOLE PRECAST

CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
ENGINEERING DIVISION

SCALE NONE | SHEET 1 OF 1
DATE 09/2018 | DWG. No. 3305610-02

STATE OF MICHIGAN
RICHARD L GOLDSZER
ENGINEER
No 6201033163
LICENSED PROFESSIONAL ENGINEER

NOTE:
THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH THE CURRENT DWSD STANDARD SPECIFICATIONS AND DETAILS.




CheckMates® can be made for any pipe I.D. Built to fit in sizes from 3" to 78".

Flange shape and bolt pattern can be customized. Flangeless thimble inserts are available.

| | CHECKMATE® VALVE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NOMINAL PIPE SIZE I.D. | | OVERALL LENGTH* | | NUMBER OF CLAMPS | CUFF DEPTH | | BACK PRESSURE RATING** | | WEIGHT | |
| | Inches | Millimeters | Inches | Millimeters | | Inches | Millimeters | Feet | Meters | lbs | Kg |
| Low Pressure | 3 | 75 | 5.1 | 130 | 1 | 1.5 | 38 | 5 | 1.5 | 1.5 | 0.7 |
| | 4 | 100 | 7.9 | 201 | 1 | 1.5 | 38 | 5 | 1.5 | 1.5 | 0.7 |
| Standard Pressure | 3 | 75 | 5.1 | 130 | 1 | 1.5 | 38 | 85 | 26.0 | 3 | 1.4 |
| | 4 | 100 | 7.9 | 201 | 1 | 1.5 | 38 | 85 | 26.0 | 3 | 1.5 |
| | 5 | 125 | 9.5 | 241 | 1 | 1.5 | 38 | 83 | 25.3 | 4 | 2 |
| | 6 | 150 | 11.0 | 279 | 1 | 2.0 | 51 | 83 | 25.3 | 9 | 4 |
| | 7 | 175 | 12.8 | 325 | 1 | 2.0 | 51 | 79 | 24.1 | 11 | 5 |
| | 8 | 200 | 15.2 | 386 | 1 | 2.0 | 51 | 79 | 24.1 | 13 | 6 |
| | 9 | 225 | 15.4 | 391 | 1 | 2.0 | 51 | 75 | 22.9 | 17 | 8 |
| | 10 | 250 | 16.1 | 409 | 1 | 2.0 | 51 | 71 | 21.6 | 20 | 10 |
| | 12 | 300 | 19.8 | 503 | 1 | 2.0 | 51 | 68 | 20.1 | 37 | 17 |
| | 14 | 350 | 25.8 | 655 | 1 | 4.0 | 102 | 64 | 20.0 | 110 | 50 |
| | 16 | 400 | 28.6 | 726 | 1 | 4.0 | 102 | 60 | 18.3 | 133 | 52 |
| | 18 | 450 | 31.0 | 787 | 1 | 4.0 | 102 | 56 | 17.1 | 143 | 65 |
| | 20 | 500 | 42.1 | 1069 | 2 | 8.0 | 203 | 53 | 16.2 | 223 | 102 |
| | 24 | 600 | 47.5 | 1207 | 2 | 8.0 | 203 | 45 | 13.7 | 304 | 137 |
| | 30 | 750 | 54.9 | 1395 | 2 | 8.0 | 203 | 38 | 11.6 | 500 | 227 |
| | 36 | 900 | 62.3 | 1582 | 2 | 8.0 | 203 | 30 | 9.1 | 828 | 376 |
| | 42 | 1050 | 70.6 | 1793 | 2 | 8.0 | 203 | 26 | 7.9 | 1423 | 646 |
| | 48 | 1200 | 79.0 | 2007 | 2 | 8.0 | 203 | 23 | 7.0 | 1801 | 817 |
| | 54 | 1350 | 86.4 | 2195 | 2 | 8.0 | 203 | 17 | 5.2 | 2700 | 1225 |
| | 60 | 1500 | 96.8 | 2459 | 2 | 9.0 | 229 | 15 | 4.6 | 3315 | 1504 |
| | 72 | 1800 | 119.0 | 3023 | 3 | 12.0 | 305 | 13 | 4.0 | 6100 | 2767 |
| | 78 | 1950 | 119.0 | 3023 | 3 | 12.0 | 305 | 13 | 4.0 | 7000 | 3176 |

*Shorter lengths available.

**Back pressure measured from pipe invert. Higher back pressure ratings available. Consult factory.



## Dependable Backflow Prevention

The CheckMate® Inline Check Valve is the valve of choice for both municipal and industrial applications - including stormwater, wastewater, highway run-off, CSO, SSO and flood control. CheckMate® Valves prevent unwanted backflow that can cause surcharging and flooding.

CheckMate® Inline Check Valves have become the specified solution for residential and commercial areas where complete, dependable backflow prevention is necessary. The CheckMate® is not simply a molded part. Rather it is hand-fabricated, utilizing various natural and synthetic elastomers and fabric ply reinforcement to create a unibody construction. There are no mechanical parts or fasteners to catch debris, corrode, or fail, making the CheckMate® maintenance-free. With seven elastomers to select from, the CheckMate® can be custom engineered to resist chemicals, grease and oils typically found in stormwater, wastewater and industrial applications.

The CheckMate® Valve boasts extremely low headloss, allowing for near 100% flow capacity. Its inherent design makes it the most user-friendly inline check valve on the market today. From the upstream or downstream end of the pipe, simply insert the valve into position and clamp it into place. Typically no modification to the pipe or structure is required to install the CheckMate®. Because the CheckMate® is recessed inside of the pipe, additional permitting is not required. The result is savings in both installation time and operational cost.

The valve can successfully withstand severe winter freezes, typhoons, hurricanes and flooding. The CheckMate® also minimizes damage to wetlands, beaches and residential areas, eliminates hydraulic surges to wastewater treatment plants and saves municipalities millions of dollars in maintenance and treatment costs.

### Residential and Municipal Sewers

CheckMate® Inline Check Valves have become a frequently specified solution for residential and municipal areas where complete, dependable backflow prevention is necessary. The CheckMate® Valve's maintenance-free, passive operation provides years of trouble-free service.

### CSO, SSO and Outfalls

CheckMate® Valves are used for interceptor, manhole and outfall pipelines because they maximize pipeline storage and capacity while preventing water from backflowing into a sewage treatment plant. The CheckMate® Valve's innovative inline design allows it to be easily installed without modifications to structures.

### Stormwater, MS4, Highway Run-off and Site Drainage

CheckMate® Inline Check Valves are the valve of choice for both municipalities and commercial property owners to prevent costly flood damage and to maximize system storage. The CheckMate's® low cracking pressure and headloss provide rapid drainage.

### Flow Equalization Basins, Pump Stations and Effluent Discharge

CheckMate® Valves provide backflow prevention in between basins and also protect pumps and capital equipment. The CheckMate's® low headloss characteristics maximize flow efficiency.

### Odor Control

CheckMate® Inline Check Valves prevent sewer systems' offending odors from escaping, while still allowing water to discharge when needed. The CheckMate® Valve is designed to eliminate the backflow of unwanted methane and hydrogen sulfide gases that typically result in complaints about odor from the general public.






Tideflex Technologies

CheckMate® Configurations and Custom Designs

| DATE: | BY | REVISIONS | DATE: | BY | REVISIONS |
|---|---|---|---|---|---|
| 08-20-24 | W.J.C. | BID UPDATE | | | |
| 09-23-24 | W.J.C. | PERMITS | | | |
| 07-11-25 | W.J.C. | ADDENDUM #1 | | | |
| 12-19-25 | W.J.C. | ISSUED FOR CONSTR | | | |

# DETAILS

440, 446 & 460 MARTIN LUTHER KING JR. BLVD., CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

| | |
|---|---|
| SURVEY BY | D.K./R.S. |
| DRAWN BY | N.L.R. |
| CHECKED BY | R.L.G. |
| APPROVED BY | R.L.G. |

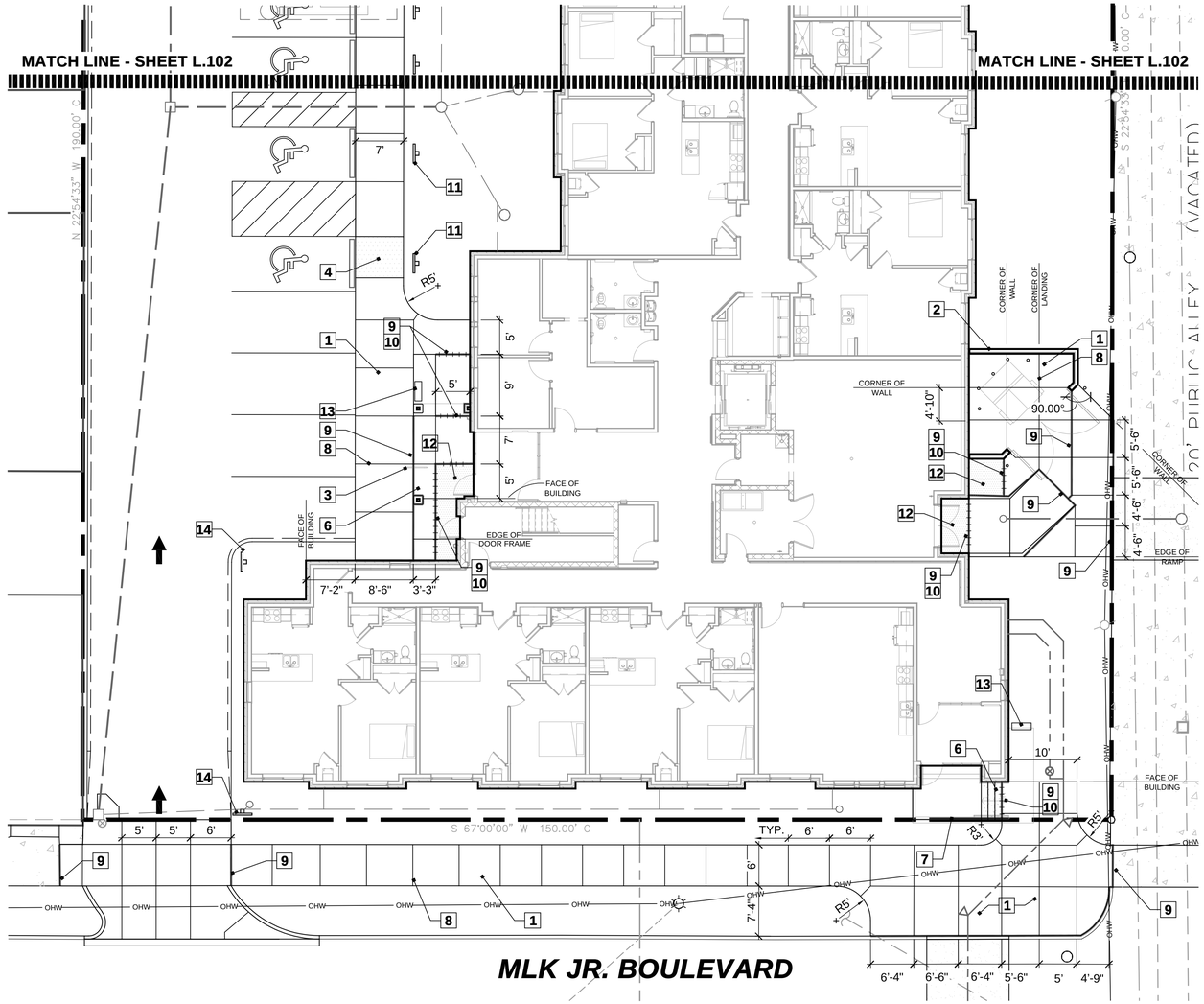
GEORGE JEROME & CO.
CONSULTING MUNICIPAL & CIVIL ENGINEERS • SURVEYORS
28304 HAYES ROSEVILLE, MI 48066 (586) 774-3000
www.GeorgeJerome.com

SCALE N/A | FOR CASS CORRIDOR | DATE 01-27-23

ORDER NO. 26-301
FIELD BOOK 1428-52
DRAWING FILE NO.

SHT. NO. C17

\\SERVER-PC\Drive2\JOBS\JOBS 26-300 THRU 26-399\26-301 - CCNDC - Corporate Avenue\CAD FOLDER\26-301 GRAYSTONE SENIOR LIVING - DETAILS 01-04-23.dwg, C17 - DETAILS, 12/18/2025 3:13:17 PM




# LANDSCAPE LAYOUT PLAN

**SCALE 1" = 10'**

0 5 10 20

1 inch = 10 feet

NORTH

**CONTRACTOR TO FOLLOW CONCRETE WALK SCORING AS SHOWN ON LANDSCAPE LAYOUT SHEETS**

Know what's below Call before you dig.

## NOTE KEY:

| | |
|---|---|
| 1 | NEW SIDEWALK - SEE CIVIL DRAWINGS. |
| 2 | DUMPSTER ENCLOSURE - SEE ARCH. DWGS. |
| 3 | HANDRAIL - SEE ARCH. DWGS. |
| 4 | BARRIER FREE RAMP - SEE CIVIL PLANS. |
| 5 | NO ITEM. |
| 6 | CONCRETE STEPS & PORCH - SEE ARCH. DWGS. |
| 7 | RAILING - SEE ARCH. DWGS. |
| 8 | CONTROL JOINT. |
| 9 | EXPANSION JOINT WITH SEALANT. |
| 10 | 12" LENGTH GREASED DOWELS - ¾" DIA. - 18" O.C. |
| 11 | B.F. SIGN -SEE CIVIL PLANS. |
| 12 | FROST SLAB - SEE ARCH. DWGS. |
| 13 | SPLASH BLOCK - SEE SHEET L.301 & L.302. |
| 14 | TRAFFIC SIGN - SEE CIVIL PLANS. |

## GENERAL GRADING NOTES:

A. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS, TYP.

B. PROVIDE POSITIVE DRAINAGE ON ALL WALKS.

C. DO NOT SCALE PRINTS.

D. CONTRACTOR TO CONTACT CIVIL ENGINEER WITH ANY DISCREPANCIES BETWEEN GRADES SHOWN AND ACTUAL GRADES ON SITE. DO NOT MAKE ADJUSTMENTS WITHOUT APPROVAL OF THE CIVIL ENGINEER AND/ OR THE LANDSCAPE ARCHITECT.

E. SEE CIVIL ENGINEERING DRAWINGS FOR UTILITY STRUCTURE LOCATIONS.

F. ALL TOP OF CURB ELEVATIONS SHOWN ARE FROM, OR CALCULATED BASED ON THE CIVIL ENGINEERING DRWGS.

G. SEE CIVIL ENGINEERING DRAWINGS FOR GRADING AND PAVEMENT ELEVATIONS FOR ALL WALKS, ROADS, CURBS, BUILDINGS, UTILITIES, ETC.

## GENERAL LAYOUT NOTES:

1.) Install 1/2" expansion joint where concrete walks meet building porches, typical.

2.) Install 1/2" expansion joint where concrete walks meet curbs, typ.

3.) Expansion joints in concrete sidewalks:
- 7' wd. sidewalk - 21' o.c. typ.
- 5' wd. sidewalk - 20' o.c. typ.
- 4' wd. sidewalk - 20' o.c. typ.
- 3' wd. sidewalk - 18' o.c. typ.

4.) Control joints in concrete sidewalks:
- 7' wd. sidewalk - 7' x 7' panel
- 5' wd. sidewalk - 5' x 5' panel
- 4' wd. sidewalk - 4' x 4' panel
- 3' wd. sidewalk - 3' x 3' panel

5.) Do not scale prints.

6.) All angles assumed to be 90 degrees unless otherwise noted.

7.) Concrete and Asphalt Walks to meet Porches flush (no step) unless otherwise noted.

8.) See Civil Engineering drawings for Layout of all Roads, Curbs, Buildings, Utilities, etc.

9.) All dimensions to Back of Curb unless otherwise noted.

FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

550 E. NINE MILE ROAD
FERNDALE, MICHIGAN 48220
PHONE 248.543.4100 FAX 248.543.4141

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PLANNING + DESIGN
143 cadycentre #79
northville, mi 48167

deakplanningdesign.com

440 W. MARTIN LUTHER KING JR BLVD

# GREYSTONE

## SENIOR LIVING

DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 12.19.2025 | ISSUED FOR CONSTR. |
| 07.11.2025 | ADDENDUM #1 |
| 03.23.2024 | PERMITS |

SEAL

STATE OF MICHIGAN
STEPHEN L. DEAK
LANDSCAPE ARCHITECT
No. 1245
REGISTERED LANDSCAPE ARCHITECT

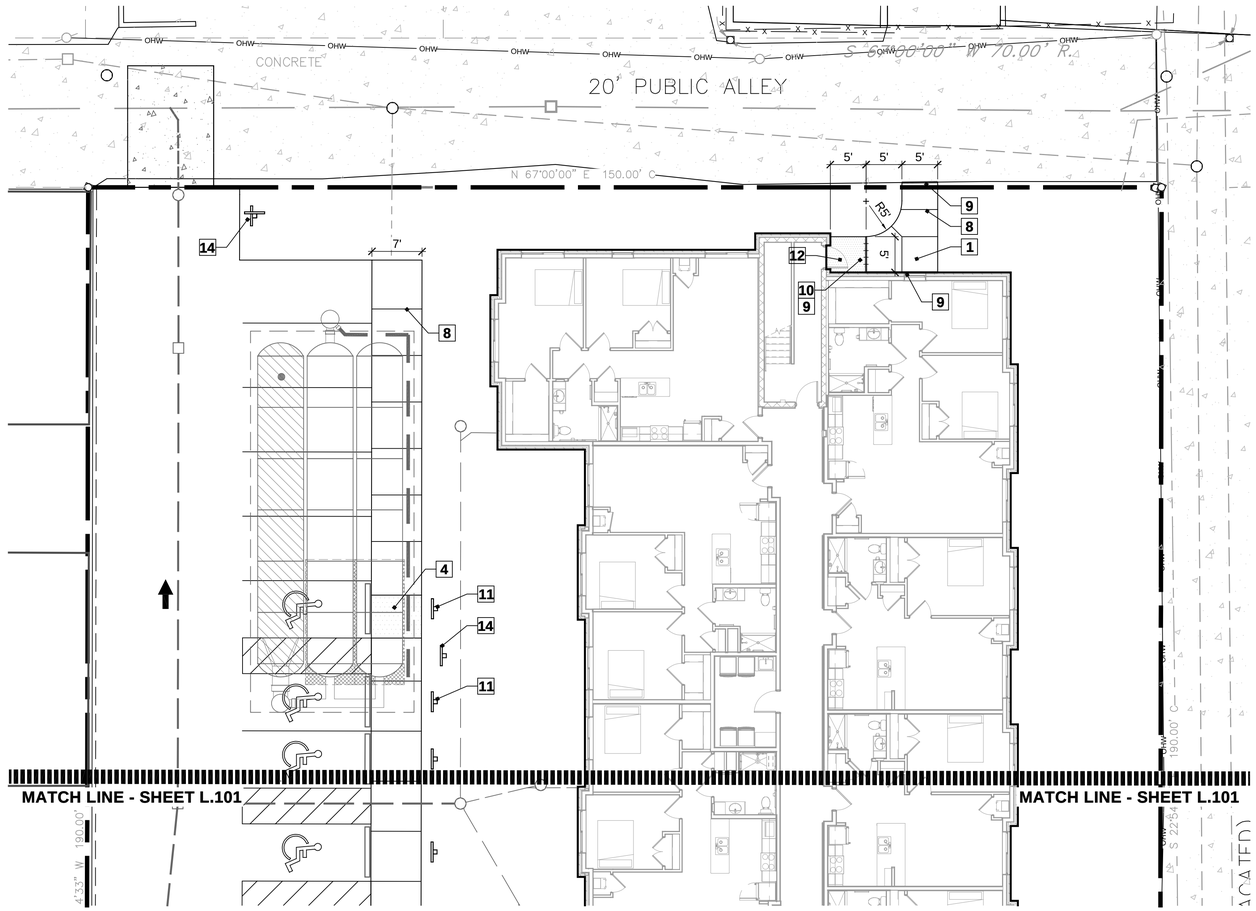
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

LANDSCAPE LAYOUT PLAN

DRAWING NUMBER

L.101




# LANDSCAPE LAYOUT PLAN

SCALE 1" = 10'

0 5 10 20

1 inch = 10 feet

NORTH

**CONTRACTOR TO FOLLOW CONCRETE WALK SCORING AS SHOWN ON LANDSCAPE LAYOUT SHEETS**

Know what's below
Call before you dig.

## NOTE KEY:

1

1. NEW SIDEWALK - SEE CIVIL DRAWINGS.
2. DUMPSTER ENCLOSURE - SEE ARCH. DWGS.
3. HANDRAIL - SEE ARCH. DWGS.
4. BARRIER FREE RAMP - SEE CIVIL PLANS.
5. NO ITEM.
6. CONCRETE STEPS & PORCH - SEE ARCH. DWGS.
7. RAILING - SEE ARCH. DWGS.
8. CONTROL JOINT.
9. EXPANSION JOINT WITH SEALANT.
10. 12" LENGTH GREASED DOWELS - $\frac{1}{2}$" DIA. - 18" O.C.
11. B.F. SIGN -SEE CIVIL PLANS.
12. FROST SLAB - SEE ARCH. DWGS.
13. SPLASH BLOCK - SEE SHEET L.301 & L.302.
14. TRAFFIC SIGN - SEE CIVIL PLANS.

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D. CONTRACTOR TO CONTACT CIVIL ENGINEER WITH ANY DISCREPANCIES BETWEEN GRADES SHOWN AND ACTUAL GRADES ON SITE. DO NOT MAKE ADJUSTMENTS WITHOUT APPROVAL OF THE CIVIL ENGINEER AND/ OR THE LANDSCAPE ARCHITECT.

E. SEE CIVIL ENGINEERING DRAWINGS FOR UTILITY STRUCTURE LOCATIONS.

F. ALL TOP OF CURB ELEVATIONS SHOWN ARE FROM, OR CALCULATED BASED ON THE CIVIL ENGINEERING DRWGS.

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4.) Control joints in concrete sidewalks:
- 7' wd. sidewalk - 7' x 7' panel
- 5' wd. sidewalk - 5' x 5' panel
- 4' wd. sidewalk - 4' x 4' panel
- 3' wd. sidewalk - 3' x 3' panel

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6.) All angles assumed to be 90 degrees unless otherwise noted.

7.) Concrete and Asphalt Walks to meet Porches flush (no step) unless otherwise noted.

8.) See Civil Engineering drawings for Layout of all Roads, Curbs, Buildings, Utilities, etc.

9.) All dimensions to Back of Curb unless otherwise noted.

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# GREYSTONE

## SENIOR LIVING

DETROIT MICHIGAN

| DATE | ISSUE |
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| 12.19.2025 | ISSUED FOR CONSTR. |
| 07.11.2025 | ADDENDUM #1 |
| 09.23.2024 | PERMITS |

SEAL

STATE OF MICHIGAN
STEPHEN J. DEAK
LANDSCAPE ARCHITECT
No. 1245
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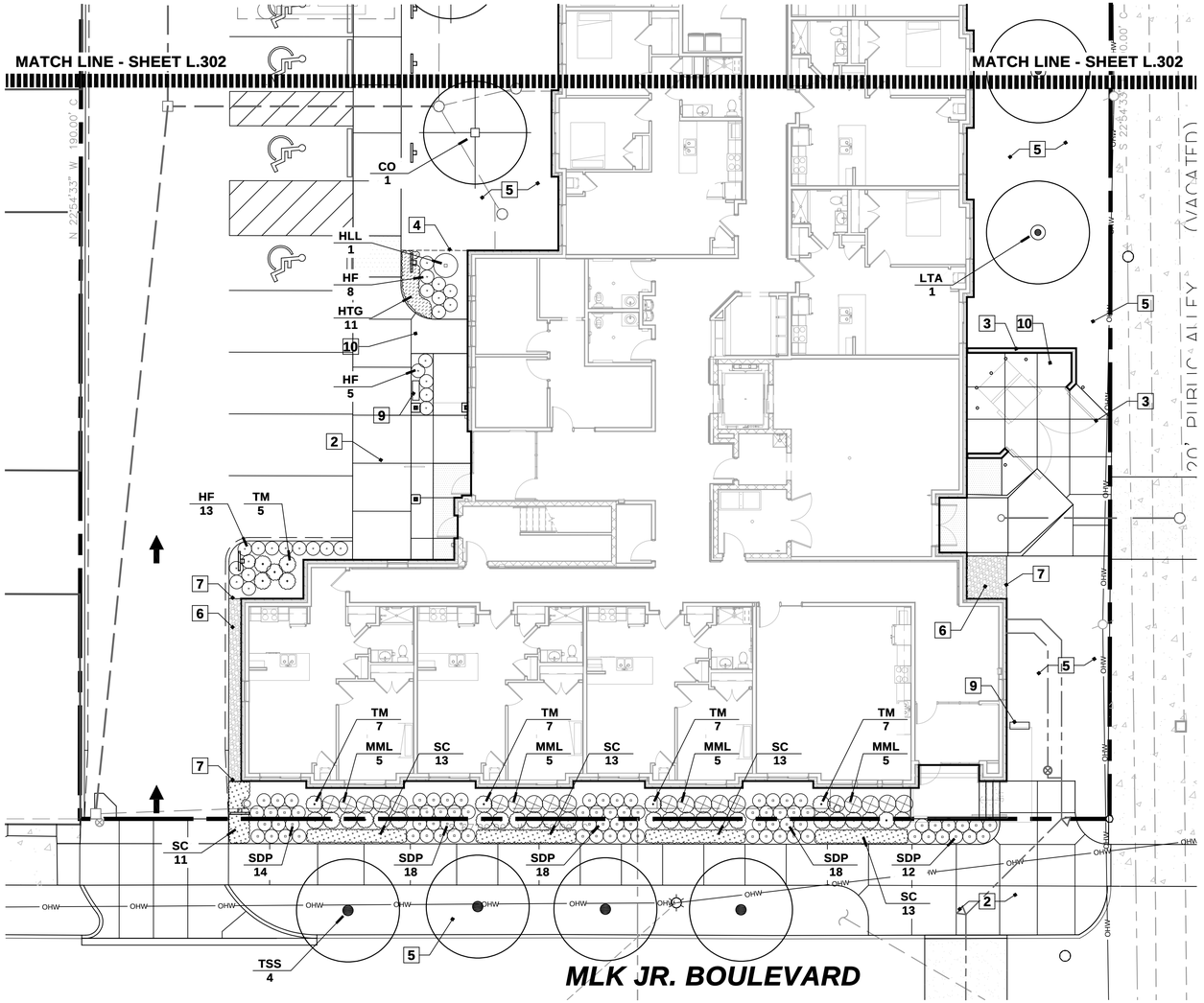
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

LANDSCAPE LAYOUT PLAN

DRAWING NUMBER

L.102




# SITE LANDSCAPE PLAN

SCALE 1" = 10'

0 5 10 20

1 inch = 10 feet

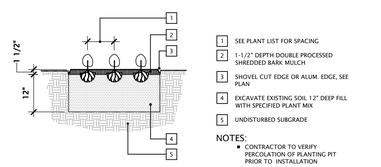
NORTH

**NOTE: PROVIDE TREE WATER DEVICE FOR EACH TREE - SEE SPECIFICATIONS.**

## PLANT LIST

| QUAN. | KEY | COMMON/ BOTANICAL NAME | SIZE | SPEC. | SPACE |
|---|---|---|---|---|---|
| 4 | CO | Prairie Sentinel Hackberry<br>*Celtis occidentails 'Prairie Sentinel'* | 2.5" cal. | B&B | AS SHOWN |
| 5 | LTA | Arnold Tulip Tree<br>*Liriodendron tulipifera 'Arnold'* | 2.5" cal. | B&B | AS SHOWN |
| 4 | TSS | Summer Sprite Linden<br>*Tilia cordata 'Summer Sprite'* | 2" Cal. | B&B | AS SHOWN |
| 33 | TM | Moon Yew<br>*Taxus x.m. 'Moon'* | 30"Ht. | B&B | AS SHOWN |
| 1 | HLL | Little Lime Hydrangea<br>*Hydrangea paniculata 'Little Lime'* | 5 Gal. | Cont | AS SHOWN |
| 80 | SDP | Double Play Blue Kazoo Spirea<br>*Spirea m. 'SMSMBK'* | 3 Gal. | Cont. | AS SHOWN |
| 26 | HF | Francee Hosta<br>*Hosta x 'Francee'* | 1 Gal. | Cont. | 24" O.C. |
| 11 | HTG | Timeless Glow Coral Bells<br>*Heuchera 'Timeless Glow'* | 1 Gal. | Cont. | 18" O.C. |
| 20 | MML | Morning Light Japanese Silver Grass<br>*Miscanthus sinensis 'Morning Light'* | 3 gal. | Cont. | AS SHOWN |
| 63 | SC | Carl Sedum<br>*Sedum 'Carl'* | 1 Gal. | Cont. | 18" O.C. |

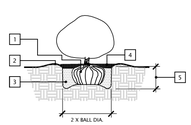
NOTE: CONTRACTOR TO VERIFY ALL PLANT QUANTITIES ON SITE LANDSCAPE PLAN SHEETS.




1. SEE PLANT LIST FOR SPACING
2. 1-1/2" DEPTH DOUBLE PROCESSED SHREDDED BARK MULCH
3. SHOVEL CUT EDGE OR ALUM. EDGE, SEE PLAN
4. EXCAVATE EXISTING SOIL 12" DEEP FILL WITH SPECIFIED PLANT MIX
5. UNDISTURBED SUBGRADE

NOTES:
- CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION

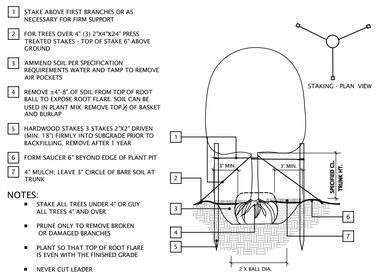
### 3 PERENNIAL/ GROUNDCOVER PLANTING DETAIL
NOT TO SCALE




1. REMOVE SOIL FROM ROOT BALL MATERIALS TOP ⅔ OF BURLAP FROM ROOT BALL MOUND TO FORM SAUCER
2. FORM SAUCER WITH 3" CONTINUOUS RIM
3. SPECIFIED PLANTING MIX. WATER & TAMP TO REMOVE AIR POCKETS
4. 4" MULCH - DO NOT BURY TRUNK OR CROWN OF PLANT
5. 18" MIN. OR DEPTH OF ROOT BALL.

NOTES:
- PRUNE BRANCHES TO THIN OR MATCH, RETAIN NORMAL PLANT SHAPE.
- ROOT FLARE OF SHRUBS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS THEY BORE TO ORIGINAL GRADE
- REMOVE ALL FIBER, PLASTIC OR METAL CONTAINERS

### 2 SHRUB PLANTING
NOT TO SCALE




1. STAKE ABOVE FIRST BRANCHES OR AS NECESSARY FOR FIRM SUPPORT
2. FOR TREES OVER 4" (3) 2"x4"X24" PRESS TREATED STAKES - TOP OF STAKE 6" ABOVE GROUND
3. AMMEND SOIL PER SPECIFICATION REQUIREMENTS WATER AND TAMP TO REMOVE AIR POCKETS
4. REMOVE ±4"-8" OF SOIL FROM TOP OF ROOT BALL TO EXPOSE ROOT FLARE. SOIL CAN BE USED IN PLANT MIX. REMOVE TOP ⅔ OF BASKET AND BURLAP
5. HARDWOOD STAKES 3 STAKES 2"x2" DRIVEN (MIN. 18") FIRMLY INTO SUBGRADE PRIOR TO BACKFILLING. REMOVE AFTER 1 YEAR
6. FORM SAUCER 6" BEYOND EDGE OF PLANT PIT
7. 4" MULCH, LEAVE 3" CIRCLE OF BARE SOIL AT TRUNK

NOTES:
- STAKE ALL TREES UNDER 4" OR GUY ALL TREES 4" AND OVER
- PRUNE ONLY TO REMOVE BROKEN OR DAMAGED BRANCHES
- PLANT SO THAT TOP OF ROOT FLARE IS EVEN WITH THE FINISHED GRADE
- NEVER CUT LEADER
- FLAG GUYING STRAPS WITH SURVEY OR TAPE "ARBORTIE" NYLON STRAPS

### 1 DECIDUOUS TREE PLANTING
NOT TO SCALE

## NOTE KEY:

1
1. NO ITEM.
2. NEW SIDEWALK - SEE LAYOUT LANDSCAPE LAYOUT SHEETS AND CIVIL DRAWINGS.
3. DUMPSTER ENCLOSURE - SEE ARCH. DWGS.
4. SHOVEL CUT BED EDGE - ALL NEW LANDSCAPE BEDS
5. NEW NON-IRRIGATED SEEDED LAWN OVER TOP SOIL - SEE NOTES THIS SHEET.
6. 2" DIA. EGGSTONE OVER FILTER FABRIC
7. STEEL LANDSCAPE EDGING - SEE NOTE THIS SHEET
8. NO ITEM
9. 12 in. x 34" HEAVY DUTY SPLASH BLOCK - MODEL# DSSB-36 TRAFFIC SAFETY WAREHOUSE - COLOR-BLACK
10. NO ITEM.
11. NO ITEM.

## GENERAL PLANTING NOTES:

A. ALL TREES TO HAVE CLAY OR LOAM BALLS, TREES WITH SAND BALLS **WILL BE REJECTED**.

B. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.

C. ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER, TREES WITH FORKED OR IRREGULAR TRUNKS **WILL NOT BE ACCEPTED.**

D. ALL MULTI-STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL **NOT BE ACCEPTED**.

E. ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.

F. NO MACHINERY IS TO BE USED WITHIN THE DRIPLINE OF EXISTING TREES. HAND GRADE ALL LAWN AREAS WITHIN DRIPLINE OF EXISTING TREES.

G. ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.

H. IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS, WALKS AND PAVED AREAS.

I. ALL PLANTING BEDS SHALL RECEIVE 3" SHREDDED BARK MULCH. SEE SPECIFICATIONS.

J. SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS.

## PLANT MIX

**ALL PLANTING/ PERENNIAL BEDS TO RECEIVE:**

(1) 6 CU FT. ORGANIC COMPOST

(1) 50LB BAG COMPOSTED POULTRY MANURE
"CHICK MAGIC" 5-3-2 WWW.CHICKMAGIC.NET (262)495-6220

(1) 5 LB BAG SHEMINS 13-13-13 MULTI PURPOSE FERTILIZER

**PER 100 SQ FT BED AREA.**

**HAND TILL INTO SOIL TO A DEPTH OF 12" MINIMUM**

## PLANT BED PREPARATION

EXCAVATE PLANT BEDS TO DEPTH SHOWN ON DETAILS - DISPOSE OF SPOILS OFF SITE.

ALL PLANT BEDS TO RECEIVE **CONTINUOUS** PLANT MIX AS SPECIFIED (NOT INDIVIDUAL PLANT PITS)

## TOPSOIL

CONTRACTOR TO TILL OR DISK SUBGRADE TO 6" DEPTH AND INSTALL 4" COMPACTED DEPTH TOPSOIL IN ALL LAWN AREAS - FROM ONSITE STOCKPILE OR PROVIDED TO COMPLETE THE PROJECT

## LAWN SEED MIX – "NON-IRRIGATED"

| SEED TYPE | PROPORTION | PURITY | GERMINATION |
|---|---|---|---|
| PENNFINE PERENNIAL RYE | 20% | 90% | 90% |
| E.KENTUCKY 289 COMMON BLUEGRASS | 20% | 90% | 90% |
| PENN LAWN FESCUE | 60% | 90% | 85% |

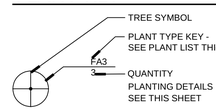
NO NOXIOUS WEED SEEDS PERMITTED.
FERTILIZER FOR "NON-IRRIGATED" LAWN 10-10-10

## MULCH

**MULCH TO BE NATURAL DOUBLE SHREDDED HARDWOOD BARK MULCH**

**NO GROUND WOOD PALETTE MULCH PERMITTED**
**NO COLOR OR DYE ADDITIVES PERMITTED**

## PLANT KEY




## LANDSCAPE EDGING

LOCATION AS SPECIFIED ON PLAN -
STEEL LANDSCAPE EDGING: DURAEDGE - ¼" X 4"
COLOR: BLACK; INSTALLED PER MANUFACTURER SPECS.

## WATERING

CONTRACTOR RESPONSIBLE FOR MONITORING THE WATERING OF ALL PLANTINGS AND NEWLY PLANTED LAWN AREAS FOR ONE YEAR FROM THE START OF THE WARRANTY PERIOD.

ANY PLANTING THAT PERISHES DUE TO LACK OF WATER, OR OVERWATERING, DOES NOT QUALIFY AS THE REQUIRED REPLACEMENT PLANTING AS STATED IN THE SPECIFICATION, AND SHALL BE REPLACED AT NO COST TO THE OWNER.

NEWLY PLANTED LAWN AREAS THAT PERISH DUE TO LACK OF WATER, OR OVERWATERING, DO NOT QUALIFY AS THE REQUIRED REPLACEMENT TO ESTABLISH A HEALTHY FULL DENSE LAWN AS STATED IN THE SPECIFICATION, AND SHALL BE REPLACED AT NO COST TO THE OWNER.

Know what's below
Call before you dig.

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ARCHITECTS AND PLANNERS

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DETROIT MICHIGAN

# GREYSTONE
SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 12.19.2025 | ISSUED FOR CONSTR. |
| 07.11.2025 | ADDENDUM #1 |
| 08.23.2024 | PERMITS |

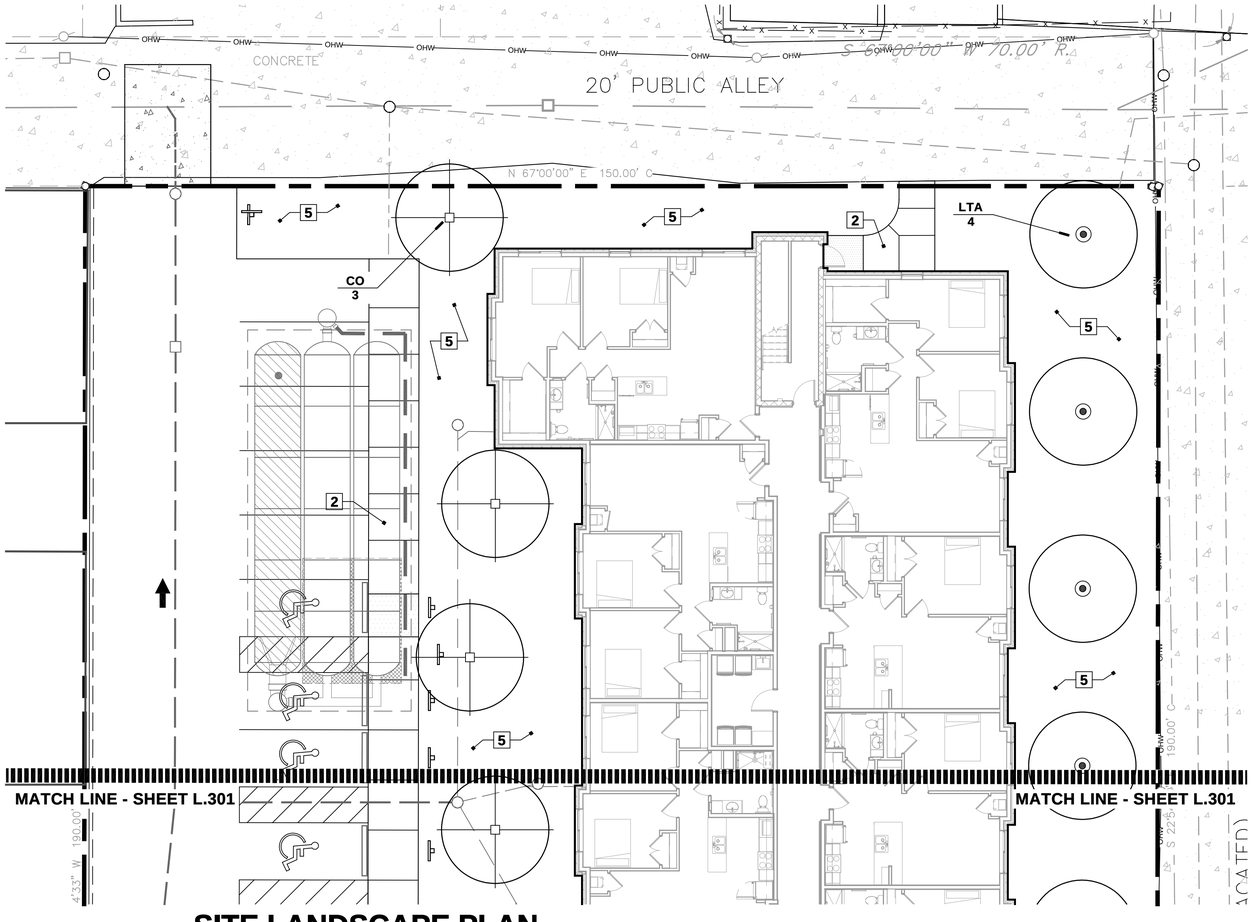
SEAL




FSP PROJECT NO.
CCD18.002

DRAWING TITLE
LANDSCAPE PLAN

DRAWING NUMBER
L.301




## SITE LANDSCAPE PLAN

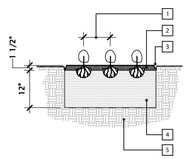
SCALE 1" = 10'

0 5 10 20

1 inch = 10 feet

NORTH

**NOTE: PROVIDE TREE WATER DEVICE FOR EACH TREE - SEE SPECIFICATIONS.**

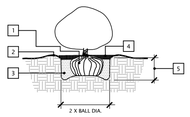



1. SEE PLANT LIST FOR SPACING
2. 1-1/2" DEPTH DOUBLE PROCESSED SHREDDED BARK MULCH
3. SHOVEL CUT EDGE OR ALUM. EDGE, SEE PLAN
4. EXCAVATE EXISTING SOIL 12" DEEP FILL WITH SPECIFIED PLANT MIX
5. UNDISTURBED SUBGRADE

NOTES:
- CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION

### 3 PERENNIAL/ GROUNDCOVER PLANTING DETAIL

NOT TO SCALE




1. REMOVE SOIL FROM ROOT BALL. MATERIALS TOP ⅓ OF BURLAP FROM ROOT BALL MOUND TO FORM SAUCER
2. FORM SAUCER WITH 3" CONTINUOUS RIM
3. SPECIFIED PLANTING MIX. WATER & TAMP TO REMOVE AIR POCKETS
4. 4" MULCH - DO NOT BURY TRUNK OR CROWN OF PLANT
5. 1.8" MIN. OR DEPTH OF ROOT BALL.

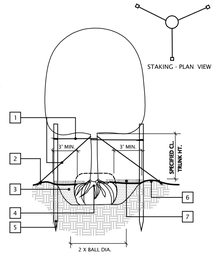
NOTES:
- PRUNE BRANCHES TO THIN OR MATCH, RETAIN NORMAL PLANT SHAPE.
- ROOT FLARE OF SHRUBS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS THEY BORE TO ORIGINAL GRADE.
- REMOVE ALL FIBER, PLASTIC OR METAL CONTAINERS

### 2 SHRUB PLANTING

NOT TO SCALE

1. STAKE ABOVE FIRST BRANCHES OR AS NECESSARY FOR FIRM SUPPORT
2. FOR TREES OVER 4" (3) 2"X4"X24" PRESS TREATED STAKES - TOP OF STAKE 6" ABOVE GROUND
3. AMMEND SOIL PER SPECIFICATION REQUIREMENTS WATER AND TAMP TO REMOVE AIR POCKETS
4. REMOVE ±4"-8" OF SOIL FROM TOP OF ROOT BALL TO EXPOSE ROOT FLARE. SOIL CAN BE USED IN PLANT MIX. REMOVE TOP ⅓ OF BASKET AND BURLAP
5. HARDWOOD STAKES 3 STAKES 2"X2" DRIVEN (MIN. 18") FIRMLY INTO SUBGRADE PRIOR TO BACKFILLING. REMOVE AFTER 1 YEAR
6. FORM SAUCER 6" BEYOND EDGE OF PLANT PIT
7. 4" MULCH; LEAVE 3" CIRCLE OF BARE SOIL AT TRUNK

NOTES:
- STAKE ALL TREES UNDER 4" OR GUY ALL TREES 4" AND OVER.
- PRUNE ONLY TO REMOVE BROKEN OR DAMAGED BRANCHES
- PLANT SO THAT TOP OF ROOT FLARE IS EVEN WITH THE FINISHED GRADE
- NEVER CUT LEADER
- FLAG GUYING STRAPS WITH SURVEY OR TAPE 'ARBORTIE' NYLON STRAPS




### 1 DECIDUOUS TREE PLANTING

NOT TO SCALE

## NOTE KEY:

1. NO ITEM.
2. NEW SIDEWALK - SEE LAYOUT LANDSCAPE LAYOUT SHEETS AND CIVIL DRAWINGS.
3. DUMPSTER ENCLOSURE - SEE ARCH. DWGS.
4. SHOVEL CUT BED EDGE - ALL NEW LANDSCAPE BEDS
5. NEW NON-IRRIGATED SEEDED LAWN OVER TOP SOIL - SEE NOTES THIS SHEET.
6. 2" DIA. EGGSTONE OVER FILTER FABRIC
7. STEEL LANDSCAPE EDGING - SEE NOTE THIS SHEET
8. NO ITEM
9. 12 in. x 34" HEAVY DUTY SPLASH BLOCK - MODEL# DSSB-36 TRAFFIC SAFETY WAREHOUSE - COLOR-BLACK
10. NO ITEM.
11. NO ITEM.

## GENERAL PLANTING NOTES:

A. ALL TREES TO HAVE CLAY OR LOAM BALLS, TREES WITH SAND BALLS **WILL BE REJECTED**.

B. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.

C. ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER, TREES WITH FORKED OR IRREGULAR TRUNKS **WILL NOT BE ACCEPTED.**

D. ALL MULTI-STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL **NOT BE ACCEPTED**.

E. ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.

F. NO MACHINERY IS TO BE USED WITHIN THE DRIPLINE OF EXISTING TREES. HAND GRADE ALL LAWN AREAS WITHIN DRIPLINE OF EXISTING TREES.

G. ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.

H. IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS, WALKS AND PAVED AREAS.

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J. SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS.

## PLANT MIX

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**(1) 5 LB BAG SHEMINS 13-13-13 MULTI PURPOSE FERTILIZER**

**PER 100 SQ FT BED AREA.**

**HAND TILL INTO SOIL TO A DEPTH OF 12" MINIMUM**

## PLANT BED PREPARATION

EXCAVATE PLANT BEDS TO DEPTH SHOWN ON DETAILS - DISPOSE OF SPOILS OFF SITE.

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## LAWN SEED MIX – "NON-IRRIGATED"

| SEED TYPE | PROPORTION | PURITY | GERMINATION |
|---|---|---|---|
| PENNFINE PERENNIAL RYE | 20% | 90% | 90% |
| EVENTUCKY 39# COMMON BLUEGRASS | 20% | 90% | 90% |
| PENN LAWN FESCUE | 60% | 90% | 85% |

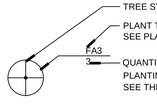
NO NOXIOUS WEED SEEDS PERMITTED.
FERTILIZER FOR 'NON-IRRIGATED' LAWN 10-10-10

## MULCH

**MULCH TO BE NATURAL DOUBLE SHREDDED HARDWOOD BARK MULCH**

**NO GROUND WOOD PALETTE MULCH PERMITTED**
**NO COLOR OR DYE ADDITIVES PERMITTED**

## PLANT KEY




## LANDSCAPE EDGING

LOCATION AS SPECIFIED ON PLAN -

STEEL LANDSCAPE EDGING: DURAEDGE - ¼" X 4" COLOR: BLACK; INSTALLED PER MANUFACTURER SPECS.

## WATERING

CONTRACTOR RESPONSIBLE FOR MONITORING THE WATERING OF ALL PLANTINGS AND NEWLY PLANTED LAWN AREAS FOR ONE YEAR FROM THE START OF THE WARRANTY PERIOD.

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NEWLY PLANTED LAWN AREAS THAT PERISH DUE TO LACK OF WATER, OR OVERWATERING, DO NOT QUALIFY AS THE REQUIRED REPLACEMENT TO ESTABLISH A HEALTHY FULL DENSE LAWN AS STATED IN THE SPECIFICATION, AND SHALL BE REPLACED AT NO COST TO THE OWNER.

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| DATE | ISSUE |
|---|---|
| 12.19.2025 | ISSUED FOR CONSTR. |
| 07.11.2025 | ADDENDUM #1 |
| 08.23.2024 | PERMITS |

SEAL

STATE OF MICHIGAN
STEPHEN L. DEAK
LANDSCAPE ARCHITECT
No. 1245
REGISTERED LANDSCAPE ARCHITECT

FSP PROJECT NO.
CCD18.002

DRAWING TITLE
LANDSCAPE PLAN

DRAWING NUMBER
L.302

# SECTION 32 90 00 - PLANTING

## PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the furnishing and installation of landscaping.

1.3 REFERENCES

A. Except as herein specified or as indicated on the Drawings, the work of this Section shall comply with the following:
1. American Joint Committee on Horticultural Nomenclature (AJCHN) - Standardized Plant Names.
2. ANSI Z60.1 - American Standard for Nursery Stock.

1.4 DEFINITIONS

A. Terms:
1. Nursery Stock:
a. Trees and shrubs in a recognized nursery in accordance with good horticultural practices.
b. Healthy, vigorous stock grown under climatic conditions similar to conditions in the locality of the Project and free of disease, insects, eggs, larvae, and defects such as knots, sun-scald, injuries, abrasions, or disfigurement.
c. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they are grown, with a ball size not less than the diameter and depth recommend by ANSI Z60.1 for the type of plant required or as noted on plans; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSO Z60.1.
d. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with well-established root system reaching sides of container and maintain a firm ball when removed from container. Container will be rigid enough to hold ball shape and protect root mass during shipping and sized according to ANSI Z60.1 for type and size of plant required or as noted on plan
2. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. ONLY organic permitted - submit manufacturer documentation.
3. **Root Flare**: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system or trunk.
4. Planting Area: Areas to be planted.
5. Planting Soil: Existing, on-site soil, imported soil, or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See section 32 91 13 SOIL PREPARATION for drawing designations for planting soils.
6. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
7. Sub-grade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.5 QUALITY ASSURANCE

A. Landscape Subcontractor: The work of this Section shall be performed by a single firm specializing in landscape work, unless otherwise approved by Landscape Architect or Owner.
1. Professional Membership: Installer will be a member in good standing of either the Professional Landscape Network or the American Nursery and Landscape Association.
2. Experience: Five (5) years' experience in landscape installation.
3. Installer's Field Supervision: Installer required to maintain an experienced full-time supervisor on Project Site while work is in progress.
4. Personnel Certifications: Installers' field supervisor will have certification in one of the following categories from the Professional Landcare Network:
a. Landscape Industry Certified Technician - Exterior.
b. Landscape Industry Certified Horticultural Technician.

B. Pesticide Applicator: State licensed - commercial.

C. Source Quality Control:
1. Comply with governing regulations applicable to landscape materials.
2. Supply the Landscape Architect with certificates of inspection as required by governmental agencies.
3. Landscape Architect reserves the right to inspect trees and shrubs either at place of growth or at the project site before planting, for compliance with requirements for name, variety, size, and quality. Failure of Landscape Architect to inspect trees and shrubs prior to planting does NOT remove Contractor's responsibility to fully comply with applicable requirements.
4. Comply with the sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.
5. All Plants shall be grown under climatic conditions similar to those in the locality of the project for a minimum of 2 years
6. Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no charge. Larger plants shall not be cut back to size indicated.

C. Measurements: Measure plants according to ANSI Z60.1. Do not prune to obtain required sizes.
1. Trees and Shrubs: Measure with branches and trunks or canes in their normal natural position. Take height measurements from or near top of the root flare for field-grown stock and container-grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements six (6) inches above root flare for trees up to four (4) inch caliper size, and twelve (12) inches above root flare for larger trees.
2. Other Plants: Measure with stems, petioles, and foliage in their normal natural position.
4. Plant Material Observation: Landscape Architect may observe plant material either at place of growth or at site before installation for compliance with requirements for genus, species, variety, cultivars, size, and quality. Landscape Architect may also observe trees and shrubs further for size, condition of root ball, root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected material immediately from Project Site.
5. Notify Landscape Architect of sources of planting materials seven (7) days in advance of delivery to site.

1.6 COORDINATION

A. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
1. When Planting trees, shrubs, and other plants after planting turf areas protect turf areas and promptly repair damaged caused by planting operations at contractor's expense.

1.7 PRE-INSTALLATION MEETING

A. Conduct Pre-installation Meeting at Project Site with sufficient time before any landscape activity.

1.8 SUBMITTALS

A. Product Data (For each type of Product):
1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
2. Plant photographs: If selection at the source is considered not possible by the Landscape Architect: Include color photographs in digital 3 x 5 inch format of each required species and size of plant material as it will be furnished to Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Include a scale rod or other measuring device in each photograph. For species where more than 20 plants are required, include a minimum of three photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full scientific name of the plant, plant size, and name of the growing nursery.

B. Samples for Verification (For each of the following):
1. Trees and Shrubs: Provide "specimen" plants with a special height, shape, or character of growth. Landscape Subcontractor to tag specimen trees or shrubs at the source of supply. The Landscape Subcontractor shall inspect and select all plant material at source prior to Landscape Architect's approval. Landscape Subcontractor shall accompany Landscape Architect on final selection trip. The Landscape Architect will inspect specimen selections for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.
2. Organic/ Compost: sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
3. Slow-Release, Tree Watering Device: Photo and manufacture description of each size required.

C. Product Certificates (For each type of manufactured product, from manufacturer and complying with the following):
1. Manufacturer's certified analysis of standard products.
2. Analysis of other materials by recognized laboratory made according to methods established by the Association of Official Chemists, where applicable.

D. Pesticides and Herbicides: Product Label and manufacturer's application instructions specific to Project - ONLY organic pesticides permitted.

1.9 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Landscape Installer include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of Installers contact person.

1.10 CLOSEOUT SUBMITTALS

A. Maintenance Plan: Recommended procedures to be established by Owner for the maintenance of plants during a calendar year. Submit before expiration of required warranty periods.

1.11 FIELD CONDITIONS

A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

B. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with warranty periods to provide required contractor responsibilities from date of Substantial Completion. Evergreen material: Plant evergreen materials between September 1 and October 15 or in spring before new growth begins. If project requirements require planting at other times, plants shall be sprayed with anti-desiccant prior to planting operations. Deciduous material: Plant deciduous materials in a dormant condition. If deciduous trees are planted in leaf, they shall be sprayed with anti-desiccant prior to planting operation.

C. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

1.12 DELIVERY, STORAGE, AND HANDLING

A. Delivery:
1. Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.
2. Bulk Materials:
a. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or existing turf and plan areas.
b. Provide erosion control measures to prevent erosion or displacement of bulk materials: discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
c. Accompany each delivery of bulk materials with appropriate certificates.
3. Deliver trees and shrubs only after preparations for planting have been completed.
4. Trees and Shrubs:
a. Do not prune prior to delivery.
b. Do not use trees or shrubs which have been in cold storage or heeled-in.
c. Provide freshly dug trees and shrubs.
d. Immediately before digging, spray material in full leaf with antidesiccant, applying adequate film over trunks, branches, twigs and foliage.
e. Dig up and prepare for shipment in a manner that will not cause damage to branches, shape and future development after planting.
f. Ball plants with firm natural balls of earth of diameter and depth no less than that recommended by American Standard for Nursery Stock. Firmly wrap root balls with burlap.
g. Drum lace plants which are 2 inches in caliper or over.
h. Plants will be rejected if ball is cracked or broken either before or during process of planting.
i. Provide protective covering during delivery.
j. Water on site heeled in plantings daily.
k. No plants shall be bound with rope or wire in such a manner that could damage or break the branches.

5. Handle planting stock by root ball.
6. Store bulbs, corms, and tubers in dry place at 60 to 65 degrees F until planting.
7. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
a. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two (2) weeks after planting.

8. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.
9. Deliver plants after preparations for planting have been completed and install immediately.

B. Storage and Handling:
1. Protect plants and materials from damage and deterioration while stored.
2. Protect root balls from sun and drying winds.
3. Set balled and burlapped plant which cannot be planted upon delivery on ground in shade, protected with soil and roots kept moist.
4. Do not remove container-grown stock from containers until planting time.
5. In the event of damage, make all replacements necessary to the approval of Engineer and at no additional cost to Owner.
6. Do not drop plants.
7. Do not pick up container or balled plants by stems or trunks.
8. Water root systems of plants stored on-site deeply and thoroughly with a fine mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.

C. Rejected Material and Replacements:
1. Reject damaged, deteriorated, or contaminated materials and immediately remove from the Site.
2. Replace rejected materials with new materials at no additional cost to Owner.
3. Make replacement during the growing season following the rejection.
4. Match replacement material to adjacent specimens of same species in both size and character, including increase in growth since planting.
5. Only 1 replacement will be required at end of warranty period, except for replacements due to failure to comply with specified requirements.
6. Repair damage to other plants or lawns during replacement at no additional cost to Owner.

1.13 WARRANTY

A. Warranty Period: The Project Warranty begins upon written Acceptance of the Project Installation by the Landscape Architect and General Contractors Representative.
1. The Landscape Subcontractor (Installer) will guarantee trees, shrubs, ground cover beds and all seeded and sodded areas through construction and for a period of one (1) year after date of acceptance against defects, including death and unsatisfactory growth, except for defects resulting from neglect by Owner, abuse, or damage by others or unusual phenomena or incidents which are beyond Contractor's control.

B. Replacements:
1. Remove and replace trees, shrubs, or other plants found to be dead or in unhealthy condition during guarantee period.
2. Make replacements during the growing season following the end of the guarantee period.
3. Furnish and plant replacements which comply with this Section.
4. Replace trees and shrubs which are in doubtful condition at end of guarantee period unless, in the opinion of Landscape Architect, it is satisfactory to extend guarantee period for a full growing season.
5. Landscape Architect will make inspection at end of extended guarantee period, if any, to determine acceptance or rejection.
6. Only 1 replacement will be required at end of guarantee period, except for losses or replacements due to failure to comply with specified requirements.
7. Repair damage to other plants or lawns during plant replacements at no additional cost to Owner.

C. Acceptance of Installation
1. At the completion of all landscape installation, or pre-approved portions thereof, the Landscape Subcontractor shall request in writing an inspection for Acceptance of Installation in which the Landscape Subcontractor, Landscape Architect, and General Contractor's Representative shall be present. After this inspection a punch list will be issued by the Landscape Architect. Upon completion of all punch list items, the Landscape Architect and General Contractor's Representative shall re-inspect the project and the Landscape Architect will issue a written statement of Acceptance of Installation and establish the beginning of the Project Warranty Period. At the time of acceptance all plant material shall be vigorous health.
2. It is the responsibility of the Landscape Subcontractor to make the above-written request for inspection of installation in a timely fashion. If there is plant material loss prior to the Landscape Subcontractor's written request for inspection of installation, the Landscape Contractor shall make all replacements of this dead material at no additional cost. These replacements are not considered to be the required one (1) replacement of dead plant material by the Landscape Subcontractor during the one (1) year project warranty period, as outlined.
3. Landscape work may be inspected for acceptance in parts agreeable to General Contractor's Representative and Landscape Architect provided work offered for inspection is complete, including contractor responsibilities as required.
4. For work to be inspected for partial acceptance, the Landscape Subcontractor shall provide a drawing outlining work completed and supply a written statement requesting acceptance of this work completed to date.

1.14 CONTRACTOR RESPONSIBILITIES DURING ONE (1) YEAR PROJECT WARRANTY

A. Maintenance Period:
1. To ensure guarantee standards, the following warranty procedures for trees, shrubs, and ground covers will be executed during construction and for the Full Warranty Period.
2. Begin maintenance immediately after planting.
3. Maintain trees, shrubs, and other plants until final acceptance, but in no case less than 60 days after planting.

B. Procedures:
1. The Landscape Subcontractor will be responsible for only one (1) replacement of any plant materials during the one (1) year Project Warranty Period. These include those which are dead or in the opinion of the Landscape Architect in an unhealthy or unsightly condition, or having lost natural shape, resulting from dieback, excessive pruning, or inadequate or improper maintenance as part of the guarantee. Prior to any replacements, Landscape Subcontractor will review individual plant in question with the Landscape Architect to determine cause of plant demise.
2. The Landscape Subcontractor will guarantee trees, shrubs, ground beds, and seeded or sodded areas through construction and for a period of one (1) year after the date of Acceptance of Installation against defects including death and unsatisfactory growth, except for defects by others or unusual phenomena or incidents which are beyond the Landscape Subcontractor's control.
3. Costs for replacements are assumed part of the bid quotation and therefore will not result in additional cost to the General Contractor or Landscape Architect.
4. Areas damaged because of replacement operation are to be restored by the Landscape Subcontractor at no additional cost to the General Contractor or Landscape Architect.
5. The Landscape Subcontractor will be responsible for watering all plantings in non-irrigated areas through warranty period. The Landscape Subcontractor will raise tree balls which settle, furnish, and apply spays as necessary to keep plantings free of disease and insects until the end of the warranty period.
6. Remove and replace trees, shrubs, or other plants found to be dead or in unhealthy condition.
7. Remove rejected plants and material promptly.
8. Make replacements following the normal planting schedule.
9. Replace trees and shrubs which are in doubt, unless, in the opinion of the Landscape Architect it is advisable to extend Project Warranty Period for full growing season.
10. Maintain trees, shrubs, and other plants by pruning, cultivating, and weeding as required for healthy growth.
11. Inspect for adequate watering during the warranty period. Keep tree watering devices filled as needed. Take any corrective measures needed to provide adequate watering. Inspect and repair or replace any damaged or missing slow-release watering devices.
12. Tighten and repair stake and guy supports and reset trees and shrubs to proper grades or vertical position as required.
13. Restore or replace damaged wrappings.
14. The Landscape Subcontractor responsible to keep all beds weed free during the one (1) year project warranty.
15. The Landscape Subcontractor to apply anti-desiccants on evergreen trees and evergreen shrub beds with 150 feet of major streets and drives no later than December 1$^{st}$, during the one (1) year warranty period.

C. The Landscape Subcontractor Responsibilities of Seeded Lawn Areas:
1. The Landscape Subcontractor will maintain seeded lawn areas including **watering**, fertilizing, weeding, and applications of organic solutions (herbicides, fungicides, insecticides) until establishing a dense lawn of permanent grasses, free from lumps and depressions or any bare spots, none of which is larger than one (1) square foot of area up to a maximum of 3% of the total seeded lawn area.
2. Any part of the seeded lawn area that fails to show a uniform growth and/ or germination shall be re-seeded until a dense cover is established, regardless of the season the seed was installed.
3. Within the project limits as shown on drawings, The Landscape Subcontractor will cut the lawn until the Acceptance of Installation is granted. When lawn reaches three (3) inches in height it will be cut to two (2) inches in height.
4. The Owner assumes mowing responsibilities following the Acceptance of Installation of the seeded lawn areas.
5. Upon conclusion of the Project Warranty Period and after receiving written Final Acceptance by the General Contractor's representative and the Landscape Architect, the Owner will assume all seeded lawn responsibilities.

D. Final Acceptance Upon Conclusion of The Warranty Period:
1. At the conclusion of the Project Warranty Period, the contractor will prune all dead twigs and branches from the plant material, and remove all support straps and stakes, and rake mulch areas smooth.
2. At the conclusion of the Project Warranty Period the Landscape Subcontractor will request a project inspection for Final Acceptance in which the Landscape Contractor, Landscape Architect, and the Owner's Representative will be present. After this inspection, a punch list will be issued by the Landscape Architect.
3. Upon completion of all punch list items, the Landscape Architect and the Owner's Representative will re-inspect the project and issue a Written Statement of Final Acceptance. Upon acceptance, the Owner is responsible for all areas.

## PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil: In accordance with Division 31 Section "Grading" and Section 32 91 13 "Soil Preparation".

B. Fertilizer:
1. Type A: "Chick Magic 5-3-2" applied per manufacturer recommendations
2. Type B: "Shemins 13-13-13". Apply per manufacturer recommendations.
3. Or Approved Equal.

C. Planting Mixture:
1. Type A - Trees and Shrubs:
a. Blend 1/3 existing onsite surface soil, 1/3 topsoil and 1/3 "Plant Mix", modified as need to produce viable planting soil. See "Plant Mix" on plans for quantities to produce planting soil.
b. Add organic compost, fertilizer Types "A" and "B" to planting mixture in accordance with Manufacturer's requirements, follow planting details and planting notes on Drawings.
2. Type B - Perennial Flowers, Groundcover Beds and Ericaceous Plants:
a. Planting backfill shall be a mixture of six cubic foot organic compost, (1) 40 pound bag composted poultry manure and five pounds of fertilizer Type "B" per 100 square foot of planting bed area.
b. All existing soil shall be excavated and removed.
c. Hand till into soil to minimum depth of 12 inches or depth of plant roots whichever is greater.

D. Mulch:
1. Shredded Bark:
a. Double processed dark shredded hardwood bark that is clean, free of debris and sticks. NO color additives or dye permitted.
b. Materials shall be uniform in size, shape and texture.
c. Submit samples to Landscape Architect for approval prior to installation.
d. Install mulch to finish grade, level smooth, without ridges, humps or depressions.

E. Water:
1. Free of substances harmful to plant growth.
2. Hoses or other methods of transportation furnished by Subcontractor.

F. Tree Watering Devices
1. Slow-Release Watering Device - non irrigated areas: Standard product manufactured for drip irrigation of plants and emptying its water contents over an extended time period two hours, two weeks, manufactured from UV-light-stabilized nylon-reinforced polyethylene sheet, PVC, or HDPE plastic.
2. Products: Subject to compliance with requirements, provide the following:
b. Gator Bags
1.) Color: green

G. Trees and Shrubs:
1. Supply trees and shrubs for nursery stock or collected stock.
2. Provide plant materials true to name and variety established by the AJCHN - Standardized Plant Names.
3. Provide trees, shrubs, and other plants complying with the recommendations and requirements of ANSI Z60.1 and as further specified.
4. Provide deciduous trees of height and caliper listed or indicated and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single-stem trees except where special forms are shown or listed.
5. Provide deciduous shrubs of the height shown or listed and with not less than the minimum number of canes required by ANSI Z60.1 for the type and height of shrub required.
6. Container Grown Stock: Grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.
a. No plants shall be loose in container.
b. Container stock shall not be root bound
c. The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.
d. Single stemmed or thin plants will not be accepted.
e. Side branches shall be generous, well twigged and the plant as a whole well bushed to the ground.
f. Plants shall be in a moist, vigorous condition, free from dead wood, bruises or other root branch injuries.

7. Balled and Burlapped Stock:
a. Provide plants typical of their species or variety; with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and any forms of infestation. The plants shall have a fully developed form without voids and open spaces. Dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock" or larger as required on Drawings. Cracked or mushroomed balls are not acceptable.
b. Provide tree species that mature at heights over 25 feet with a single, main trunk. Trees that have the main trunk forming a "Y" shape are not acceptable.
8. All plants shall have normal habit of growth and shall be sound, healthy, vigorous plants with well developed root systems.
9. All plants shall be free of disease, insects, eggs and larvae.
10. Trees with bark abrasions, sun-scalds, disfiguring knots, or fresh cuts of limbs over 1-1/4 inches which have not completely callused will be rejected.
11. Measure plants when branches are in normal position. Height and spread dimensions specified refer to main body of plant and not from tip to branch tip.
12. Take caliper measurements at point on trunk 6 inches above natural ground line for trees up to, and including 4 inches in caliper and 12 inches above natural ground line for trees over 4 inches in caliper.
13. If range of sizes is given, no plant shall be less than minimum size and not less than 50% of plants shall be as large as upper half of range specified.
14. Measurements specified are measurements after pruning where pruning is required.
15. Plants that meet measurements specified, but do not possess normal balance between height and spread, will be rejected.
16. Substitutions of plant materials will not be permitted unless authorized in writing by Landscape Architect.

H. Staking Materials:
1. Stakes:
a. Sound new hardwood or treated softwood free of knot holes and other defects which would impair strength.
b. 2-inch x 2-inch x 8'-0" long square.
2. Guying/Staking: 3/4-inch Arbortie nylon strap (NO WIRE AND HOSE PERMITTED).

I. Tree Wrap:
1. Standard waterproofed tree wrapping paper 2-1/2-inch wide, made of 2 layers crepe kraft paper weighing not less than 30 lbs. per ream, with bituminous inner coating.
2. Self-adhering Tree Wrap by 3M Corporation.
3. Or approved equal.

J. Antidesiccant:
1. Wilt Pruf by Nursery Specialty Products, Inc.; or approved equal.
2. Protective film emulsion providing a protective film over plant surfaces; permeable to permit transpiration. Mixed and applied in accordance with Manufacturer's instructions.

K. Pesticides
1. General: Organic only - submit manufacture documentation.

## PART 3 - EXECUTION

3.1 INSPECTION

A. Examine proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.

3.2 PREPARATION

A. Location:
1. Notify Landscape Architect at least 7 working days prior to installation of plant material.
2. Protect existing utilities, paving and other facilities from damage caused by landscaping operations.
3. Stake location of trees and plants and outlines for planting beds on ground prior to digging.
4. Notify Landscape Architect 48 hours in advance when staking is complete for onsite review.
5. If staking approval is not requested and plants are installed without approval, Landscape Architect reserves the right to have trees and plant material moved at no additional cost to Owner.
6. If underground obstructions are encountered during excavation of tree pits, alternate locations may be selected by Engineer or a change to the Contract may be provided.

B. Time of Planting:
1. Evergreen Material: Plant evergreen materials between September 1 and October 15 or in spring before new growth begins. If project requirements require planting at other times, plants shall be sprayed with anti-desiccant prior to planting operations.
2. Deciduous Material: Plant deciduous materials in a dormant condition. If deciduous trees are planted in leaf, they shall be sprayed with anti-desiccant prior to planting operation.
3. Planting times other than those indicated must be acceptable to the Landscape Architect.
4. Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.
5. Planting pits shall be round, with vertical sides and flat bottoms, and sized in accordance with outlines and dimensions indicated on the planting details.
6. Individual plant locations shall be staked on the Project Site by the Landscape Contractor and approved by the Landscape Architect before any planting pits are dug. The Landscape Architect reserves the right to adjust plant material locations to meet field conditions, without additional cost to the Construction Manager or Owner.
7. Planting pits shall be round, with vertical sides and flat bottoms, and sized in accordance with outlines and dimensions indicated on the planting details.
8. If obstructions are encountered that are not indicated, do not proceed with planting operations until alternative plant locations have been selected and approved in writing by the Landscape Architect. Where location or spacing dimensions are not clearly shown, request clarification by the Landscape Architect.
9. See Drawings for planting details.

C. Preparation of Planting Soil:
1. Before mixing, clean topsoil of roots, plants, sods, clay lumps, and other extraneous materials harmful or toxic to plant growth.
2. Plant soil shall consist of a uniform mixture of topsoil, peat moss and fertilizer.
3. Mix six(6) cubic feet of organic compost, one(1) 50 lbs. bag of composted poultry manure, and one(1) 5 lbs. bag of Shemins 13-13-13 fertilizer per 100 s.f. of planting bed area.
4. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.
5. For pit and trench type backfill, mix planting soil prior to backfilling and stockpile at the Site.
6. For planting beds, mix planting soil prior to planting or apply on surface of topsoil and mix thoroughly before planting.

D. Pruning and Shaping:
1. Prune only for the preservation for each plant's natural character.
2. Prune after delivery but prior to planting.
3. Prune, thin out, and shape trees and shrubs in accordance with standard horticultural practice.
4. Limit pruning to 32% of total plant structure as necessary to remove dead or injured twigs and branches and to compensate for root loss resulting from transplanting.
5. Do not cut leaders.
6. Seal cuts over 1/2-inch in size with standard pruning paint.
7. Evergreens shall be pruned only to the extent of removing broken or damaged branches.
8. Remove and replace excessively pruned or miss-formed stock resulting from improper pruning.

3.3 VEGETATION REMOVAL

A. General: See Landscape Preparation:
1. Strip existing grass and weeds, including roots from all bed areas leaving the soil surface 1-inch below finish grade.
2. Herbicide: Use "Round Up" (Monsanto Company) as required to prepare area for new planting, applied to all ground cover, evergreen and shrubbery beds and all mulch areas before application of pre-emergence herbicide, in accordance with Manufacturer's recommendations. Clean area of all dead material after 5 days.
3. Pre-Emergence Herbicide: DACHTHAL W-75 (Diamond Shamrock Agricultural Chemicals) applied to 1 ounce per 100 square feet to same area where "Herbicide" has been applied and after area is cleared of dead vegetation and to planting bed areas.
4. Herbicides to be applied by licensed applicator as required by the State.
5. Excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds. Provide plant pits in accordance with planting details. Depth of pit shall accommodate the root system. Scarify the bottom of the pit to a depth of 6 inches.
6. Provide premixed planting mixture Type "A" for use around the balls and roots of all deciduous and evergreen tree plantings.

B. Mass Shrub Beds/Hedge Beds: Excavate existing soil to 18-inch depth over entire bed area and remove soil from Site. Scarify bottom of the bed to a 4-inch depth. Set plants according to Drawings and Specifications. Backfill entire bed with (premixed) specified planting mixture Type "A".

3.4 INSTALLATION

A. General:
1. Set material in the planting pit to proper grade and alignment.
2. Set plants upright, plumb and faced to give the best appearance or relationship to each other or adjacent structure. Set plant material 2 inches to 3 inches above the finish grade.
3. Remove top of ball and excess soil to expose the root flare at base of trunk. Raise or lower tree for root flare to be at correct level to grade outside of planting pit. Do not use planting stock if root ball is cracked or broken before or during planting operation.
4. No filling will be permitted around trunks or stems. Backfill the pit with planting mixture and soil removed from top of ball. Do not use frozen or muddy mixtures for backfilling.
5. Form a ring of soil around the edge of each planting pit to retain water.
6. After balled and burlapped plants are set, tamp planting soil mixture around bases of balls and fill all voids.
7. Remove all burlap, ropes and wires from the top 1/2 of root ball.
8. Space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 12 inches of trunks of trees and shrubs within planting bed and to within 6 inches of edge of bed.
9. Spread and arrange roots of bare rooted plants in their natural position. Work in planting mixture. Do not mat roots together. Cut all broken and frayed roots before installing planting mixture.
10. Water immediately after planting.
11. Apply pre-emergent herbicide to bed areas in accordance with Manufacturer's recommendations before mulching.

B. Planting Pits and Trenches:
1. Excavate planting pits with sides sloping inward at a 60-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
2. Excavate approximately three times as wide as ball diameter for and potted stock.
3. Excavate - see planting details.
4. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
5. Maintain angles of repose of adjacent materials to ensure stability. Do not excavate sub-grades of adjacent paving, structures, hardscapes, or other new or existing improvements.
6. Maintain supervision of excavations during working hours.
7. Keep excavations covered or otherwise protected when unattended by Installer's personnel.
8. If drain tile is indicated on Drawings or required under planting areas, excavate to top of porous backfill over tile.

C. Backfill Soil: Topsoil removed from excavations may be used as backfill soil unless otherwise indicated.
D. Drainage: Notify Landscape Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.
F. Antidesiccants:
1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant 2 weeks after planting.
2. Apply antidesiccant using power spray to provide adequate film over trunks, branches, stems, twigs and foliage.

G. Balled and Burlapped Stock:
1. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
2. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly, do not break.
3. Set each plant plumb and in center of planting pit or trench with root flare two (2) inches above adjacent finish grades.
4. Backfill: Place planting soil mix according to Section 329113 Soil Preparation.
a. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
b. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
c. Continue backfilling process. Water again after placing and tamping final layer of soil.

H. Balled and Potted and Container Grown Stock:
1. Set each plant plumb and in center of planting pit or trench with root flare one (1) inch above adjacent finish grade.
2. Backfill: Place planting soil mix according to Section 32 91 13 "Soil Preparation."
3. Carefully remove root ball from container without damaging root ball or plant.
4. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
5. Continue backfilling process. Water again after placing and tamping final layer of soil..

I. Mechanized Tree Spade Planting - **NOT** to be used.

J. Wrapping:
1. Inspect tree trunks for injury, improper pruning, and insect infestation and take appropriate corrective measures before wrapping.
2. Wrap deciduous tree trunks of 1-1/2-inch caliper and larger within 1 week after planting.
3. Start at ground and cover trunk to height of first branches and securely attach.
4. Overlap 1/2 the width of the wrapping tape.
5. Securely attach wrappings so it will not loosen over a 12-month period.

K. Staking and Guying:
1. Staking:
a. Stake/guy all trees immediately after installation. When high winds or other conditions which may affect tree survival or appearance occur during the warranty period, the Subcontractor shall immediately repair the staking/guying.
b. Accurately stake plant material according to the Drawings. Stakes shall be above grade and painted a bright color to be clearly visible for inspection.
c. Stake deciduous trees under 4-inch caliper with 2 x 2 cedar stakes 2 per tree.
d. Stake evergreen trees under 6'-0" tall with 2 x 2 cedar stakes 2 per tree.
e. Stake evergreen trees 6'-0" tall and over with metal fence post, 3 per tree. Drive stakes to avoid the ball and not closer than 1-foot from the trunk.
f. Extend stakes a minimum of 18 inches below bottom of tree ball or root base of item being staked.
g. Extend stakes upwards parallel to the trunk.
h. Trim stakes after installation so that height above grade is no more than 6 feet or 2/3 the plant height.
i. Remove all staking/guying after a period of one year.
j. Work shall be acceptable to the Landscape Architect and Owners representative.

2. Guying:
a. Inspect trees for injury to trunks, evidence of insect infestation and improper pruning before wrapping.
b. Wrap trunks of all trees spirally from bottom to top with specified tree wrap and secure in place. Guy with "Arbortie" nylon straps in accordance with planting details.
c. Stake/guy all trees immediately after installation. When high winds or other conditions which may affect tree survival or appearance occur during the warranty period, the Subcontractor shall immediately repair the staking/guying.
d. Guy deciduous trees 4-inch caliper and over. Stake evergreen trees 6'-0" tall and over with metal fence post, 3 per tree.
e. Firmly attach top of each stake to tree trunk with Arbortie nylon strap (NO WIRE AND HOSE PERMITTED) forming a figure 8 around stake and trunk.
f. Arbortie nylon strap shall be firmly attached to stake.
g. If, during the life of the Contract, trees blow down or are otherwise damaged because of improper bracing or guying, they shall be replaced at no additional cost to Owner.

L. Container Grown Stock:
1. Grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole. No plants shall be loose in the container.
2. Container stock shall not be root bound.
3. The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.
4. Single stemmed or thin plants will not be accepted.
5. Side branches shall be generous, well twigged and the plant as a whole well bushed to the ground.
6. Plants shall be in a moist, vigorous condition, free from dead wood, bruises or other root or branch injuries.

M. INSTALL SLOW-RELEASE WATERING DEVICE
1. Provide one (1) device for each tree.
2. Place device on top of the mulch at base of tree stem and fill with water according to manufacturer's written instructions.
3. Maintain required water in devices for the duration of the warranty period.

**CONTINUE SECTION 32 90 00 PLANTING ON SHEET L.602**

811 Know what's below Call before you dig.

FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

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SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 12.19.2025 | ISSUED FOR CONSTR. |
| 07.11.2025 | ADDENDUM #1 |
| 09.23.2024 | PERMITS |

SEAL

STATE OF MICHIGAN
STEPHEN J. DEAK
LANDSCAPE ARCHITECT
No. 1245
REGISTERED LANDSCAPE ARCHITECT

FSP PROJECT NO.
CCD18.002

DRAWING TITLE
LANDSCAPE SPECIFICATIONS

DRAWING NUMBER
L.601

N. MULCHING:
1. Mulch trees and shrub planting pits and shrub beds with double shredded bark mulch 3 inches deep immediately after planting.
2. Water thoroughly, immediately after mulching.
3. After watering, rake mulch to provide a uniform finished surface.
4. Mulch ground cover beds with shredded bark mulch 1-inch to 2-inches deep prior to planting. Plant ground cover through mulch.

O. PRUNING
1. Prune branches of deciduous stock, after planting, to balance the loss of roots and preserve the natural character appropriate to the the particular plant requirements. In general remove ¼ to 1/3 of the leaf bearing buds, proportion shall in all cases be acceptable to the Landscape architect.
2. Remove or cut back broken, damaged and unsymmetrical growth of new wood.
3. Multiple Leader Plants: Preserve the leader which will best promote the symmetry of the plant. Cut branches flush with the trunk of the main branch, at a point beyond a lateral shoot or bud, a distance of not less than1/2 the diameter of the supporting branch. Make cut on an angle.
4. Prune evergreens only to remove broken or damaged branches.

P. CLEANING
1. Perform cleaning during installation of the work daily and upon completion of the work. Remove from site all excess materials, soil, debris, and equipment. Repair damage resulting from planting operations.

Q. INSPECTION
1. All work will be acceptable to the Landscape Architect and Owner's representative.

3.5 CONTRACTOR RESPONSIBILITIES OF PLANTS
A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.
B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

3.6 PESTICIDE APPLICATION
A. Apply organic pesticides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations only with approval from the Landscape Architect.
B. Pre-Emergent Herbicides (Selective and Nonselective): Not to be used.
C. Post-Emergent Herbicides (Selective and Nonselective): Organic only, to be used.

3.7 REPAIR AND REPLACEMENT
A. General: Repair or replace existing or new trees and other plants that are damaged by construction operations, in a manner approved by Landscape Architect.
1. Submit details of proposed pruning and repairs.
2. Perform repairs of damaged trunks, branches, and roots within 24 hours, if approved.
3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Landscape Architect or Owner Representative.
B. Remove and replace trees that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that the Landscape Architect determines are incapable of restoring to normal growth pattern.
1. Provide new trees of same size as those being replaced for each tree.

3.8 CLEANING AND PROTECTION
A. During planting, keep adjacent paving and construction clean and work area in an orderly condition. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
B. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.
C. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and warranty periods. Treat, repair, or replace damaged plantings.
D. During installation remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.
E. At time of Substantial Completion, verify that tree-watering devices are in good working order and leave them in place. Replace improperly functioning devices.

3.9 ESTABLISHMENT OF SERVICE
A. See Warranty section above:
1. Warranty Period: Twelve (12) months from date of Acceptance of Installation.

## END OF SECTION 32 90 00

# SECTION 32 92 00 - TURF AND GRASSES

## PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this Section.

1.2 SUMMARY
A. This Section includes the furnishing and installation of the major items listed below:
1. Seed.
2. Fertilizer.
3. Mulch.

B. Related Requirements:
1. Section 32 90 00 PLANTING for trees, shrubs, ground covers, and other plants as well as border edgings and mow strips.
2. Section 32 91 13 SOIL PREPARATION.

1.3 DEFINITIONS
A. Follow-up Maintenance: Maintenance required when seeding, sodding, or other vegetative practices do not achieve the desired degree of stabilization.
B. Periodic Maintenance: Maintenance performed after the vegetation has been established.
C. Finish Grade: Elevation of finished surface of planting soil.
D. Planting soil: Existing, on-site; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See Section 32 91 13 "Soil Preparation" and drawing designations for planting soils.
E. Subgrade: The surface elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
F. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

1.4 LOCATION
A. Seeded Areas: As indicated on the drawings and all disturbed areas within the project limits not covered by other surface improvements or features.

1.5 PREINSTALLATION MEETING
A. Conduct Preinstallation Meeting at Project Site with sufficient time before any landscape activity with the Landscape Architect and an Owner's Representative.

1.6 INFORMATIONAL SUBMITTALS
A. Qualification Data: For Landscape Installer or Landscape Subcontractor
B. Product Data: For mulch blanket on slopes equal or greater than 4:1.
C. Samples: For netting and mulch blanket.
D. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture, stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
1. Certification of each seed mixture for turfgrass seed. Include identification of source and name and telephone number of each supplier.
E. Product Certificates: For fertilizers, from manufacturer.
F. Pesticides: product label and manufacturer's application instructions specific to the Project - ONLY organic permitted.

1.7 CLOSEOUT SUBMITTALS
A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of turf and meadows during a calendar year. Submit before expiration of required maintenance periods.

1.8 QUALITY ASSURANCE
A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf and meadow establishment.
1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
2. Experience: Five (5) years of experience in turf installation in addition to requirements in Section 01 40 00 "Quality Requirements."
3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
4. Personnel Certifications: Installer's personnel assigned to the Work shall have certification in one of the following categories from the Professional Landcare Network:
a. Landscape Industry Certified Technician Exterior.
b. Landscape Industry Certified Lawncare Manager.
c. Landscape Industry Certified Lawncare Technician.
5. Pesticide Applicator: State licensed, commercial.

1.9 DELIVERY, STORAGE AND HANDLING
A. Deliver materials in original, unbroken, brand marked containers or wrapping as applicable.
B. Handle and store materials in a manner which will prevent deterioration, damage, contamination with foreign matter, and damage by weather or elements, and according to Manufacturer's directions.
C. Reject damaged, deteriorated, or contaminated material and immediately remove from the Site. Replace rejected materials with new materials at no additional cost to Owner.
D. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.
E. Bulk Materials:
1. Do not dump or store bulk materials near structures, utilities, walkways, and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Accompany each delivery of bulk materials with appropriate certificates.

1.10 PROJECT CONDITIONS
A. Work Notification: Notify Owner's Representative at least 7 workings days prior to start of seeding operations
B. Protect existing utilities, paving, and other facilities from damage caused by seeding or sodding operations.
C. Performing seeding work only after planting and other work affecting the ground surface has been completed.
D. Planting Restrictions: Seed Lawn - Plant during on of the following periods. Coordinate planting periods with initial warranty period to provide required contractor responsibilities from date of panting completion.
1. Spring Planting: April 1 - June 1
2. Fall planting: August 15 - October 15

E. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.
F. Restrict traffic from lawn areas until grass is established. Erect signs and barriers as required.
G. Provide hose and lawn watering equipment as needed or required.
H. A temporary irrigation system will be installed prior to seeding. Locate, protect and maintain the irrigation system during seeding operations. Repair irrigation system components damaged during seeding operations at the Subcontractor's expense.

1.11 WARRANTY
A. The requirements of the Section include a one (1) year warranty period from date of acceptance of installation performed by the General Contractor's Representative and Landscape Architect.

## PART 2 - PRODUCTS

2.1 MATERIALS
A. Topsoil: In accordance with Division 31 Section "Grading" and Section 32 91 13 " Soil Preparation".
B. Fertilizer:
1. Comply with MDOT 917.10, Class A except as herein specified.
2. Liquid Fertilizer for Hydroseed: 16-32-4 containing no chlorine.

C. Seed:
1. Non-Irrigated Lawn Seed: Fresh, clean, and new crop seed mixture.
a. Mixed by an approved method.
b. Composed of the following varieties, mixed to the specified proportions by weight and tested to the minimum percentages of purity and germination.

| Seed Type | Proportion | Purity | Germination |
|---|---|---|---|
| Pennfine Perennial Rye | 20% | 90% | 90% |
| Kentucky 28# Common Bluegrass | 20% | 90% | 90% |
| Penn Lawn Fescue | 60% | 90% | 85% |

c. Spread at a rate of 6 lbs. per 1000 s.f. if drilled and 10 lbs. if hydroseeded.
d. No noxious weed seeds permitted.
e. Furnish seed in durable bags, each marked by the supplier of the blended mix with a tag giving name, lot number, net weight of contents, purity, and germination.

D. Fertilizers
1. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
a. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
b. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.
2. Slow-Release Fertilizer: Granular or pellet-ed fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
a. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
b. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

E. Mulch:
1. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
2. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
3. Non-asphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.
4. Asphalt Emulsion: ASTM D 977, Grade SS-1; nontoxic and free of plant-growth or germination inhibitors.
5. Anchoring Material for Small Grain Mulch:
a. Netting:
1) Biodegradable.
2) Openings not to exceed 1-1/2 inches x 2 inches.
3) Minimum Roll Width: 35 inches.
b. Anchoring Staples or Pins: Wood pegs

6. Hydro-mulch:
a. Slurry: Minimum 60% wood fiber mulch with remaining being recycled cellulose fibers.
b. Tackifier:
1) Manufacturers: Finn Fiber Plus; Finn Fiber Gum; or equal.
c. Synthetic fiber or gum.

7. Mulch Blankets:
a. Biodegradable:
1) Straw: North American Green S-150 or equal.
2) Coconut: North American Green C-125; or equal.
3) Straw and Coconut: North American Green SCC-225 or equal.
b. Anchoring Staples or Pins:
1) Hardwood stakes at least 6 inches long.
2) North American Green Bio-Stake blanket pins at least 6 inches long.

F. Pesticides
1. General: Organic ONLY - Submit manufacturer documentation for approval.

G. Erosion Control Materials
1. Erosion Control Blankets: North American Green RollMax EroNet S150 or equal.

## PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
2. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
3. Uniformly moisten excessively dry soil that is not workable, or which is dusty.

B. Proceed with installation only after unsatisfactory conditions have been corrected.
C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 TOPSOIL
A. In accordance with Division 31 Section GRADING.

3.3 LAWN BED PREPARATION
A. General:
1. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
a. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
b. Protect grade stakes set by others until directed to remove them.

2. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
3. Landscape Architect or Construction Manager's representative must approve finish surfaces, grades, topsoil quality and depth. Do not start seeding work until unsatisfactory conditions are corrected.
4. Limit preparation to areas which will be immediately seeded or sodded.
5. Loosen topsoil of lawn areas to minimum depth of 4 inches. Remove stones over 1-inch in any dimension, and sticks, roots, rubbish, and extraneous matter.
6. Grade lawn areas to a smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges and fill depressions as required to drain.
7. Place and mix planting soil in place over exposed subgrade.
8. Apply limestone to supplied topsoil if required by soil test report at rate determined by the soil test, to adjust pH of topsoil to not less than 6.0 no more than 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil.
9. Apply fertilizer to indicate turf areas at a rate equal to 1 lb. of actual nitrogen per 1,000 sq. ft. (43 lbs. per area).
10. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 1-inch by discing or other approved method. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.
11. Moisten prepared are before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy conditions.
12. Restore prepared areas to specified condition if eroded, settled, or otherwise disturbed after fine grading and prior to seeding.

B. Raking: Rake prepared seedbed before seeding.

3.4 FERTILIZING
A. Dry Fertilizer:
1. Broadcast on surface as first step in seeding process.
2. Apply with seeding if drilled.
3. Work fertilizer into the soil to a depth of 1-inch to 2 inches.
4. Apply uniformly.
5. Application Rate: Equivalent to 240 pounds per acre of 12-12-12, non-irrigated lawns: 10-10-10.

B. Hydroseeding:
1. Apply fertilizer with seed.
2. Application Rate: Equivalent to 6.25 pounds per 1,000 square feet of 16-32-4.

3.5 SEEDING
B. Scheduling:
1. Seed lawns only between April 1 and June 1, fall seeding between August 5 and October 15, or at such other times acceptable to Landscape Architect.
C. Sowing:
1. Seed immediately after preparation of bed. Seed indicated areas within contract limits and areas adjoining contract limits disturbed because of construction operations.
2. Perform seeding operations when the soil is dry and when the winds do not exceed 5 miles per hour velocity.
3. Do not use wet seed or seed that is moldy or otherwise damaged.
4. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
5. Apply seed with a rotary or drop type distributor. Install seed evenly by sowing equal quantities in 2 directions, at right angles to each other.
6. Provide soil erosion planting mat where grade conditions required to stabilize the planting area.
7. Application Rate:
a. Lawn Areas: Sow seed at a minimum rate of 6.9 pounds per 1,000 square feet, 300 pounds per acre.
8. Rake seed lightly into top 1/8 inch of soil. Roll lightly and water with fine spray.
9. Protect seeded areas with slopes exceeding 1:4 with erosion control fiber mesh blanket installed and stapled according to manufactures instructions,
10. Establish dense lawn of permanent grasses, free from lumps and depressions. Any area failing to show uniform germination to be re-seeded; continue until dense lawn established. No weeds permitted. Damage to seeded area resulting from erosion to be repaired by Sub Contractor. Scattered bare spots over 5% not allowed.
11. Protect seeded areas with slopes not exceeding 1:10 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.
a. Anchor straw mulch by crimping into soil with suitable mechanical equipment.

12. Protect seeded areas from hot, dry weather or drying winds by applying straw within 1 hour after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 1/4 inch.
13. In event Subcontractor does not establish dense lawn during first germination period, return to project to re-fertilize, and reseed to establish dense lawn.
14. Should the seeded lawn become largely weeds after germination, Subcontractor responsible to kill the weeds and reseed the proposed lawn areas to produce a dense turf, as specified, to the approval of the Landscape Architect.

C. Finishing: Float and lightly compact areas sown by hydro-seeder or the broadcast method to incorporate the seed into the uppermost 1/2-inch of the soil.
D. Method:
2. Broadcast: Do not seed when wind velocity exceeds 5 miles per hour.
3. Mechanical drills.
4. Hydroseeding - NOT acceptable.
5. Inspection: Areas which are sown by hydro-seeder or the broadcast method shall be visually inspected for uniformity of application; areas in which visual inspection fails to reveal an average of 2 seeds per square inch shall be re-sown at no additional cost to Owner.

3.6 MAINTENANCE
A. General:
1. Contractor: Responsible for follow-up maintenance.
2. The Subcontractor is responsible for periodic maintenance until Acceptance of Installation by the Owner or Owner's Representative.
3. Establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, re-grade, and replant bare or eroded areas and re-mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
a. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
b. In areas where mulch has been disturbed by wind or warranty operations, add new mulch and anchor as required to prevent displacement.
c. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.

B. Watering
1. Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of four (4) inches as needed.
a. When lawn reaches 3" in height it shall be cut to 2" in height.
b. The Owner to assume cutting responsibilities following the Acceptance of Installation of the seeded lawn.

C. Follow-up Maintenance:
1. Inspect materials planted in the spring during the summer or early fall and take corrective action during the fall planting season.
2. Inspect materials planted in the fall during the spring and take corrective action during this spring planting season.
3. In event Subcontractor does not establish dense lawn during first germination period, return to project to re-fertilize and reseed to establish dense lawn.
4. Should the seeded lawn become largely weeds after germination, Subcontractor responsible to kill the weeds and re-seed the affected lawn areas to produce a dense turf, as specified, to the approval of the Landscape Architect.
5. Provide hose and lawn watering equipment as required.

D. Maintenance of Seeded Lawn Areas:
1. The Landscape Subcontractor shall maintain seeded lawn areas including watering, fertilizing, weeding, and chemical applications until establish a dense lawn of permanent grasses, free from lumps and depressions or any bare spots, none of which is larger than 1-foot of area up to a maximum of 3% of the total seeded lawn area. Any part of the seeded lawn that fails to show a uniform growth and/or germination shall be re-seeded until a dense cover is established regardless of what season the seed was installed.
2. The Landscape Subcontractor will cut the lawn until Acceptance of Installation is granted. When lawn reaches 3 inches in height, it will be cut to 2 inches in height.
3. The Owner assumes cutting responsibilities following the Acceptance of Installation of the seeded lawn.
4. At conclusion of Project Warranty Period and after receiving Written Final Acceptance by Construction Manager's representative and Landscape Architect, the Owner shall assume all seeded lawn maintenance responsibilities.

3.7 SATISFACTION OF TURF

A. Turf installations will meet the following criteria as determined by Landscape Architect or Owner's representative.
1. Satisfactory Seeded Turf: Establish dense lawn of permanent grasses, free from lumps and depressions. Any area failing to show uniform germination to be re-seeded; continue until dense lawn established. Damage to seeded area resulting from erosion will be repaired by Sub Contractor. Scattered bare spots over 5% not allowed. In event Sub Contractor does not establish dense lawn during first germination period, return to project to re-fertilize and re-seed to establish dense lawn. Should the seeded lawn become largely weeds after germination, Sub Contractor is responsible to kill the weeds and re-seed the proposed lawn areas to produce a dense turf, as specified.

B. Use specified materials to re-establish turf that complies with the requirements above and continue contractor warranty responsibilities until turf is satisfactory.
C. At the conclusion of the Project Warranty Period the Landscape Subcontractor shall request a project inspection for final acceptance in which the Landscape Contractor, Landscape Architect and Owner's Representative shall be present. After this inspection, a punch list will be issued by the Landscape Architect. Upon completion of all punch list items, the Landscape Architect and the Owner's Representative shall re-inspect the project and issue a Written Statement of Final Acceptance.

3.8 PESTICIDE APPLICATION

A. Apply pesticides (organic only) and other products and biological control agents according to requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
B. Post-Emergent Herbicides (ORGANIC Selective and Nonselective): Apply organic solution only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

3.9 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.
C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial warranty period and remove after plantings are established.
D. Remove non-degradable erosion-control measures after grass establishment period.

3.10 WARRANTY

A. Turf: The Owner assumes cutting responsibilities following the Final Acceptance of Installation of the seeded lawn.

## END OF SECTION 32 92 00

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SEAL

STATE OF MICHIGAN
STEPHEN L. DEAK
LANDSCAPE ARCHITECT
No. 1245
REGISTERED LANDSCAPE ARCHITECT

FSP PROJECT NO.
CCD18.002

DRAWING TITLE
LANDSCAPE SPECIFICATIONS

DRAWING NUMBER
L.602

811 Know what's below Call before you dig.

# SECTION 32 91 13 - SOIL PREPARATION

## PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. Section includes planting soils specified by composition of the mixes.
B. Related Requirements:
1. Section 31 10 00 SITE CLEARING for topsoil stripping and stockpiling.
2. Section 32 92 00 TURF & GRASSES for placing planting soil for turf and grasses.
3. Section 32 93 00 PLANTING for placing planting soil.

1.3 ALLOWANCES
A. Pre-construction and field quality-control testing are part of testing and inspecting allowance.

1.4 DEFINITIONS
A. AAPFCO: Association of American Plant Food Control Officials.
B. Backfill: The earth used to replace or the act of replacing earth in an excavation. This can be amended, or unamended soil as indicated.
C. CEC: Cation exchange capacity.
D. Compost: The product resulting from the controlled biological decomposition of organic material that has been sanitized through the generation of heat and stabilized to the point that it is beneficial to plant growth.
E. Duff Layer: A surface layer of soil, typical of forested areas, that is composed of mostly decayed leaves, twigs, and detritus.
F. Imported Soil: Soil that is transported to Project site for use.
G. Layered Soil Assembly: A designed series of planting soils, layered on each other, that together produce an environment for plant growth.
H. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.
I. NAPT: North American Proficiency Testing Program. An SSSA program to assist soil-, plant-, and water-testing laboratories through interlaboratory sample exchanges and statistical evaluation of analytical data.
J. Organic Matter: The total of organic materials in soil exclusive of undecayed plant and animal tissues, their partial decomposition products, and the soil biomass; also called "humus" or "soil organic matter."
K. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
L. RCRA Metals: Hazardous metals identified by the EPA under the Resource Conservation and Recovery Act.
M. SSSA: Soil Science Society of America.
N. Sub-grade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
O. Subsoil: Soil beneath the level of sub-grade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
P. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.
Q. USCC: U.S. Composting Council.

1.5 PRE-INSTALLATION MEETINGS
A. Pre-installation Conference: Conduct meeting at the Project site with Owner's representative, Sub Contractor and Landscape Architect.

1.6 ACTION SUBMITTALS
A. Product Data: For each type of product.
Include recommendations for application and use.
1. Include test data substantiating that products comply with requirements.
2. Material Certificates: For each type of imported soil and soil amendment and fertilizer before delivery to the site, according to the following:
a. Manufacturer's qualified testing agency's certified analysis of standard products.
b. Analysis of fertilizers, by a qualified testing agency, made according to AAPFCO methods for testing and labeling and according to AAPFCO's SUIP #25.
c. Analysis of nonstandard materials, by a qualified testing agency, made according to SSSA methods, where applicable.
B. Samples: For each bulk-supplied material, 1-quart volume of each in sealed containers labeled with content, source, and date obtained. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of composition, color, and texture.

1.7 INFORMATIONAL SUBMITTALS
A. Qualification Data: For each testing agency.
B. Pre-construction Test Reports: For preconstruction soil analyses specified in "Preconstruction Testing" Article.
C. Field quality-control reports.

1.8 QUALITY ASSURANCE
A. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

1.9 PRE-CONSTRUCTION TESTING
A. Pre-construction Soil Analyses: For each un-amended soil type, perform testing on soil samples and furnish soil analysis and a written report containing soil-amendment and fertilizer recommendations by a qualified testing agency performing the testing according to "Soil-Sampling Requirements" and "Testing Requirements" articles.

1.10 SOIL-SAMPLING REQUIREMENTS
A. General: Extract soil samples according to requirements in this article.
B. Sample Collection and Labeling: Have samples taken and labeled by Contractor.
1. Number and Location of Samples: Minimum of three representative soil samples from top soil stock pile for each soil to be used or amended for landscaping purposes.
2. Division of Samples: Split each sample into two, equal parts. Send half to the testing agency and half to Owner for its records.
3. Labeling: Label each sample with the date, location keyed to a site plan or other location system, visible soil condition, and sampling depth.

1.11 TESTING REQUIREMENTS
A. General: Perform tests on soil samples according to requirements in this article.
B. Physical Testing:
1. Soil Texture: Soil-particle, size-distribution analysis by one of the following methods according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods":
a. Sieving Method: Report sand-gradation percentages for very coarse, coarse, medium, fine, and very fine sand; and fragment-gradation (gravel) percentages for fine, medium, and coarse fragments; according to USDA sand and fragment sizes.
b. Hydrometer Method: Report percentages of sand, silt, and clay.
2. Total Porosity: Calculate using particle density and bulk density according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods."
3. Water Retention: According to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods."
4. Saturated Hydraulic Conductivity: According to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods"; at 85% compaction according to ASTM D698 (Standard Proctor).
C. Chemical Testing:
1. CEC: Analysis by sodium saturation at pH 7 according to SSSA's "Methods of Soil Analysis - Part 3- Chemical Methods."
2. Clay Mineralogy: Analysis and estimated percentage of expandable clay minerals using CEC by ammonium saturation at pH 7 according to SSSA's "Methods of Soil Analysis - Part 1- Physical and Mineralogical Methods."
3. Phytotoxicity: Test for plant-available concentrations of phytotoxic minerals including aluminum, arsenic, barium, cadmium, chlorides, chromium, cobalt, copper, lead, lithium, mercury, nickel, selenium, silver, sodium, strontium, tin, titanium, vanadium, and zinc.
D. Fertility Testing: Soil-fertility analysis according to standard laboratory protocol, including the following:
1. Percentage of organic matter.
2. CEC, calcium percent of CEC, and magnesium percent of CEC.
3. Soil reaction (acidity/alkalinity pH value).
4. Buffered acidity or alkalinity.
5. Nitrogen ppm.
6. Phosphorous ppm.
7. Potassium ppm.
8. Manganese ppm.
9. Manganese-availability ppm.
10. Zinc ppm.
11. Zinc availability ppm.
12. Copper ppm.
13. Sodium ppm.
14. Soluble-salts ppm.
15. Presence and quantities of problem materials including salts and metals cited in the Standard protocol. If such problem materials are present, provide additional recommendations for corrective action.
16. Other deleterious materials, including their characteristics and content of each.
E. Organic-Matter Content: Analysis using loss-by-ignition method according to SSSA's "Methods of Soil Analysis - Part 3- Chemical Methods."
F. Recommendations: Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated to produce satisfactory planting soil suitable for healthy, viable plants indicated. Include, at a minimum, recommendations for nitrogen, phosphorous, and potassium fertilization, and for micronutrients.
1. Fertilizers and Soil Amendment Rates: State recommendations in weight per 1000 sq. ft. for 6-inch depth of soil in lawn areas and 12-inch depth for plant beds.
2. Soil Reaction: State the recommended liming rates for raising pH or sulfur for lowering pH according to the buffered acidity or buffered alkalinity in weight per 1000 sq. ft. for 6-inch depth of soil in lawn areas and 12-inch depth for plant beds.

1.12 DELIVERY, STORAGE, AND HANDLING
A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and compliance with State and Federal laws if applicable.
B. Bulk Materials:
1. Do not dump or store bulk materials near structures, utilities, walkways, and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Do not move or handle materials when they are wet or frozen.
4. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

## PART 2 - PRODUCTS

2.1 MATERIALS
A. Regional Materials: Imported soil, manufactured planting soil and soil amendments and fertilizers shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.

2.2 PLANTING SOILS SPECIFIED BY COMPOSITION
A. General: Soil amendments, fertilizers, and rates of application specified in this article are guidelines that may need revision based on testing laboratory's recommendations after preconstruction soil analyses are performed.
B. Planting-Soil Type: for trees and shrubs - Existing, on-site surface soil, with the duff layer, if any, retained and stockpiled on-site; modified to produce viable planting soil. Blend existing, on-site surface soil with the following soil amendments and fertilizers, see "Plant Mix" on plans for quantities, to produce planting soil as stated on drawings.
1. Chick Magic 5-3-2 composted poultry manure.
2. Shemins 13-13-13 per manufacturer's recommendations.

C. Planting-Soil Type for tree and shrub - Onsite or imported, naturally formed soil from off-site sources and consisting of loam soil according to USDA textures; and modified to produce viable planting soil.
1. Sources: Take imported, unamended soil from sources that are naturally well-drained sites where topsoil occurs at least 4 inches deep, not from marshes; and that do not contain undesirable organisms; disease-causing plant pathogens; or obnoxious weeds and invasive plants including, but not limited to, quack grass, Johnsongrass, poison ivy, nutsedge, nimble will, Canada thistle, bindweed, bent grass, wild garlic, ground ivy, perennial sorrel, and bromegrass.
2. Additional Properties of Imported Soil before Amending: Soil reaction of pH 6 to 7.5 and minimum of six (6) percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.
3. Unacceptable Properties: Clean soil of the following:
a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of two (2) percent by dry weight of the imported soil.
c. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding 2 inches any dimension.
4. Amended Soil Composition: Blend imported, unamended soil with the soil amendments and fertilizers as stated on the drawings.

2.3 INORGANIC SOIL AMENDMENTS
A. Lime: ASTM C602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent elemental sulfur, with a minimum of 99 percent passing through a No. 6 sieve and a maximum of 10 percent passing through a No. 40 sieve.
C. Sand: Clean, washed, natural or manufactured, free of toxic materials, and according to ASTM C33/C33M.

2.4 ORGANIC SOIL AMENDMENTS
A. Compost: Well-composted, stable, and weed-free organic matter produced by composting plant based materials and bearing USCC's "Seal of Testing Assurance."

2.5 FERTILIZERS
A. Commercial Fertilizers:
1. Chick Magic 5-3-2 composted poultry manure.
2. Shemins 13-13-13 per manufacturer's recommendations.

## PART 3 - EXECUTION

3.1 GENERAL
A. Place planting soil and fertilizers according to requirements in other Specification Sections.
B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.
C. Proceed with placement only after unsatisfactory conditions have been corrected.

3.2 PREPARATION OF UNAMENDED, ON-SITE SOIL BEFORE AMENDING
A. Excavation: Excavate soil from planting beds to a depth of 12 inches and stockpile until amended.
B. Unacceptable Materials: Clean soil of concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
C. Unsuitable Materials: Clean soil to contain a maximum of two (2) percent by dry weight of stones, roots, plants, sod, clay lumps, and pockets of coarse sand.
D. Screening: Pass unamended soil through a two (2) inch sieve to remove large materials.

3.3 PLACING AND MIXING PLANTING SOIL OVER EXPOSED SUBGRADE
A. General: Apply and mix unamended soil with amendments on-site to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
B. Subgrade Preparation: Planting Beds - till sub grade to minimum depth of four (4) inches. Remove stones larger than ½ inch in any dimension and all sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
1. Apply, add soil amendments, and mix approximately half the thickness of unamended soil over prepared, loosened subgrade according to "Mixing" Paragraph below. Mix thoroughly into top towo (2) inches of subgrade. Spread remainder of planting soil.

C. Mixing: Spread unamended soil to total depth of 12 inches or depth of root balls, but not less than required to meet finish grades after mixing with amendments and natural settlement. Lawn Areas - spread amended soil to total depth of four )4) inches, but not less than required to meet finish grades after mixing with amendments and natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.
1. Amendments: Apply soil amendments as stated on Drawings except compost and fertilizer, if required, evenly on surface, and thoroughly blend them with unamended soil to produce planting soil.
a. Mix lime or sulfur with dry soil before mixing fertilizer.
b. Mix fertilizer with planting soil no more than seven days before planting.
2. Lifts: Apply and mix unamended soil and amendments in lifts not exceeding six (6) inches in loose depth for material compacted by hand-operated tampers.

D. Compaction: Compact each blended lift of planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D698 and tested in.
E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.4 PROTECTION
A. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:
1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Vehicle traffic.
4. Foot traffic.
5. Erection of sheds or structures.
6. Impoundment of water.
7. Excavation or other digging unless otherwise indicated.

B. If planting soil or sub-grade is over compacted, disturbed, or contaminated by foreign or deleterious materials or liquids, remove the planting soil and contamination; restore the sub-grade as directed by Architect and replace contaminated planting soil with new planting soil.
C. Protect paved areas and areas to be landscaped from soil erosion and washout. Use conventional methods such as, but not limited to, straw bales, silt fence, coconut rolls etc., to prevent soil from washing over walks, paved areas, or walls. Keep all paved / hard surfaces clean. return any eroded soils to installed/ stored locations when completing soil/ plant mix installation.

3.5 CLEANING
A. Protect areas adjacent to planting-soil preparation and placement areas from contamination. Keep adjacent paving and construction clean and work area in an orderly condition.
B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.
1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owner.

## END OF SECTION 32 91 13

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MICHIGAN

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GREYSTONE
SENIOR LIVING
DETROIT

| DATE | ISSUE |
|---|---|
| 12.19.2025 | ISSUED FOR CONSTR. |
| 07.11.2025 | ADDENDUM #1 |
| 03.23.2024 | PERMITS |

SEAL

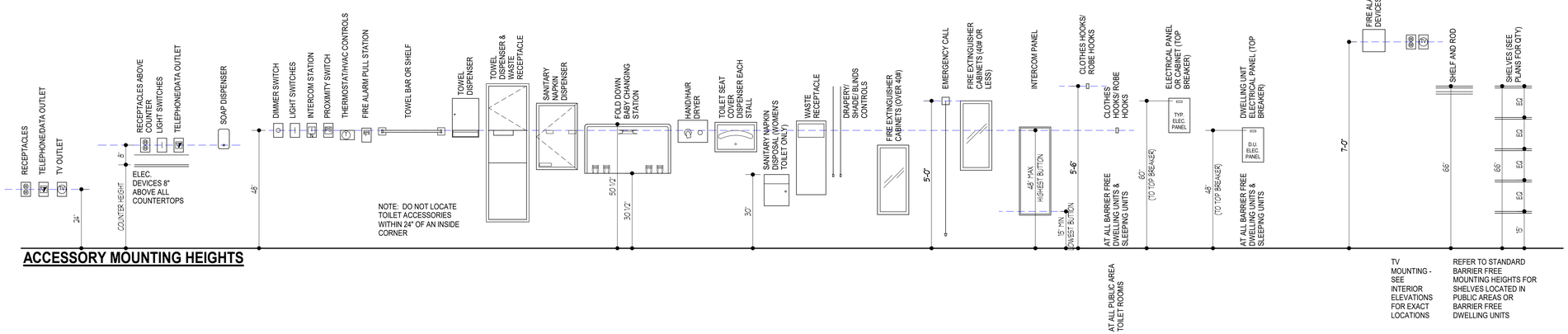
STATE OF MICHIGAN
STEPHEN L. DEAK
LANDSCAPE ARCHITECT
No. 1245
REGISTERED LANDSCAPE ARCHITECT

FSP PROJECT NO.
CCD18.002

DRAWING TITLE
LANDSCAPE SPECIFICATIONS

DRAWING NUMBER
L.603

811
Know what's below
Call before you dig.




## ACCESSORY MOUNTING HEIGHTS

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

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SEAL

## SIGNAGE AND CONTROLS

SIGNAGE MUST BE MOUNTED ON THE WALL ADJACENT TO LATCH SIDE OF DOOR. WHERE THERE IS NO WALL SPACE TO THE LATCH SIDE OF THE DOOR, SIGNAGE MUST BE PLACED ON THE NEAREST ADJACENT WALL. MOUNTING HEIGHT MUST BE 60" A.F.F. TO THE CENTERLINE OF SIGN.

SIGNS CONTAINING TACTILE CHARACTERS MUST HAVE AN 18" MIN. BY 18" MIN. CLEAR FLOOR SPACE, CENTERED ON THE SIGN, BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND A 45 DEGREE OPEN POSITION.

TACTILE EXIT SIGNS: A TACTILE SIGN STATING 'EXIT' AND COMPLYING WITH ICC/ANSI A117.1 CHAPTER 7 MUST BE PROVIDED ADJACENT TO EACH DOOR TO AN EGRESS STAIRWAY, AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE.

SIGNAGE PLANS MUST BE SUBMITTED BY CONTRACTOR FOR REVIEW & APPROVAL. QUANTITY OF SIGNS MUST ACCURATELY BE COUNTED DURING BID PROCESS. NO ADDITIONAL COST SHALL BE ALLOWED AND OR PAST ON TO OWNER AFTER BID IS ACCEPTED.

ACCESSIBLE SIGNAGE: ALL REQUIRED ACCESSIBLE ELEMENTS MUST BE IDENTIFIED BY THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AT THE FOLLOWING LOCATIONS:

1. ACCESSIBLE PARKING SPACES.
2. ACCESSIBLE PASSENGER LOADING ZONES.
3. ACCESSIBLE UNISEX TOILET AND BATHING ROOMS.
4. ACCESSIBLE ENTRANCES WHERE NOT ALL ENTRANCES ARE ACCESSIBLE.
5. ACCESSIBLE CHECK-OUT AISLES WHERE NOT ALL AISLES ARE ACCESSIBLE.
6. FAMILY OR ASSISTED-USE TOILET AND BATHING ROOMS.
7. ACCESSIBLE DRESSING, FITTING AND LOCKER ROOMS WHERE NOT ALL SUCH ROOMS ARE ACCESSIBLE.
8. ACCESSIBLE AREAS OF REFUGE.
9. EXTERIOR AREAS FOR ASSISTED RESCUE.

A TACTILE SIGN MUST BE PROVIDED AT ALL LOCATIONS WHERE PICTORIAL SIGNAGE IS USED TO LABEL PERMANENT ROOMS OR SPACES (I.E. RESTROOMS), COMPLYING WITH ICC/ANSI A117.1 CHAPTER 7 AND MUST BE PROVIDED ADJACENT TO EACH DOOR.

AREA OF REFUGE SIGNAGE: A SIGN MUST BE PROVIDED AT EACH DOOR PROVIDING ACCESS TO AN AREA OF REFUGE FROM AN ADJACENT FLOOR AREA, COMPLYING WITH ICC A117.1, STATING 'AREA OF REFUGE' INCLUDING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. ADDITIONALLY, TACTILE SIGNAGE COMPLYING WITH ICC A117.1 MUST BE LOCATED AT EACH DOOR TO AN AREA OF REFUGE.

SIGNAGE OF INSTRUCTIONS AT AREA OF REFUGE: IN AREAS OF REFUGE THAT HAVE A TWO-WAY EMERGENCY COMMUNICATIONS SYSTEM, INSTRUCTIONS ON THE USE OF AREA UNDER EMERGENCY CONDITIONS MUST BE POSTED ADJOINING THE COMMUNICATIONS SYSTEM. THE INSTRUCTIONS MUST INCLUDE ALL OF THE FOLLOWING

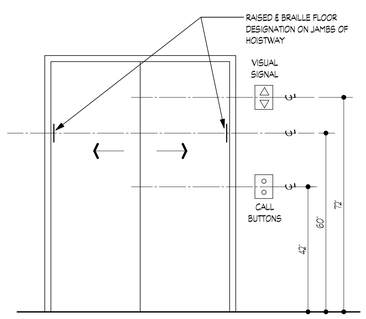
1. PERSONS ABLE TO USE THE EXIT STAIRWAY DO SO AS SOON AS POSSIBLE, UNLESS ASSISTING OTHERS.
2. INFORMATION ON PLANNED AVAILABILITY OF ASSISTANCE IN THE USE OF STAIRS OR SUPERVISED OPERATION OF ELEVATORS AND HOW TO SUMMON SUCH ASSISTANCE.
3. DIRECTIONS FOR USE OF THE TWO-WAY COMMUNICATIONS SYSTEM.

OCCUPANT LOAD SIGNAGE: EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY MUST HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED NEAR THE MAIN EXIT. REFER TO LIFE SAFETY PLAN FOR ROOMS DESIGNATED AS ASSEMBLY OCCUPANCIES.

DELAYED EGRESS SIGNAGE: A SIGN MUST BE PROVIDED ON THE DOOR LOCATED ABOVE AND WITHIN 12" OF THE RELEASE DEVICE STATING, 'PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 30 SECONDS'.

FIRE RESISTANCE RATING SIGNAGE: FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS MUST BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING.

1. SUCH IDENTIFICATION MUST INCLUDE LETTERING NOT LESS THAN 0.5" IN HEIGHT, INCORPORATING THE SUGGESTED WORDING: 'FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS' OR SIMILAR WORDING.
2. SIGNS MUST BE LOCATED IN ACCESSIBLE CONCEALED FLOOR, FLOOR/CEILING OR ATTIC SPACES.
3. SIGNS MUST BE REPEATED AT INTERVALS NOT EXCEEDING 30'-0" MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION.




ELEVATOR CONTROLS

## STAIRWAY SIGNAGE

A. STAIR SIGNAGE AT EACH FLOOR LANDING

B. INDICATE FLOOR LEVEL

C. TERMINUS OF THE TOP AND BOTTOM OF STAIR ENCLOSURE

D. INDICATE IDENTIFICATION OF THE STAIR ENCLOSURE

E. INDICATE THE FLOOR LEVEL OF, AND DIRECTION TO, EXIT DISCHARGE

F. SIGNAGE SHALL BE LOCATED INSIDE THE ENCLOSURE APPROXIMATELY 60" ABOVE FLOOR LANDING IN A POSITION THAT IS VISIBLE WHEN DOOR IS IN THE OPEN OR CLOSED POSITION

G. THE SIGNAGE SHALL COMPLY WITH 7.10.8.1 AND 7.10.8.2 OF THIS CODE

H. THE FLOOR LEVEL DESIGNATION SHALL ALSO BE TACTILE IN ACCORDANCE WITH ICC/ANSI A.117.1

I. SIGNAGE SHALL BE PAINTED OR STENCILED ON THE WALL OR ON A SEPARATE SIGN SECURELY ATTACHED TO THE WALL

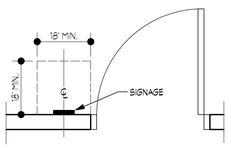
J. STAIRWAY IDENTIFICATION SHALL BE 1" IN ACCORDANCE WITH 7.10.8.2

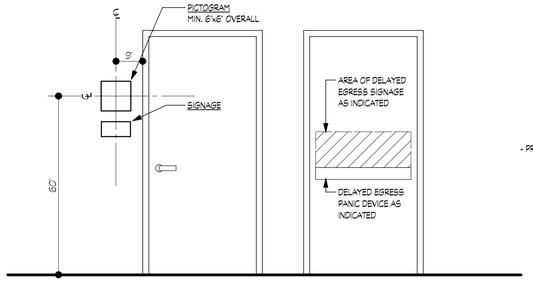
K. ROOF ACCESS - ROOF ACCESS AVAILABLE FOR THE FIRE DEPARTMENT

L. THE FLOOR LEVEL NUMBER SHALL BE LOCATED IN THE MIDDLE OF THE SIGN IN MINIMUM 5" HIGH NUMBERS PER 7.10.8.2

M. IDENTIFICATION OF THE LOWER AND UPPER TERMINUS OF THE STAIRWAY SHALL BE LOCATED AT THE BOTTOM OF THE SIGNS IN MINIMUM 2" HIGH LETTERS AND NUMBERS

N. ADHERE TO WALL WITH DOUBLE SIDED FOAM TAPE PER 7.2.2.5.4.1



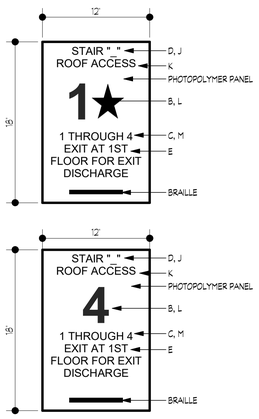




SIGNAGE

## SIGNAGE GRAPHICS

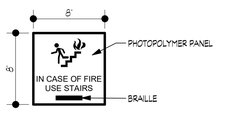
### STAIRWAY IDENTIFICATION SIGNAGE

PER 7.2.2.5.4



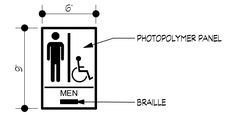

FLOOR EXIT SIGNS

- PROVIDE FOR EACH FLOOR
- PROVIDE FOR EACH STAIR

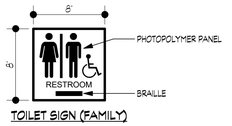



IN CASE OF FIRE SIGN

- PROVIDE AT EACH ELEVATOR LOBBY

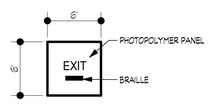



TOILET SIGN (MALE)

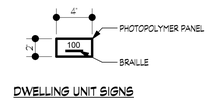



TOILET SIGN (FAMILY)

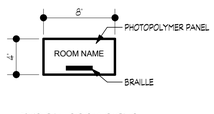
- PROVIDE AT EACH SINGLE OCCUPANT AND FAMILY TOILET ROOMS




EXIT SIGN

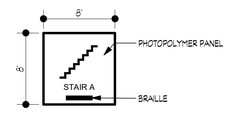



DWELLING UNIT SIGNS



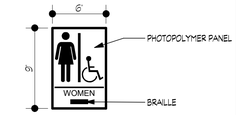

TYPICAL ROOM SIGNS

- ELECTRICAL/MECHANICAL
- METER ROOM, MDF, IDF ROOMS
- TRASH ROOM
- COMMUNITY ROOM
- OFFICE W/ NUMBER
- STORAGE
- JANITOR CLOSET
- MAIL
- STAIR




STAIR SIGN

- PROVIDE FOR EACH STAIR AT CORRIDOR




TOILET SIGN (FEMALE)

## ABBREVIATIONS

| | |
|---|---|
| ACC | ACCESSIBLE |
| @ | AT |
| & | AND |
| AB | ANCHOR BOLT |
| ABAN. | ABANDON |
| ACCOM | ACCOMODATE |
| ACS PNL | ACCESS PANEL |
| ACT | ACOUSTIC CEILING TILE |
| ACST | ACOUSTIC |
| A/C | AIR CONDITION |
| ADH | ADHESIVE |
| ADJ | ADJUSTABLE/ADJACENT |
| AESS | ARCHITECTURALLY EXPOSED STRUCTURAL STEEL |
| AFF | ABOVE FINISH FLOOR |
| AHJ | AUTHORITY HAVING JURISDICTION |
| ALT | ALTERNATE |
| ALUM | ALUMINUM |
| APT | APARTMENT |
| ARCH | ARCHITECT/ARCHITECTURAL |
| AVG | AVERAGE |
| BALC | BALCONY |
| BD | BOARD |
| BFF | BELOW FINISH FLOOR |
| BITUM | BITUMINOUS |
| BKG | BACKING |
| BLDG | BUILDING |
| BLK | BLOCKING |
| BLKHD | BULKHEAD |
| BLT | BUILT |
| BLVD | BOULEVARD |
| BLW | BELOW |
| BN | BULLNOSE |
| BOF | BOTTOM OF FOOTING |
| BOT | BOTTOM |
| BR | BACKERROD |
| BRG | BEARING |
| BRGS | BRACINGS |
| BRR | BARRIER |
| BS | BOTH SIDES |
| BSMT | BASEMENT |
| BT | BATHTUB |
| BW | BOTH WAYS |
| CEP | CARPET AND PAD |
| CAB | CABINET |
| CANTIL | CANTILEVER |
| CB | CATCH BASIN/CARRIAGE BOLT |
| CBS | CEMENTITIOUS BACKER BOARD |
| CFMF | COLD-FORMED METAL FRAMING |
| CIP | CAST-IN-PLACE |
| CJ | CONTROL JOINT |
| CL | CENTERLINE |
| CLKJ | CAULKED JOINT |
| CLG | CEILING |
| CLO | CLOSET |
| CLOS | CLOSURE |
| CLT | CLEAT |
| CMP | COMPACTED |
| CMPST | COMPOSITE |
| CMU | CONCRETE MASONRY UNIT |
| CNCL | CONCEALED |
| CO | CLEANOUT |
| CO2 | CARBON DIOXIDE |
| CONC | CONCRETE |
| CONF | CONFERENCE |
| COL | COLUMN |
| CONN | CONNECT |
| CONSTR | CONSTRUCTION |
| CONT | CONTINUE/CONTINUOUS |
| CONTR | CONTRACTOR |
| CPRS | COMPRESSIBLE |
| CPT | CARPET |
| CR | CLOSET ROD |
| CSG | CASING |
| CSWK | CASEWORK |
| CT | CERAMIC TILE |
| CTB | CERAMIC TILE BASE |
| CTR | CENTER |
| CTV | CABLE TELEVISION |
| CU FT | CUBIC FEET |
| CU YD | CUBIC YARD |
| CUH | CABINET UNIT HEATER |
| CURT | CURTAIN |
| DEMO | DEMOLISH |
| DET | DETAIL |
| DF | DRINKING FOUNTAIN |
| DIA | DIAMETER |
| DIM | DIMENSION |
| DISC | DISCONNECT |
| DMPF | DAMPPROOFING |
| D.O. | DOOR OPENING |
| DR | DOOR |
| DS | DOWNSPOUT |
| DW | DISHWASHER |
| DWG | DRAWING |
| EA | EACH |
| EE | EACH END |
| EF | EACH FACE |
| EJ | EXPANSION JOINT |
| EL | ELEVATION |
| ELAST | ELASTOMERIC |
| ELEC | ELECTRIC/ELECTRICAL |
| ELEV | ELEVATOR |
| EMER | EMERGENCY |
| ENVIR | ENVIRONMENTAL |
| EQMT | EASEMENT |
| EW | EACH WAY |
| EXH FN | EXHAUST FAN |
| EQ | EQUAL |
| EQUIP | EQUIPMENT |
| ESP | ESG SHELL PAINT |
| ETC | AND SO FORTH |
| EWC | ELECTRIC WATER COOLER |
| EWH | ELECTRIC WATER HEATER |
| EXH | EXHAUST |
| EXHV | EXHAUST VENT |
| EXIST | EXISTING |
| EXP | EXPANSION |
| EXP BT | EXPANSION BOLT |
| EXT | EXTERIOR |
| EXT GR | EXTERIOR GRADE |
| EXTRU | EXTRUSION |
| FAAP | FIRE ALARM ANNUNCIATOR PANEL |
| FD | FLOOR DRAIN |
| FDTN | FOUNDATION |
| FE | FIRE EXTINGUISHER |
| FEC | FIRE EXTINGUISHER CABINET |
| F/F | FACE TO FACE |
| FH | FIRE HYDRANT |
| FHC | FIRE HOSE CABINET |
| FIN | FINISH/FINISHED |
| FNT | FINTURE |
| FLR | FLOOR |
| FP | FLAT PANT |
| FRP | FIBERGLASS REINFORCED PLASTIC |
| FRT | FIRE RETARDANT TREATED |
| FRTW | FIRE RETARDANT TREATED WOOD |
| FRZ | FREEZER |
| FSTNR | FASTENER |
| FT | FEET/FOOT |
| FTG | FOOTING |
| FURN | FURNACE/FURNITURE |
| GA | GAUGE |
| GALV | GALVANIZED |
| GD | GARBAGE DISPOSAL |
| GDR | GUARD RAIL |
| GRAN | GRANULAR |
| GT | GROUT |
| GYP | GYPSUM |
| GWB | GYPSUM WALLBOARD |
| HB | HOSE BIBB |
| HC | HANDICAP/HOLLOW CORE |
| HD JT | HEAD JOINT |
| HDR | HEADER |
| HM | HOLLOW METAL |
| HNDRL | HANDRAIL |
| HORIZ | HORIZONTAL, HORIZONTALLY |
| HT | HEIGHT |
| HVI | HEARING / VISUALLY IMPAIRED |
| HYD | HYDRANT |
| INFO | INFORMATION |
| INSUL | INSULATE/INSULATION |
| INV EL | INVERT ELEVATION |
| J-BOX | JUNCTION BOX |
| JAN CLO | JANITORS CLOSET |
| KIT | KITCHEN |
| KOP | KNOCK OUT PANEL |
| LAM | LAMINATE/LAMINATED |
| LAU | LAUNDRY |
| LAV | LAVATORY |
| LF | LINEAR FEET |
| LINO | LINOLEUM |
| LKR | LOCKER |
| LLH | LONG LEG HORIZONTAL |
| LLV | LONG LEG VERTICAL |
| LPT | LOW POINT |
| LS | LANDSCAPE |
| LTG | LIGHTING |
| LTG PNL | LIGHTING PANEL |
| LVR | LOUVER |
| LVT | LUXURY VINYL TILE |
| LWC | LIGHTWEIGHT CONCRETE |
| MAINT | MAINTENANCE |
| MAX | MAXIMUM |
| MB | MEMBRANE |
| MC | MEDICINE CABINET/METAL-CLAD |
| MECH | MECHANICAL |
| MFR | MANUFACTURER |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MLDG | MOLDING |
| MO | MASONRY OPENING |
| MTD | MOUNTED |
| MTL | METAL |
| MULL | MULLION |
| MW | MICROWAVE |
| N | NORTH |
| NC | NOT IN CONTRACT |
| NO | NUMBER |
| NRC | NOISE REDUCTION COEFFICIENT |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| OH | OVERHANG |
| OH DR | OVERHEAD DOOR |
| O/O | OUT TO OUT |
| OPNG | OPENING |
| OPH | OPPOSITE HAND |
| OPP | OPPOSITE |
| ORD | OVERFLOW ROOF DRAIN |
| PAR | PARALLEL |
| PCC | PRECAST CONCRETE |
| PERIM | PERIMETER |
| PERP | PERPENDICULAR |
| PLAM | PLASTIC LAMINATE |
| PLBG | PLUMBING |
| PLYWD | PLYWOOD |
| PNL | PANEL |
| PORC | PORCELAIN |
| POS | POSITION |
| PRCST | PRECAST |
| PREFAB | PREFABRICATED |
| PREFIN | PREFINISHED |
| PREFMD | PREFORMED |
| PREP | PREPARATION/PREPARE |
| PRHLD | PREHOLED |
| PSDF | PREFINISHED STEEL DOOR FRAME |
| PT | PRESSURE TREATED |
| PT CONC | POST-TENSIONED CONCRETE |
| PTD | PAINTED |
| PVB | PROFILED VINYL BASE |
| PVC | POLY VINYL CHLORIDE |
| PVG | PAVING |
| QTY | QUANTITY |
| QT | QUARRY TILE |
| QTB | QUARRY TILE BASE |
| R | RADIUS/RISER |
| RA | RETURN AIR |
| RB | RUBBER BASE |
| RB HK | ROBE HOOK |
| RBR | RUBBER |
| RCVR | RECEIVER |
| RCPTN | RECEPTION |
| RD | ROOF DRAIN |
| RDS INS | RIGID INSULATION |
| REBAR | REINFORCING STEEL BARS |
| REC | RECESSED/RECOMMENDATION |
| RECPT | RECEPTACLE |
| REF | REFRIGERATOR OR REFERENCE |
| REINF | REINFORCE |
| REQD | REQUIRED |
| RESIL | RESILIENT |
| RO | ROUGH OPENING |
| ROW | RIGHT OF WAY |
| SALV | SALVAGE |
| SAN | SANITARY |
| SCH | SCHEDULE |
| SECT | SECTION |
| SF | SQUARE FEET (FOOT) |
| SGP | SEMI GLOSS PAINT |
| SHT | SHEET/SHAFT |
| SHTG | SHEATHING |
| SHW | SHOWER OR SHRINKAGE |
| SIM | SIMILAR |
| SLNT | SEALANT |
| SP | SATIN PAINT |
| SPEC | SPECIFICATION |
| SPRLR | SPRINKLER |
| SPKR | SPEAKER |
| SS | SERVICE SINK |
| SST | STAINLESS STEEL |
| STC | SOUND TRANSMISSION CLASS |
| STD | STANDARD |
| STL PL | STEEL PLATE |
| STOR | STORAGE |
| STR | STRUCTURAL |
| SV | SHEET VINYL |
| STAG | STAGGERED |
| TEB | TOP AND BOTTOM |
| TFA | TO FLOOR ABOVE |
| TFB | TO FLOOR BELOW |
| T&G | TONGUE AND GROOVE |
| THRES | THRESHOLD |
| THRU | THROUGH |
| TOS | TOP OF STEEL/SLAB |
| TV | TELEVISION |
| TYP | TYPICAL |
| UGND | UNDERGROUND |
| UL | UNDERWRITERS LABORATORY |
| U.N.O. | UNLESS NOTED OTHERWISE |
| VAN | VANITY |
| VAR | VARIES |
| VB | VINYL BASE |
| VCT | VINYL COMPOSITION TILE |
| VERT | VERTICAL VEST VESTIBULE |
| VIF | VERIFY IN FIELD |
| VTR | VENT THROUGH ROOF |
| VP | VINYL PLANK |
| VWC | VINYL WALL COVERING |
| W/ | WITH |
| WBL | WOOD BLOCKING |
| WC | WATER CLOSET/WALL COVERING |
| WD | WOOD |
| W/D | WASHER/DRYER |
| WDW | WINDOW |
| WH | WATER HEATER/WALL HUNG |
| W/O | WITH OUT |
| WOC | WALK OFF CARPET |
| WP | WATERPROOFING/WORK POINT |
| WT | WATERTIGHT |
| WR | WEATHER RESISTANT |
| WWF | WELDED WIRE FABRIC |

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT

MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.16.25 | ADDENDUM #3 |
| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

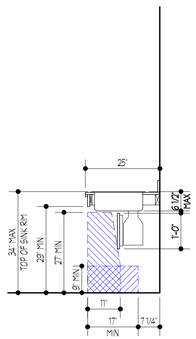
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

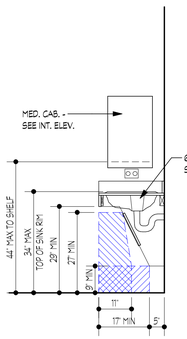
TYPICAL ACCESSIBILITY DIAGRAMS, SIGNAGE & ABBREVIATIONS

DRAWING NUMBER

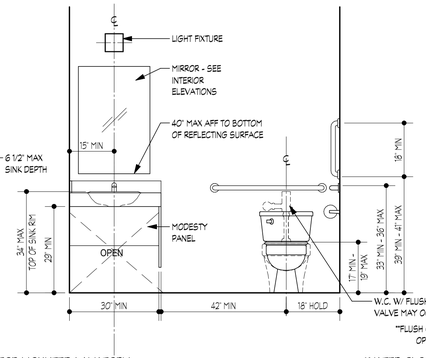
A.C.001



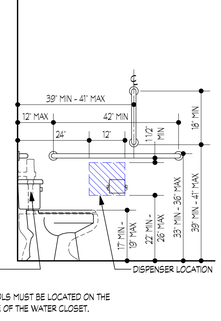

KITCHEN SINK

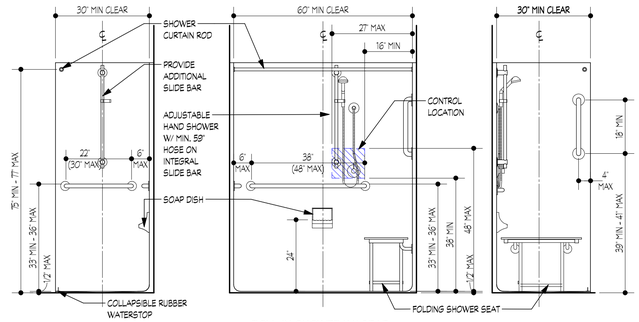



COUNTERTOP MOUNTED LAVATORY

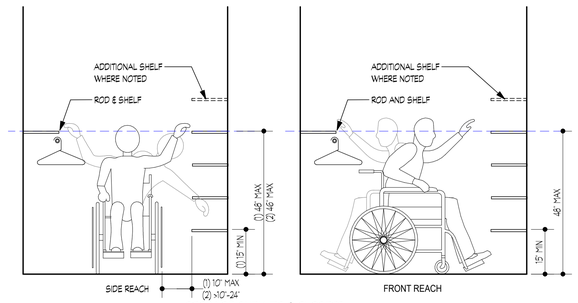



WATER CLOSETS

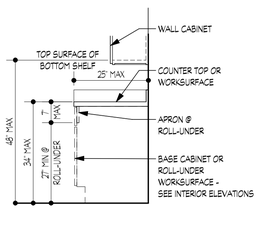


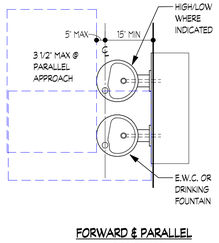

ROLL-IN SHOWER W/ SEAT



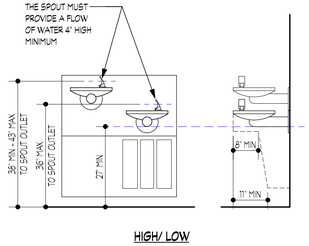

STORAGE SHELVES & CLOSETS




KITCHEN CABINETS

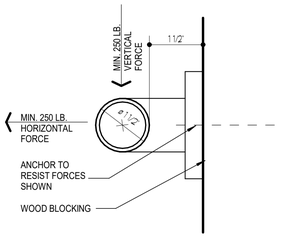



FORWARD & PARALLEL APPROACH



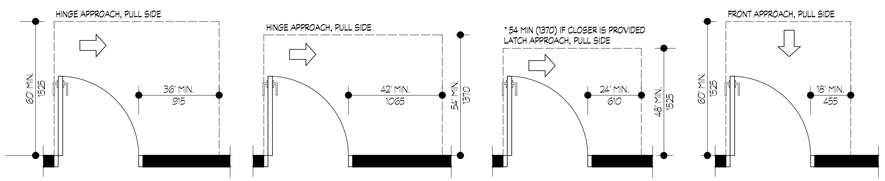

HIGH/ LOW

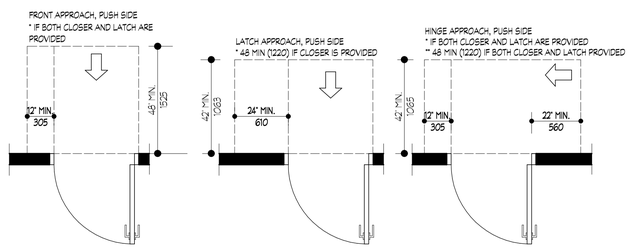
DRINKING FOUNTAINS



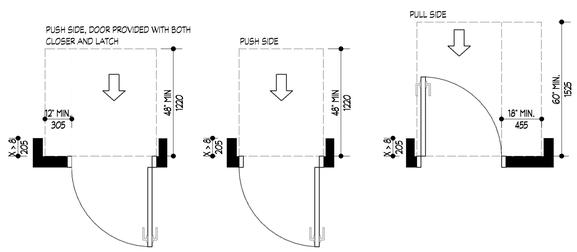

GRAB BARS

## STANDARD BARRIER FREE MOUNTING HEIGHTS




MANEUVERING CLEARANCE AT MANUAL SWING DOORS



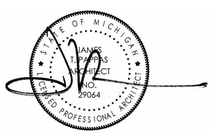

MANEUVERING CLEARANCE AT RECESSED DOORS

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

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SEAL




MICHIGAN

AFFORDABLE SENIOR LIVING

# GREYSTONE APARTMENTS

DETROIT

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.18.25 | ADDENDUM #3 |
| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ACCESSORY MOUNTING HEIGHTS & DOOR CLEARANCES

DRAWING NUMBER

A.C.002

## AREA INCREASE CALCULATIONS

**SECTION 506.2.3 AREA INCREASE**
$A_a = [A_t + (NS \times I_f)] \times S_s$
$A_t$ = 12,000; NS = 12,000; $I_f$ = .621; $S_s$ = 4

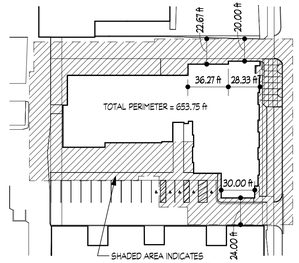
$A_a = [12{,}000 + (12{,}000 \times .621)] \times 4$
$A_a = [12{,}000 + 7{,}452] \times 4$
$A_a = [19{,}452] \times 4$
$A_a$ = 77,808 sf TOTAL ALLOWABLE BUILDING AREA

**SECTION 506.3.2 MINIMUM FRONTAGE DISTANCE**
$W = (L_1 \times W_1 + L_2 \times W_2 + L_3 \times W_3 \ldots) / F$
F = 653.75 ft

W = (36.27 X 22.67 + 28.33 X 20 + 30 X 24 + 520.65 X 30) / 653.75
W = 17,728.34 / 653.75
W = 27 ft

**SECTION 506.3.3 AMOUNT OF INCREASE**
$I_f = [F/P - .25]W / 30$
F = 615.25 ft; P = 653.75 ft; W = 27 ft

$I_f = [615.25/653.75 - .25]27 / 30$
$I_f = (.691)9$
$I_f = .621$




SITE DIAGRAM

## OCCUPANCY LOAD CALCULATIONS

| FUNCTION OF SPACE(S) | AREA | GROUP FACTOR | OCCUPANT LOAD |
|---|---|---|---|
| | 55 SF | | 0 |
| ASSEMBLY A-3 | 560 SF | 15 SF | 38 |
| BUSINESS | 462 SF | 100 SF | 7 |
| CIRCULATION | 2085 SF | | 0 |
| MECH / ELEC | 737 SF | 300 SF | 4 |
| RESIDENTIAL R-2 | 7039 SF | 200 SF | 39 |
| STORAGE | 41 SF | | 0 |
| FIRST FLOOR | 10959 SF | | 88 |
| | 109 SF | | 0 |
| CIRCULATION | 1400 SF | | 0 |
| MECH / ELEC | 121 SF | 300 SF | 2 |
| RESIDENTIAL R-2 | 9671 SF | 200 SF | 54 |
| STORAGE | 87 SF | | 0 |
| SECOND FLOOR | 11388 SF | | 56 |
| CIRCULATION | 1401 SF | | 0 |
| MECH / ELEC | 79 SF | 300 SF | 1 |
| RESIDENTIAL R-2 | 9672 SF | 200 SF | 54 |
| STORAGE | 129 SF | | 0 |
| THIRD FLOOR | 11281 SF | | 55 |
| CIRCULATION | 1401 SF | | 0 |
| MECH / ELEC | 121 SF | 300 SF | 2 |
| RESIDENTIAL R-2 | 9672 SF | 200 SF | 54 |
| STORAGE | 87 SF | | 0 |
| FOURTH FLOOR | 11281 SF | | 56 |
| TOTAL | 44908 SF | | 255 |

## PLUMBING FIXTURE CALCULATIONS (COMMON AREAS)

**A-3** — ASSEMBLY: EXHIBITION, LECTURE HALL, LIBRARIES — OL: 38 — MALE (50%): 19 — FEMALE (50%): 19

| | WATER CLOSETS | | LAVATORIES | | DRINKING FOUNTAIN | |
|---|---|---|---|---|---|---|
| URINALS | MALE | FEMALE | MALE | FEMALE | | OTHER |
| 0 | 0.15 | 0.29 | 0.1 | 0.1 | 0.08 | 1 SERVICE SINK |

**B** — BUSINESS — OL: 7 — MALE (50%): 3.5 — FEMALE (50%): 3.5

| | WATER CLOSETS | | LAVATORIES | | DRINKING FOUNTAIN | |
|---|---|---|---|---|---|---|
| URINALS | MALE | FEMALE | MALE | FEMALE | | OTHER |
| 0 | 0.14 | 0.14 | 0.09 | 0.09 | 0.07 | 1 SERVICE SINK |

TOTAL NUMBER OF FIXTURES REQUIRED

| | WATER CLOSETS | | LAVATORIES | | DRINKING FOUNTAIN | |
|---|---|---|---|---|---|---|
| URINALS | MALE | FEMALE | MALE | FEMALE | | OTHER |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 SERVICE SINK |

**TOTAL NUMBER OF FIXTURES PROVIDED**

| | WATER CLOSETS | | LAVATORIES | | DRINKING FOUNTAIN | |
|---|---|---|---|---|---|---|
| URINALS | MALE | FEMALE | MALE | FEMALE | | OTHER |
| **0** | **1** | **1** | **1** | **1** | **2** | **1 SERVICE SINK** |

PLUMBING FIXTURE CALCULATIONS BASED ON 2018 MICHIGAN PLUMBING CODE, TABLE 403.1 "MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES.

ASSEMBLY: A-3 EXHIBITION, LECTURE HALL, LIBRARIES; WATER CLOSETS = 1/125M, 1/65 F, LAVATORIES = 1/200 M & F, DRINKING FOUNTAIN = 1/500, 1 SERVICE SINK
BUSINESS B; WATER CLOSETS - 1/25 FOR FIRST 50 + 1/50 EXCEEDING M & F, LAVATORIES = 1/40 FOR FIRST 80 + 1/80 EXCEEDING M & F, DRINKING FOUNTAIN - 1/100, 1 SERVICE SINK

## BUILDING ENVELOPE REQUIREMENTS

ASHRA 90.1 2013 CLIMATE ZONE 5A

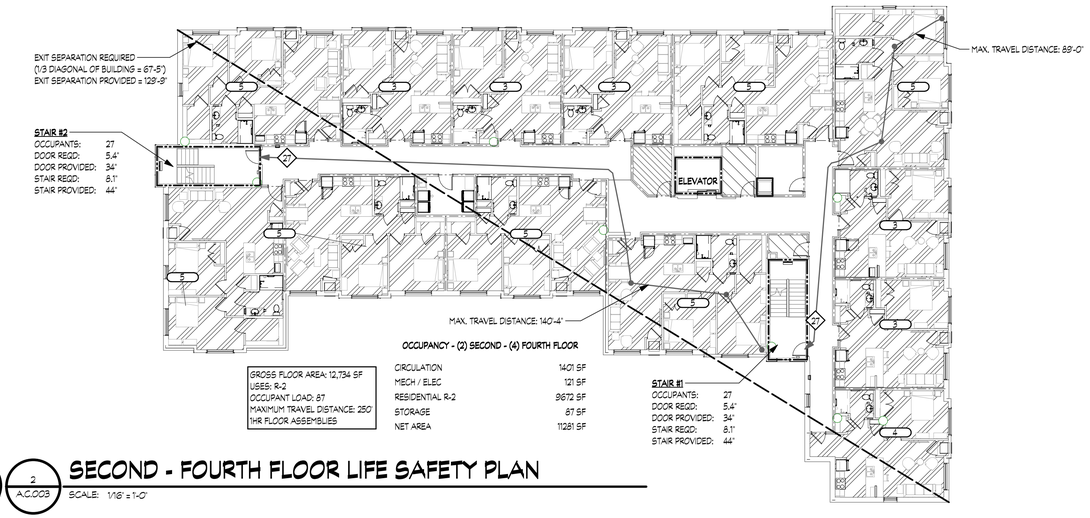
| OPAQUE ELEMENTS | ASSEMBLY MAXIMUM | INSULATION MIN. R-VALUE |
|---|---|---|
| ROOFS | | |
| INSULATION ENTIRELY ABOVE DECK | U-0.032 | R-30 C.I. * |
| WALLS ABOVE GRADE | | |
| MASS | U-0.080 | R-13.3 C.I. |
| WOOD FRAMED | U-0.051 | R-13+R-5 C.I. |
| SLAB-ON-GRADE FLOORS | | |
| UNHEATED | F-0.510 | R-20 FOR 24" |
| OPAQUE DOORS | | |
| SWINGING | U-0.500 | |

| FENESTRATION | ASSEMBLY MAX. U | ASSEMBLY MAX. SHGC | ASSEMBLY MIN. VT/SHGC |
|---|---|---|---|
| VERTICAL FENESTRATION | | | |
| NONMETAL FRAMED | U-0.32 | | |
| METAL FRAMED, FIXED | U-0.42 | SHGC-0.40 | 1.10 |
| METAL FRAMED ENTRANCE DOOR | U-0.77 | | |

* R-20 INSULATION IS PERMITTED IN ACCORDANCE WITH THE MICHIGAN ENERGY CODE PART 10A AMENDMENT, RULE 1098, EXCEPTION 7.

## LIFE SAFETY LEGEND

- R-2 RESIDENTIAL APARTMENTS
- B BUSINESS
- A ASSEMBLY
- EXIT
- TRAVEL ROUTE
- # OF OCCUPANTS IN SPACE
- # OF OCCUPANTS MERGING / TOTAL
- 1 HOUR FIRE PARTITION
- 2 HOUR FIRE PARTITION
- 1 HOUR FIRE BARRIER
- 2 HOUR FIRE BARRIER
- 3 HOUR FIRE WALL
- TRAVEL DISTANCE




OCCUPANCY - (2) SECOND - (4) FOURTH FLOOR

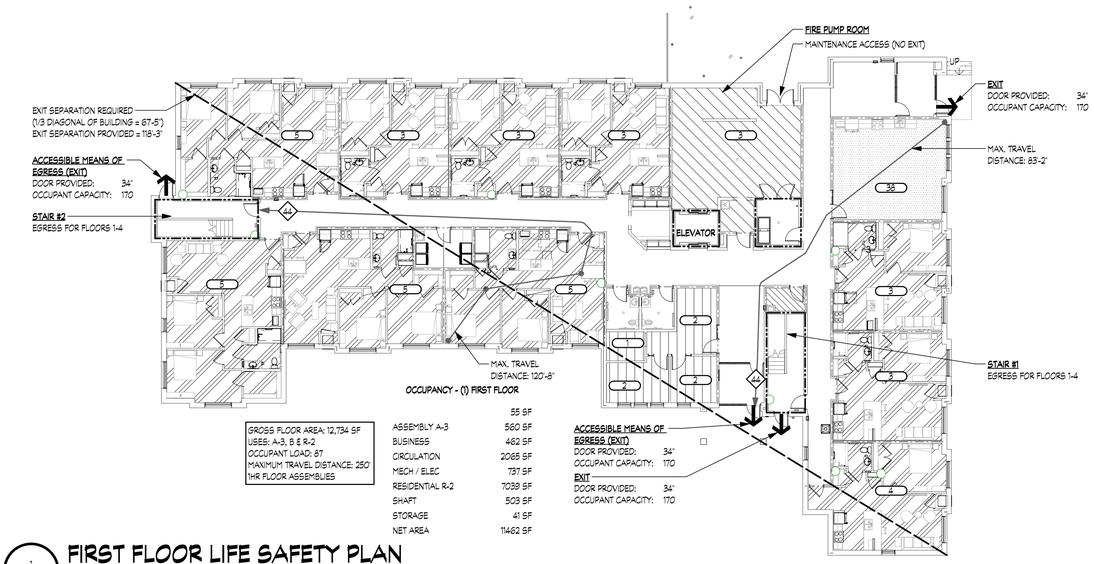
GROSS FLOOR AREA: 12,734 SF
USES: R-2
OCCUPANT LOAD: 87
MAXIMUM TRAVEL DISTANCE: 250'
1HR FLOOR ASSEMBLIES

| | |
|---|---|
| CIRCULATION | 1401 SF |
| MECH / ELEC | 121 SF |
| RESIDENTIAL R-2 | 9672 SF |
| STORAGE | 87 SF |
| NET AREA | 11281 SF |

## SECOND - FOURTH FLOOR LIFE SAFETY PLAN

2 / A.C.003 — SCALE: 1/16" = 1'-0"

NORTH




OCCUPANCY - (1) FIRST FLOOR

GROSS FLOOR AREA: 12,734 SF
USES: A-3, B & R-2
OCCUPANT LOAD: 87
MAXIMUM TRAVEL DISTANCE: 250'
1HR FLOOR ASSEMBLIES

| | |
|---|---|
| | 55 SF |
| ASSEMBLY A-3 | 560 SF |
| BUSINESS | 462 SF |
| CIRCULATION | 2085 SF |
| MECH / ELEC | 737 SF |
| RESIDENTIAL R-2 | 7039 SF |
| SHAFT | 503 SF |
| STORAGE | 41 SF |
| NET AREA | 11462 SF |

## FIRST FLOOR LIFE SAFETY PLAN

1 / A.C.003 — SCALE: 1/16" = 1'-0"

NORTH

**NOTE |** IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

## CODE INFORMATION

**APPLICABLE CODES**

| | |
|---|---|
| BUILDING CODE: | MICHIGAN BUILDING CODE 2015 |
| PLUMBING CODE: | MICHIGAN PLUMBING CODE - 2021 |
| MECHANICAL CODE: | MICHIGAN MECHANICAL CODE - 2021 |
| ELECTRICAL CODE: | NATIONAL ELECTRICAL CODE, 2023 & MICHIGAN PART 8 ELECTRICAL CODE RULES - 2023 |
| ENERGY CODE: | ASHRAE 90.1 - 2013 W/ MICHIGAN UNIFORM ENERGY CODE PART 10A AMENDMENTS |
| FIRE SUPPRESSION: | NFPA 13 R |
| ACCESSIBILITY: | ICC/ANSI A117.1 - 2009 UNIFORM FEDERAL ACCESSIBILITY STANDARDS - 1991 |
| GREEN POLICY: | NGBS SCORING FOR NEW CONSTRUCTION ICC 700-2020 NATIONAL GREE BUILDING STANDARD |

MAXIMUM ALLOWABLE BUILDING HEIGHT: 45'-0"
MAXIMUM ALLOWABLE AREA: 77,808 SF (SEE AREA INCREASE CALCULATIONS)

MIXED-USE UNSEPERATED: RESIDENTIAL R-2, BUISNESS B & ASSEMBLY A-3

PROJECT SCOPE:
- 51,188 SF GROSS AREA
- PROPOSED BUILDING HEIGHT: 44'-10"
- HIGHEST OCCUPIED FLOOR: 32'-8"
- 4 STORIES ABOVE GRADE
- CONSTRUCTION TYPE VA
- 2 EXITS FROM EACH FLOOR REQUIRED

## FIRE RESISTANCE RATING REQUIREMENTS

MBC CONSTRUCTION TYPE: VA

| BUILDING ELEMENT | FIRE RATINGS (MBC TABLE 601 & 602) |
|---|---|
| PRIMARY STRUCTURAL FRAME | 1-HOUR |
| BEARING WALLS: | |
| EXTERIOR | 1-HOUR |
| INTERIOR | 1-HOUR |
| NON-BEARING WALLS AND PARTITIONS: | |
| EXTERIOR | X < 5 = 1-HOUR, 5 ≤ X < 10 = 1-HOUR, 10 ≤ X < 30 = 1-HOUR, X ≥ 30 = 0-HOUR |
| INTERIOR | 0-HOUR |
| FLOOR CONSTRUCTION AND SECONDARY MEMBERS | 1-HOUR |
| ROOF CONSTRUCTION AND SECONDARY MEMBERS | 1-HOUR |
| **WALL REQUIREMENTS** | **FIRE RATING REQUIREMENTS** |
| FURNACE ROOMS W/ EQUIPMENT OVER 400,000 BTU/HR | 1-HOUR[A] (MBC TABLE 509) |
| BOILER ROOMS W/ EQUIPMENT OVER 15 PSI AND 10 HP | 1-HOUR[A] (MBC TABLE 509) |
| LAUNDRY ROOMS > 100 SQFT | 1-HOUR[A] (MBC TABLE 509) |
| WASTE AND LINEN COLLECTION ROOMS OVER 100 SF | 1-HOUR[A] (MBC TABLE 509) |
| ROOMS CONTAINING FIRE PUMPS IN HIGH-RISE BUILDINGS | 2-HOUR (MBC TABLE 913.2.1) |
| DWELLING AND SLEEPING UNIT SEPARATION WALLS | 1-HOUR (PER MBC SECTION 420.2, 708) |
| CORRIDOR WALLS | 1/2-HOUR WITH SPRINKLER SYSTEM (PER MBC TABLE 1020.1) |
| FIREWALLS | 3-HOUR[C] (PER MBC TABLE 706.4) |
| SHAFT ENCLOSURES | 2 HOUR (PER MBC SECTION 713.4) |
| EXIT PASSAGEWAYS | 1-HOUR[D] (PER MBC SECTION 1024.3) |
| HORIZONTAL EXITS | 2-HOUR (PER MBC SECTION 1026.2) |

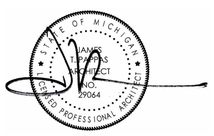
A ZERO HOUR WHEN AUTOMATIC FIRE EXTINGUISHING SYSTEM PROVIDED
B ONE HOUR AND PROVIDE AUTOMATIC FIRE SPRINKLER SYSTEM THROUGHOUT THE BUILDING
C IN TYPE II OR V CONSTRUCTION, WALLS SHALL BE PERMITTED TO HAVE A 2-HOUR FIRE-RESISTANCE RATING,
D AND NOT LESS THAN THAT REQUIRED FOR ANY CONNECTING INTERIOR EXIT STAIRWAY OR RAMP.


FSP FUSCO, SHAFFER & PAPPAS, INC.
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# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.18.25 | ADDENDUM #3 |
| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 03.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

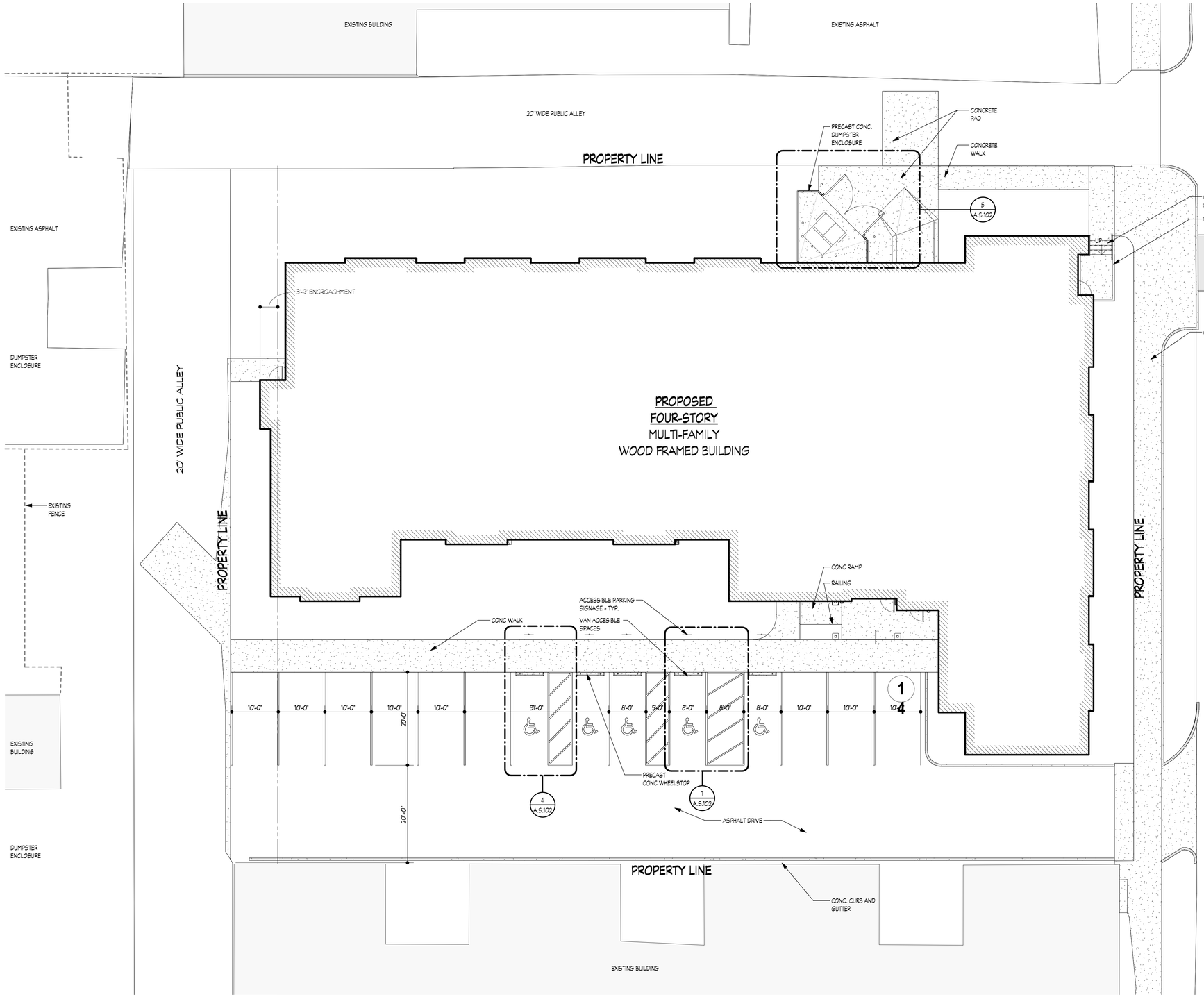
DRAWING TITLE

LIFE SAFETY PLANS

DRAWING NUMBER

A.C.003

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.




NORTH

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STATE OF MICHIGAN
JAMES THOMAS BIRKETT
No. 39064
LICENSED PROFESSIONAL ARCHITECT

AFFORDABLE SENIOR LIVING

# GREYSTONE APARTMENTS

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| 09.23.24 | PERMITS |

KEY PLAN

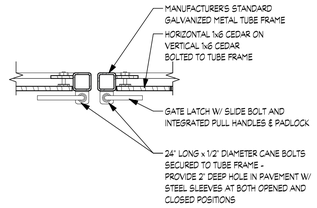
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ARCHITECTURAL SITE PLAN

DRAWING NUMBER

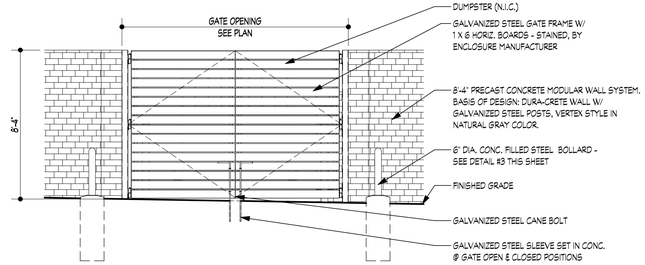
A.S.101




7 A.S.102

## DOUBLE SWING GATE LATCH DETAIL

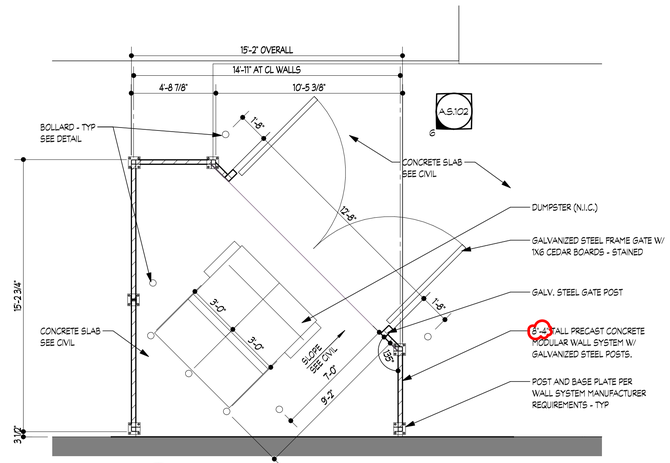
SCALE: 1 1/2" = 1'-0"




6 A.S.102

## DUMPSTER ENCLOSURE ELEVATION

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

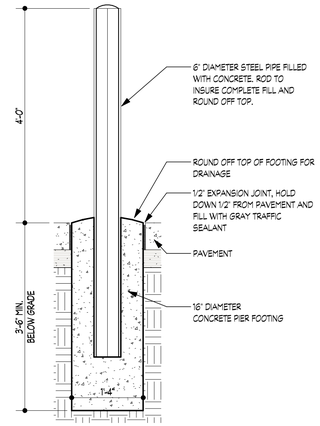



5 A.S.102

## DUMPSTER ENCLOSURE PLAN

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

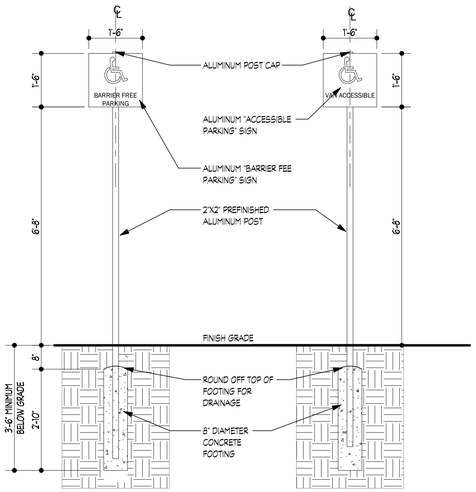
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3 A.S.102

## PIPE BOLLARD

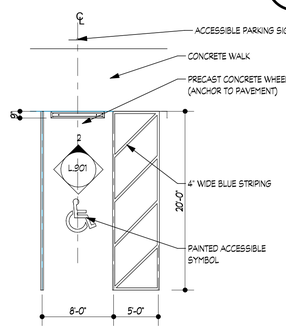
SCALE: 3/4" = 1'-0"




2 A.S.102

## ACCESSIBLE SIGN ELEVATION

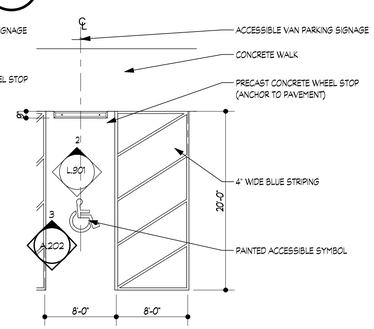
SCALE: 1/2" = 1'-0"




4 A.S.102

## ACCESSIBLE PARKING SPACE

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




1 A.S.102

## ACCESSIBLE VAN PARKING SPACE

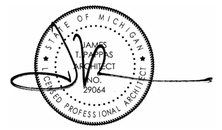
SCALE: 1/8" = 1'-0"

FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

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MICHIGAN

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS

DETROIT

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| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

SITE DETAILS

DRAWING NUMBER

A.S.102

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

## GENERAL NOTES

1. UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO NOMINAL SURFACE OF MASONRY, FACE OF STUDS, FACE OF SHEATHING FOR EXTERIOR WALLS, CENTERLINE OF OPENINGS FOR DOORS AND WINDOWS, AND FACE OF CONCRETE WALLS.
2. WHERE A DOOR IS LOCATED NEAR CORNER OF ROOM AND IS NOT LOCATED BY DIMENSION ON PLAN OR DETAILS, DIMENSION SHALL BE 3" FROM FACE OF STUD (WALL) TO FACE OF ROUGH OPENING, DIMENSION SHALL BE 5" FROM FACE OF WALL TO EDGE OF ROUGH OPENING AT MASONRY WALLS.
3. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
4. WALL TYPES WITH UL DESIGN NUMBERS SHALL BE CONSTRUCTED TO UL STANDARDS. PRODUCTS USED SHALL BEAR UL CLASSIFICATION WHERE REQUIRED BY THE UL DESIGN.
5. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
6. VERIFY SIZE/LOCATION/FINISH/FIRE-RATING, ETC. AND PROVIDE COMPLETE ALL REQUIRED OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES AND BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.
7. ALL CONCEALED SPACES IN WALLS, COLUMN ENCLOSURES, BULKHEADS AND SIMILAR LOCATIONS NOT COMPLETELY FILLED WITH INSULATION SHALL BE FIRE STOPPED AT THE CEILING LEVEL.
8. AT ALL DEVICES INSTALLED IN FIRE RATED CONSTRUCTION, CONSTRUCT AS REQUIRED TO MAINTAIN INTEGRITY OF THE FIRE RATING.
9. WHERE FLOOR DRAINS ARE INDICATED, FLOORS SHALL SLOPE TO DRAINS AT 1/8" PER FOOT MINIMUM (1%) WHILE KEEPING FLOOR LEVEL AT WALL BASE CONDITION.
10. SEE ENLARGED PLANS FOR ADDITIONAL NOTES AND DIMENSIONS.
11. ALL PENETRATIONS AND OPENINGS SHALL MEET WALL ASSEMBLY FIRE RATINGS.
12. PROVIDE AND INSTALL A FULLY AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS WITH APPROVED COMPONENTS, DEVICES AND EQUIPMENT TO PROVIDE COMPLETE COVERAGE OF ALL PORTIONS OF THE BUILDING. THE FIRE SUPPRESSION HEADS MUST BE QUICK RESPONSE SPRINKLER HEADS THROUGHOUT THE BUILDING.
13. COORDINATE WITH STRUCTURAL DRAWINGS FOR MINIMUM STUD DEPTH, THICKNESS AND SPACING. FRAME CORRIDOR, PLUMBING AND CHASE WALLS WITH 2x6 STUDS UNLESS NOTED OTHERWISE.
14. REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OR DRAWINGS FOR ADDITIONAL INFORMATION.

**GENERAL REFRIGERANT PIPE SHAFT NOTES:**
REFRIGERANT PIPE SHAFT: REFRIGERANT PIPING THAT PENETRATES TWO OR MORE FLOOR/CEILING ASSEMBLIES SHALL BE ENCLOSED IN A FIRE-RESISTANCE-RATED SHAFT ENCLOSURE. SHAFT SHALL EXTEND FROM THE LOWEST LEVEL TO THE UNDERSIDE OF ROOF DECK.

SHAFT VENTILATION: REFRIGERANT PIPE SHAFT(S) SHALL BE NATURALLY OR MECHANICALLY VENTILATED. NATURALLY VENTILATED SHAFTS SHALL HAVE AN INLET (FRESH AIR SUPPLY) PIPE, DUCT OR CONDUIT NOT LESS THAN 4" IN DIAMETER THAT CONNECTS TO THE LOWEST POINT OF SHAFT AND EXTENDS TO THE OUTDOORS. THE PIPE, DUCT OR CONDUIT SHALL BE LEVEL OR PITCHED DOWNWARD TO THE OUTDOORS.

LOWEST POINT OF SHAFT: IMMEDIATELY BELOW THE INLET PIPE, DUCT OR CONDUIT PROVIDE A GYPSUM BOARD "FLOOR" SEPARATING ANY VOID SPACE FROM THE REST OF THE SHAFT.

WALL CONSTRUCTION: ENCLOSE SHAFTS WITH A 2HR RATED SHAFTWALL ASSEMBLY AS DETAIL IN WALL TYPE S8A. SHAFTWALLS SHALL BEAR ON THE FIRST FLOOR CONCRETE SLAB AND EXTEND CONTINUOUSLY TO THE UNDERSIDE OF THE ROOF DECK. SECURE WALLS AT EACH INTERMEDIATE FLOOR WITH ALUMINUM BREAK-AWAY CLIPS. DO NOT SUPPORT SHAFTWALL STUDS ON INDERMEDIATE WOOD FLOOR CONSTRUCTION.

FOR ADDITIONAL REQUIREMENTS AND INFORMATION REFER TO MECHANICAL DRAWINGS AND 2021 MICHIGAN MECHANICAL CODE, SECTION 1109 - REFRIGERANT PIPING INSTALLATION

## FIRST FLOOR PLAN

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

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ARCHITECTS AND PLANNERS
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STATE OF MICHIGAN · JAMES THOMAS PROJECT ARCHITECT · NO. 39064 · LICENSED PROFESSIONAL ARCHITECT

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

| DATE | ISSUE |
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| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE
FIRST FLOOR PLAN

DRAWING NUMBER
A.101

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

## GENERAL NOTES

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WALL CONSTRUCTION: ENCLOSE SHAFTS WITH A 2HR RATED SHAFTWALL ASSEMBLY AS DETAIL IN WALL TYPE 58A. SHAFTWALLS SHALL BEAR ON THE FIRST FLOOR CONCRETE SLAB AND EXTEND CONTINUOUSLY TO THE UNDERSIDE OF THE ROOF DECK. SECURE WALLS AT EACH INTERMEDIATE FLOOR WITH ALUMINUM BREAK-AWAY CLIPS. DO NOT SUPPORT SHAFTWALL STUDS ON INDERMEDIATE WOOD FLOOR CONSTRUCTION.

FOR ADDITIONAL REQUIREMENTS AND INFORMATION REFER TO MECHANICAL DRAWINGS AND 2021 MICHIGAN MECHANICAL CODE, SECTION 1109 - REFRIGERANT PIPING INSTALLATION

## SECOND - FOURTH FLOOR PLANS

1 A.102 — SCALE: 1/8" = 1'-0"

NORTH

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FERNDALE, MICHIGAN, 48220
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STATE OF MICHIGAN — JAMES T. HOOKS — LICENSED PROFESSIONAL ARCHITECT — NO. 39064

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

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| 09.23.24 | PERMITS |

KEY PLAN

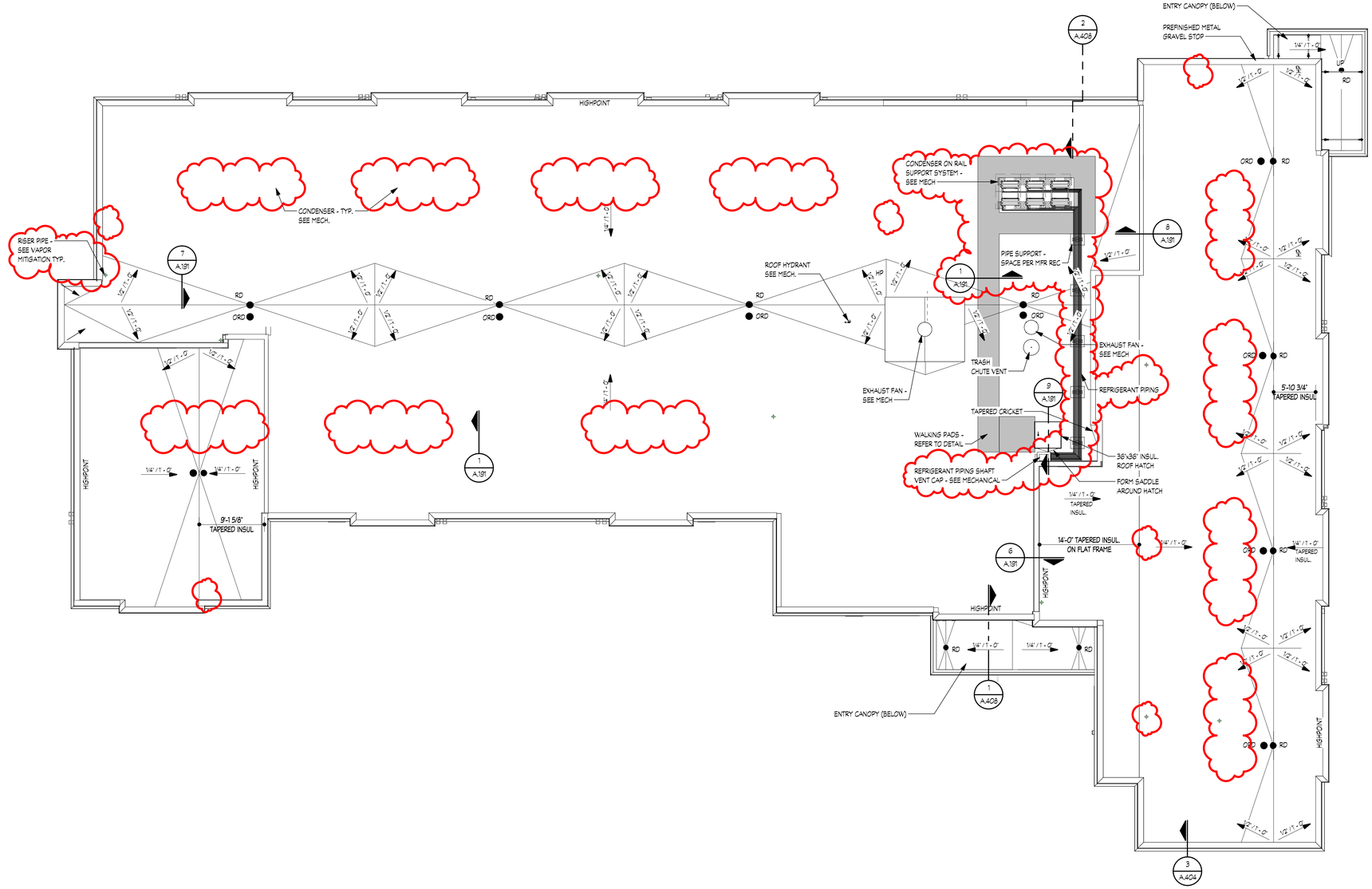
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

TYPICAL FLOOR PLAN

DRAWING NUMBER

A.102




NORTH

1 A.109

## ROOF PLAN

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

**NOTE** | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

### GENERAL ROOF NOTES

1. RIGID INSULATION SHALL MAINTAIN A MINIMUM R VALUE OF R-30 AT ALL LOCATIONS, STAGGER JOINTS BETWEEN LAYERS.
2. ROOF TO SLOPE A MINIMUM OF 1/4" PER FOOT AT ALL LOW SLOPE ROOF LOCATIONS. TAPERED INSULATION AND CRICKET LOCATIONS SHALL SLOPE 1/2" PER FOOT, VERIFY SLOPE AND DRAINAGE PRIOR TO FABRICATION.
3. THE CONTRACTOR SHALL PROVIDE AND INSTALL MANUFACTURER RECOMMENDED UNDERLAYMENTS, SLIP SHEETS, ISOLATION MATERIALS, ETC. NOT SPECIFICALLY INDICATED ON THE DRAWINGS FOR A COMPLETE ROOF SYSTEM INSTALLATION.
4. PROVIDE MANUFACTURER'S STANDARD WALKWAY PADS BETWEEN ALL ROOF HATCHES, ROOF ACCESS DOORS AND ROOF MOUNTED MECHANICAL EQUIPMENT. PROVIDE WALKWAY PADS AROUND PERIMETER OF ALL EQUIPMENT AND EQUIPMENT MOUNTING FRAMES.

### ROOF PLAN LEGEND

- ROOF SUMP (RD) & OVER FLOW ROOF SUMP (ORD) SEE DETAIL 3/A.191
- VENT STACK
- ROOF HATCH
- HP — HIGH POINT
- WALK PAD
- REFRIGERANT PIPING SHAFT VENT HOOD


FUSCO, SHAFFER & PAPPAS, INC.
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STATE OF MICHIGAN — JAMES THOMAS PROJECT NO. 29064 — LICENSED PROFESSIONAL ARCHITECT

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.18.25 | ADDENDUM #3 |
| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

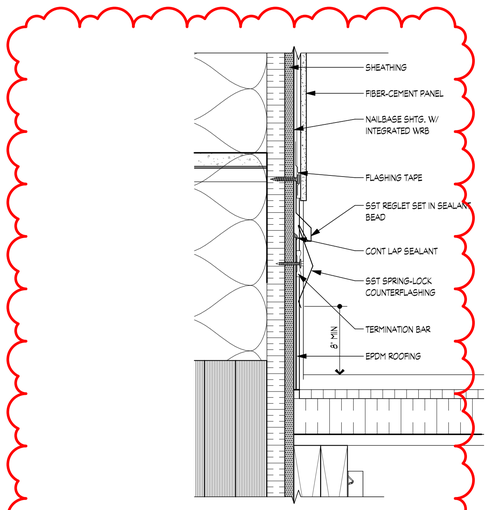
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

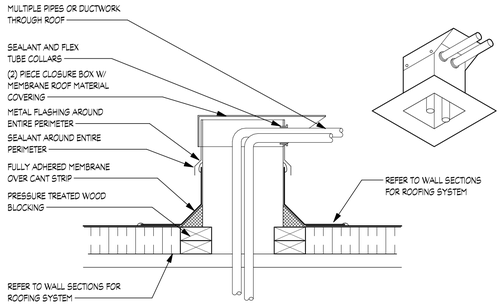
ROOF PLAN

DRAWING NUMBER

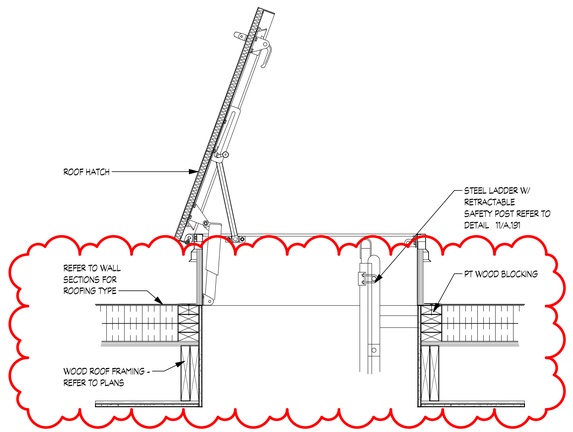
A.109



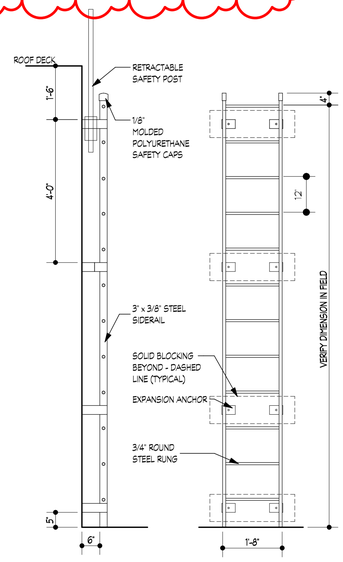

12 A.191 **TERMINATION AT WALL CLADDING**
SCALE: 3" = 1'-0"



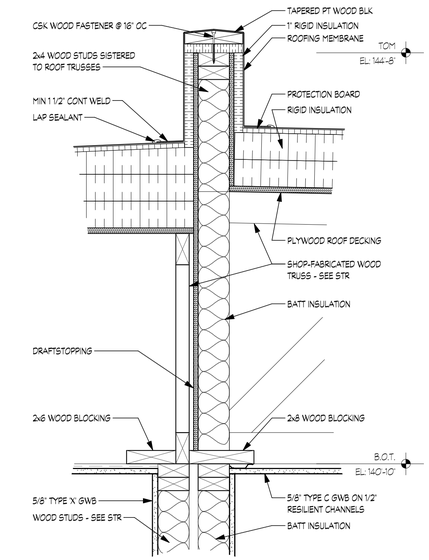

10 A.191 **ROOF PENETRATION HOUSING**
SCALE: 1 1/2" = 1'-0"



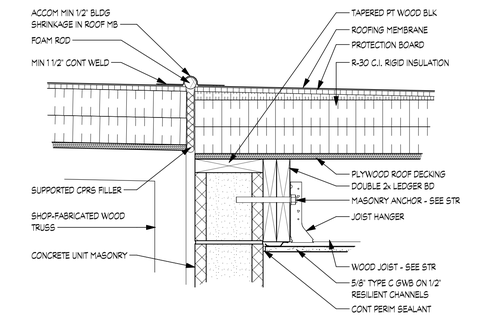

9 A.191 **ROOF HATCH**
SCALE: 1" = 1'-0"



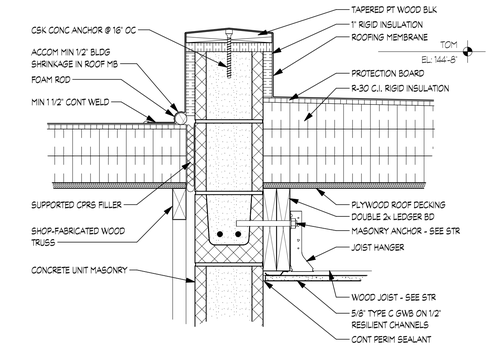

11 A.191 **ROOF ACCESS LADDER**
SCALE: 1/2" = 1'-0"



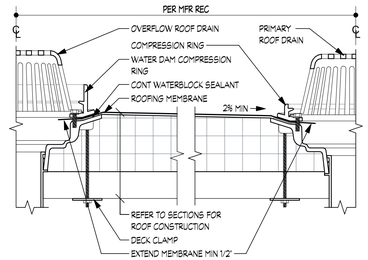

8 A.191 **ENLARGED ROOF TRANSITION**
SCALE: 1 1/2" = 1'-0"



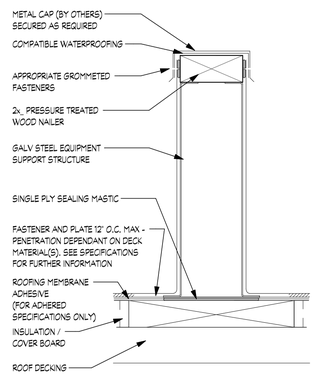

7 A.191 **ROOF TRANSITION @ STAIR**
SCALE: 1 1/2" = 1'-0"



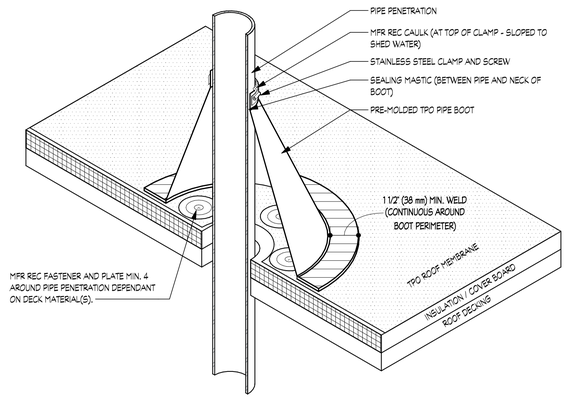

6 A.191 **ROOF TRANSITION @ STAIR**
SCALE: 1 1/2" = 1'-0"



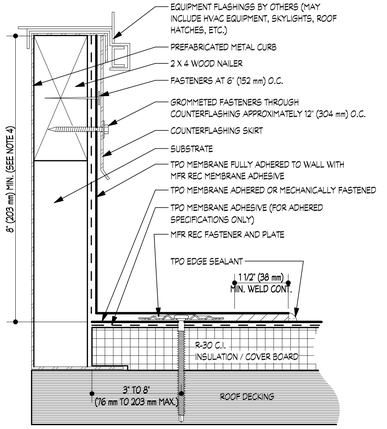

5 A.191 **ROOF DRAIN SECTION**
SCALE: 3" = 1'-0"



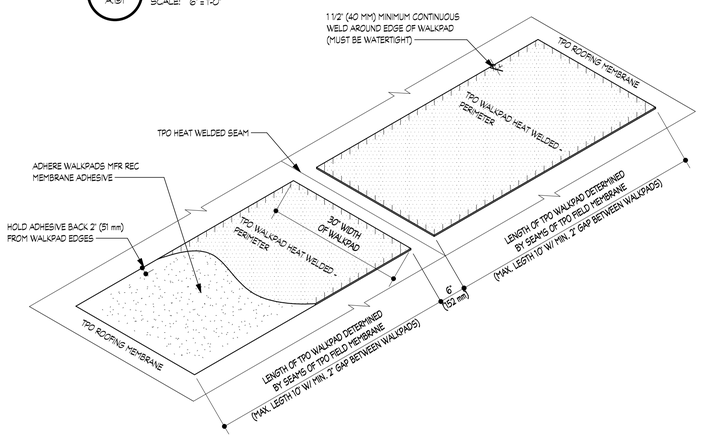

4 A.191 **EQUIPMENT RAIL**
SCALE: 3" = 1'-0"




3 A.191 **PIPE PENETRATION**
SCALE: 1 1/2" = 1'-0"




2 A.191 **RTU CURB**
SCALE: 6" = 1'-0"



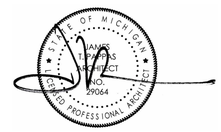

1 A.191 **WALKING PAD**
SCALE: 3/4" = 1'-0"

**NOTE** | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

FSP FUSCO, SHAFFER & PAPPAS, INC.
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# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

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| 09.23.24 | PERMITS |

KEY PLAN

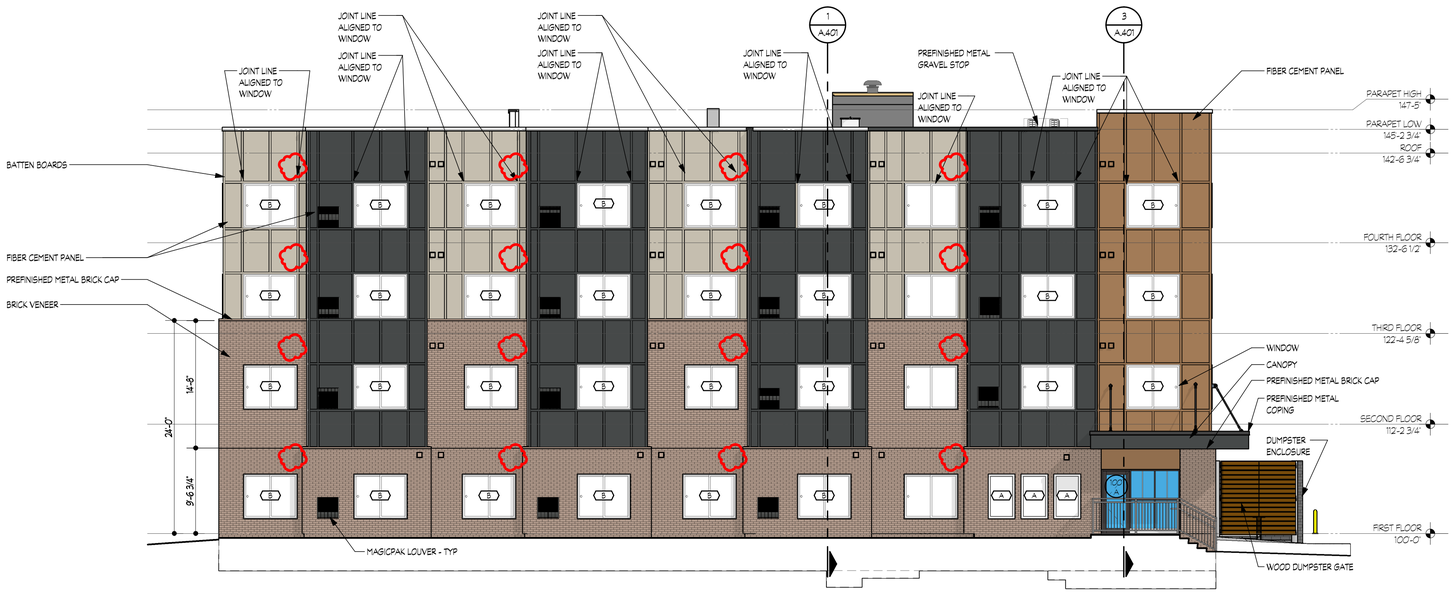
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ROOF DETAILS

DRAWING NUMBER

A.191




3 A.201 **SOUTH ELEVATION**

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




1 A.201 **EAST ELEVATION**

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

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

## EXTERIOR ELEVATION NOTES

1. ALL EQUIPMENT, INCLUDING GAS METERS, ELECTRIC METERS, TELEPHONE AND CABLE BOXES, VENTILATION LOUVERS, LIGHTS, ETC. SHOWN ON SIDING SHALL BE MOUNTED ON ¾ OR EQUIVALENT EXTERIOR GRADE BLOCKING.
2. REFER TO BUILDING AND UNIT PLANS FOR VARIATIONS OF INDIVIDUAL UNITS AND/OR BUILDINGS.
3. LINE OF GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE.
4. ALL MASONRY AND MORTAR JOINTS TO BE INTEGRALLY AND FIELD APPLIED WITH WATER REPELLANT SEALER.
5. PROVIDE MASONRY CONTROL JOINTS AT MINIMUM OF 20 FEET. LOCATIONS TO BE APPROVED BY THE ARCHITECT.

## LEGEND

- BELDEN BRICK/GLEN-GERY MALMO MODULAR
- JAMES HARDIE PANEL DREAM COLLECTION 'RAW HONEY'
- JAMES HARDIE PANEL DREAM COLLECTION 'SHOU SUGI BAN'
- JAMES HARDIE PANEL STATEMENT COLLECTION 'COBBLE STONE'

FSP FUSCO, SHAFFER & PAPPAS, INC.
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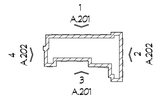
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STATE OF MICHIGAN
JAMES THOMAS BIRCHMEIER
LICENSED PROFESSIONAL ARCHITECT
NO. 39064

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
## DETROIT MICHIGAN

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| 09.23.24 | PERMITS |

KEY PLAN



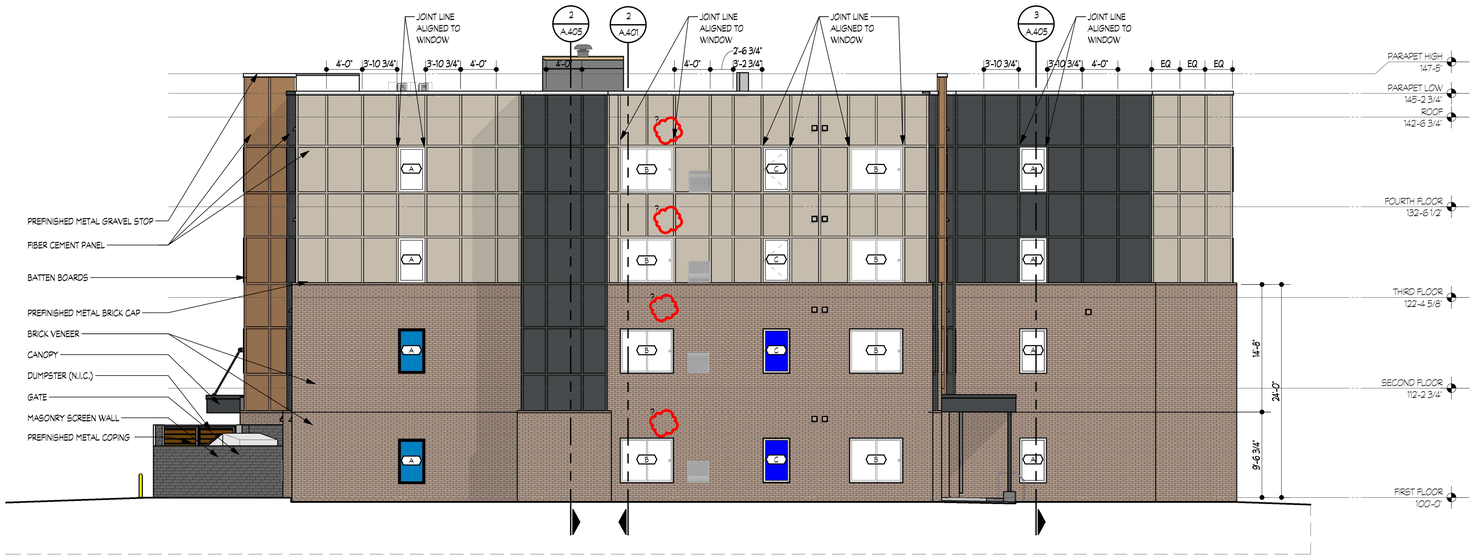

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

EXTERIOR ELEVATIONS

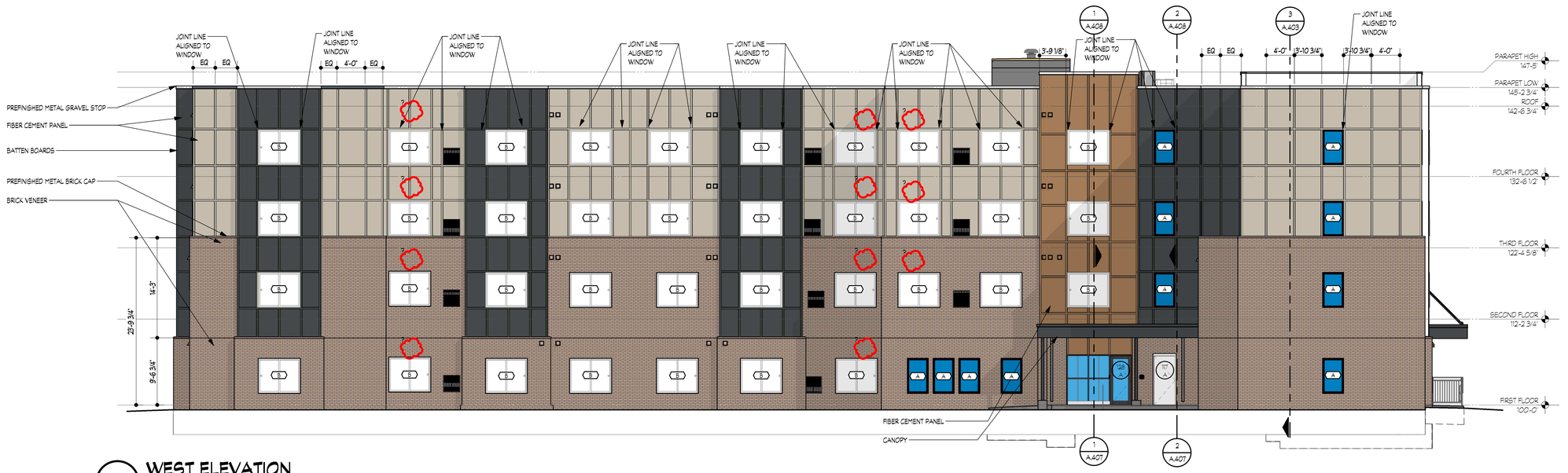
DRAWING NUMBER

A.201




4 A202 **NORTH ELEVATION**

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




3 A202 **WEST ELEVATION**

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

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5. PROVIDE MASONRY CONTROL JOINTS AT MINIMUM OF 20 FEET. LOCATIONS TO BE APPROVED BY THE ARCHITECT.

## LEGEND

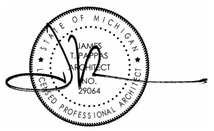
- BELDEN BRICK/GLEN-GERY MALMO MODULAR
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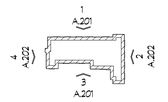
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# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

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| 08.19.26 | BULLETIN #1 |
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| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN




FSP PROJECT NO.
CCD18.002

DRAWING TITLE

EXTERIOR ELEVATIONS

DRAWING NUMBER

A.202

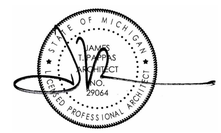
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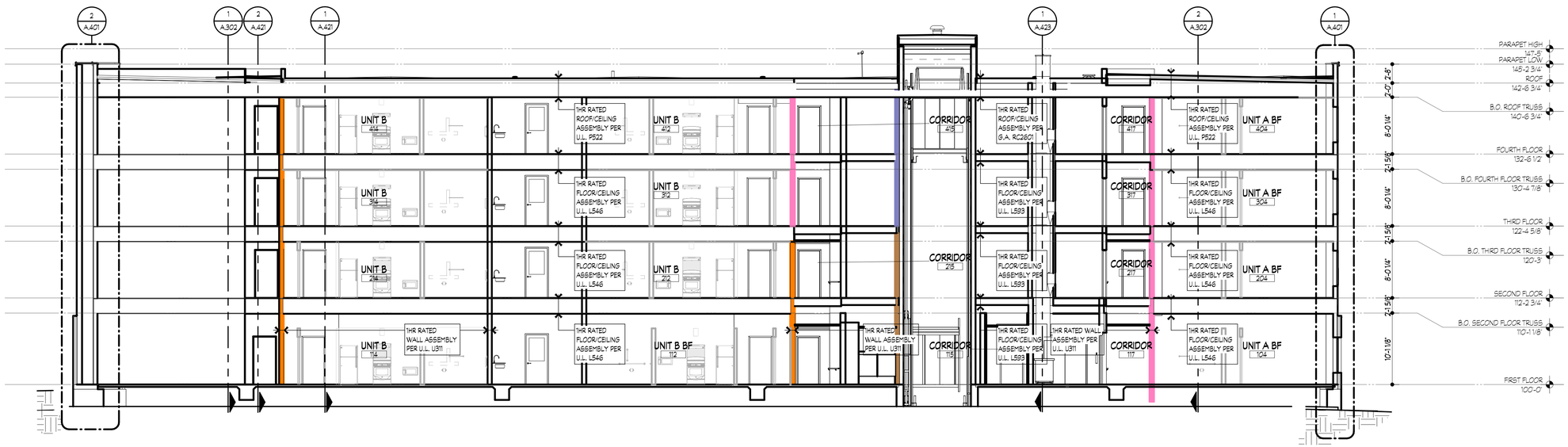
SEAL







2 A.301 BUILDING SECTION
SCALE: 1/8" = 1'-0"




1 A.301 BUILDING SECTION
SCALE: 1/8" = 1'-0"

AFFORDABLE SENIOR LIVING

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KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

BUILDING SECTIONS

DRAWING NUMBER

A.301

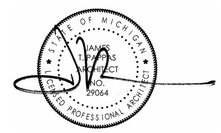
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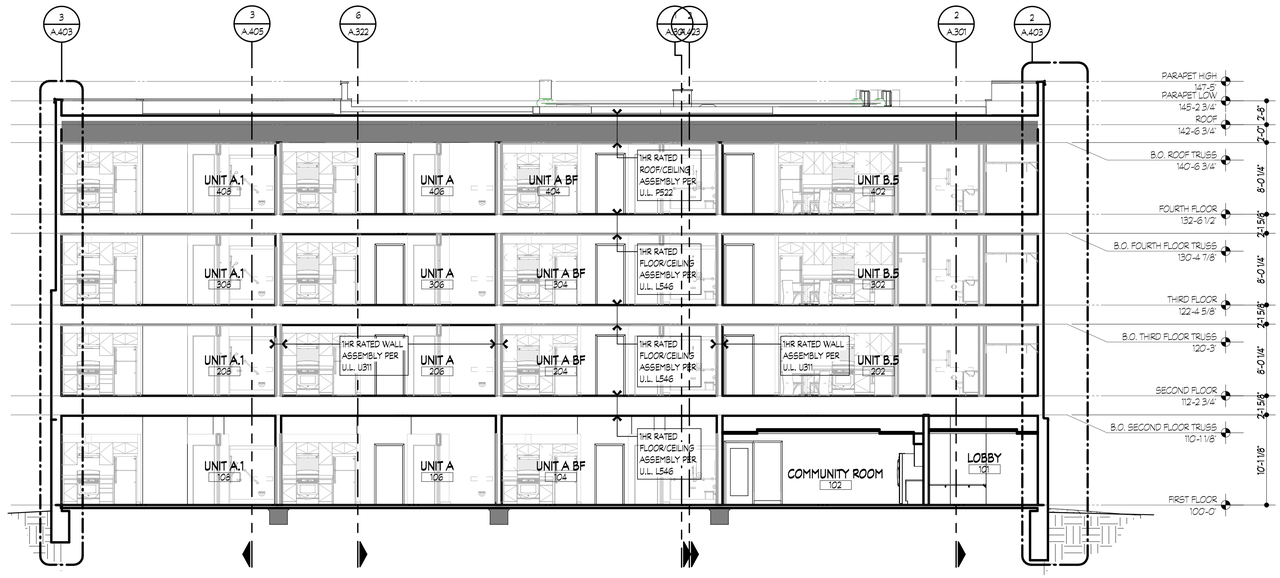
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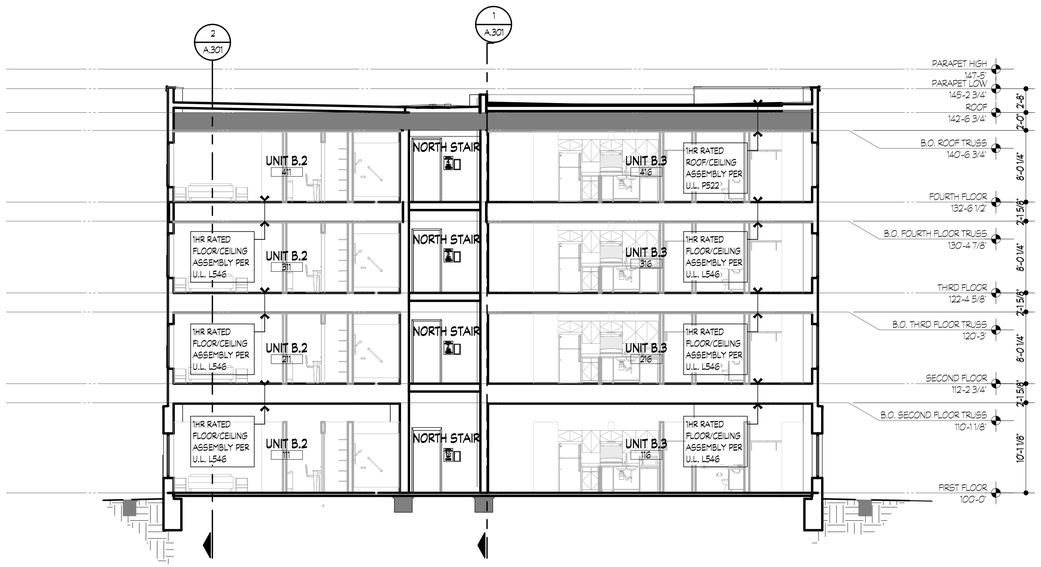
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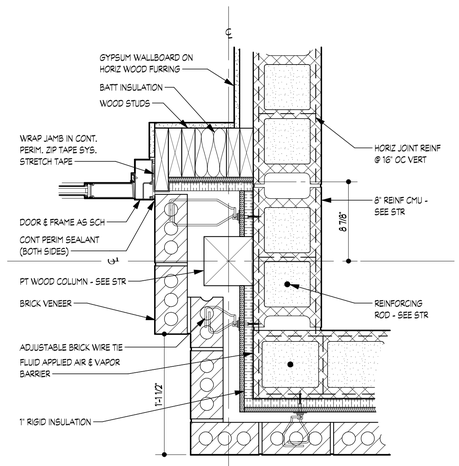

## 2 A.302 BUILDING SECTION

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



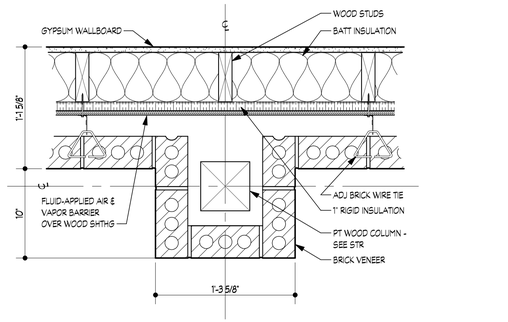

## 1 A.302 BUILDING SECTION

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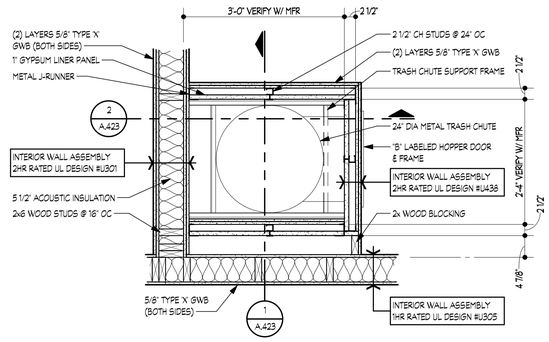

## 5 A.302 PLAN DETAIL

SCALE: 1 1/2" = 1'-0"




## 4 A.302 PLAN DETAIL

SCALE: 1 1/2" = 1'-0"




## 3 A.302 ENLARGED TRASH CHUTE PLAN

SCALE: 3/4" = 1'-0"

AFFORDABLE SENIOR LIVING

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KEY PLAN

FSP PROJECT NO.
CCD18.002

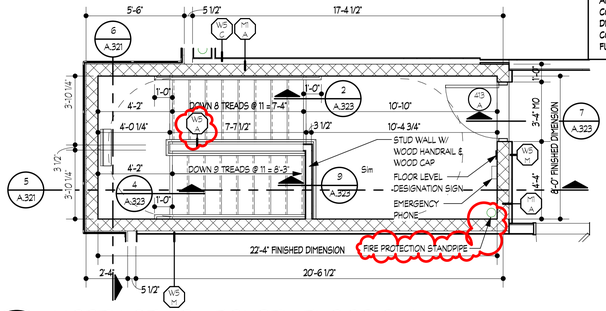
DRAWING TITLE

BUILDING SECTIONS

DRAWING NUMBER

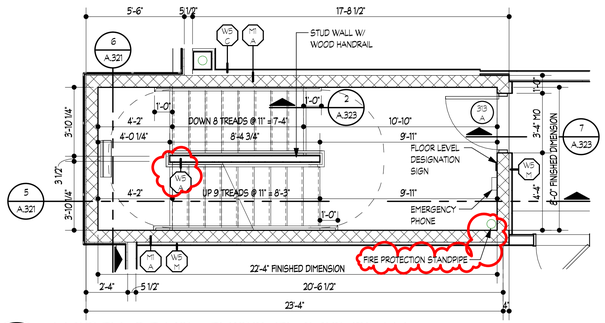
A.302

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.



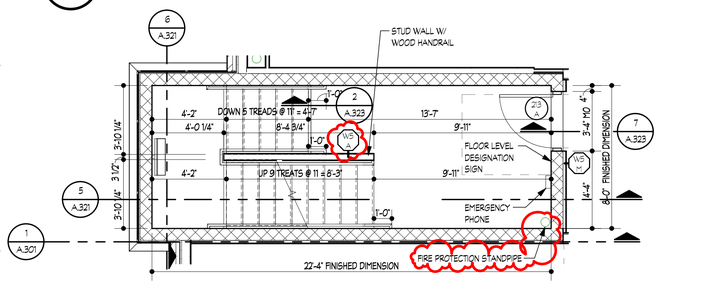

4 A.321 NORTH STAIR - FOURTH FLOOR PLAN

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



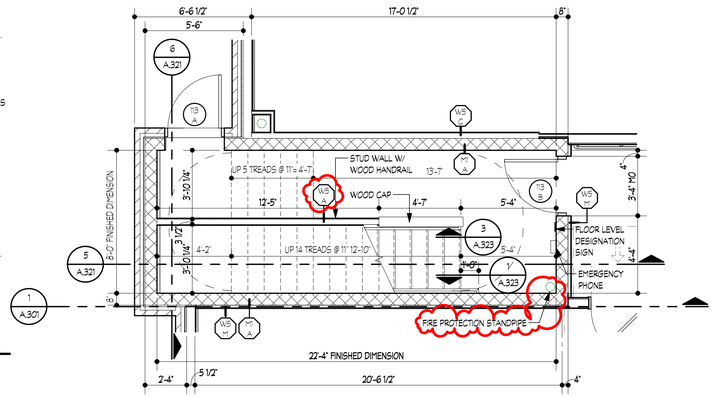

3 A.321 NORTH STAIR -THIRD FLOOR PLAN

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



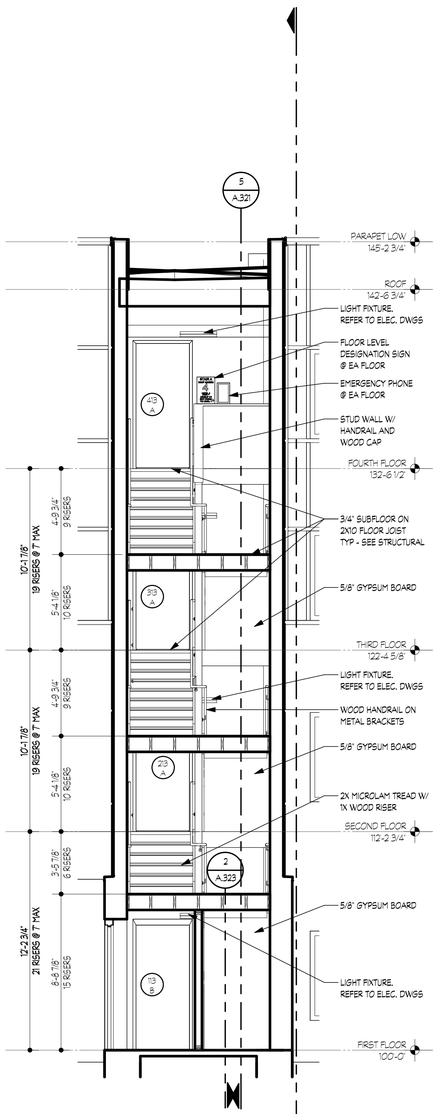

2 A.321 NORTH STAIR - SECOND FLOOR PLAN

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



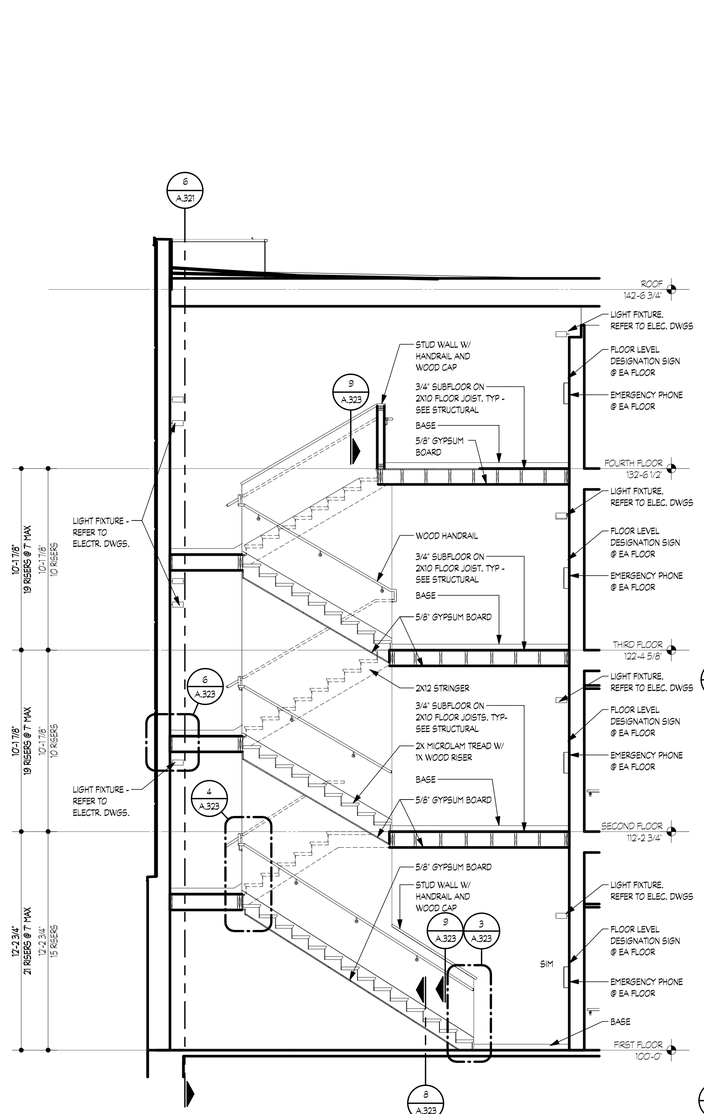

1 A.321 NORTH STAIR - FIRST FLOOR PLAN

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




6 A.321 NORTH STAIR - SECTION

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




5 A.321 NORTH STAIR - SECTION

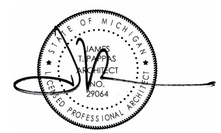
SCALE: 1/4" = 1'-0"

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ARCHITECTS AND PLANNERS

550 E. NINE MILE ROAD
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# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
## DETROIT MICHIGAN

| DATE | ISSUE |
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| 08.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

NORTH STAIR PLAN AND SECTIONS

DRAWING NUMBER

A.321

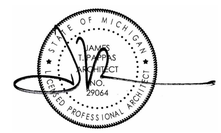
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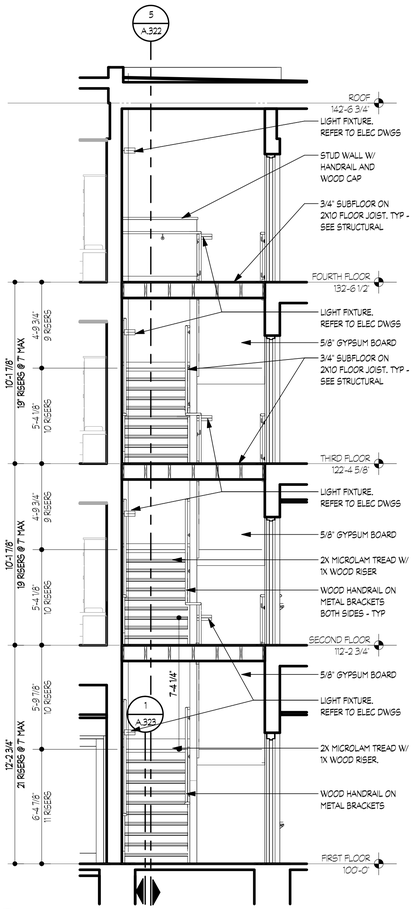
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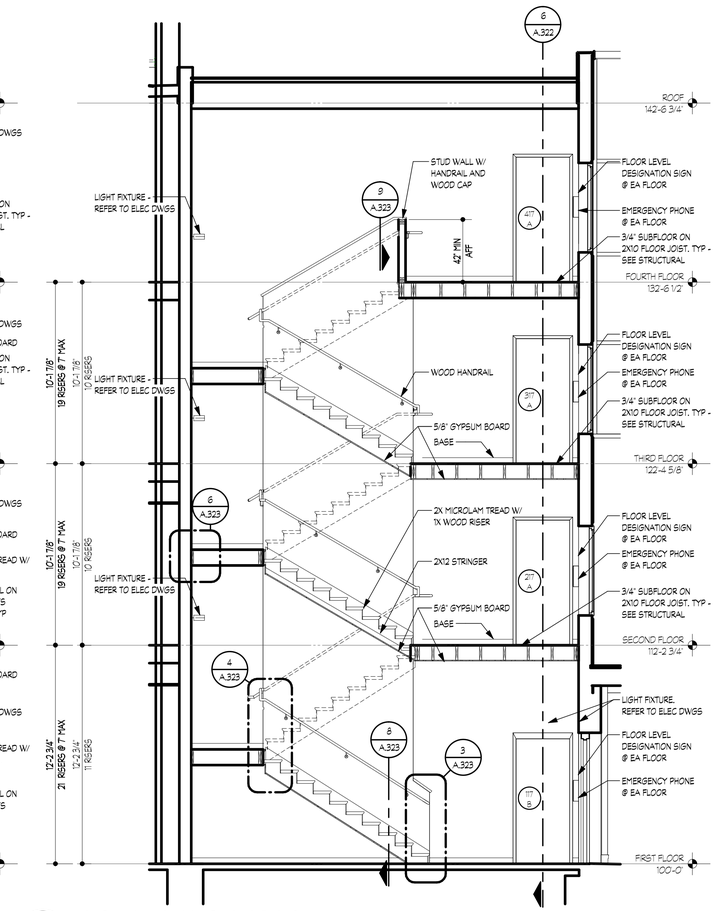
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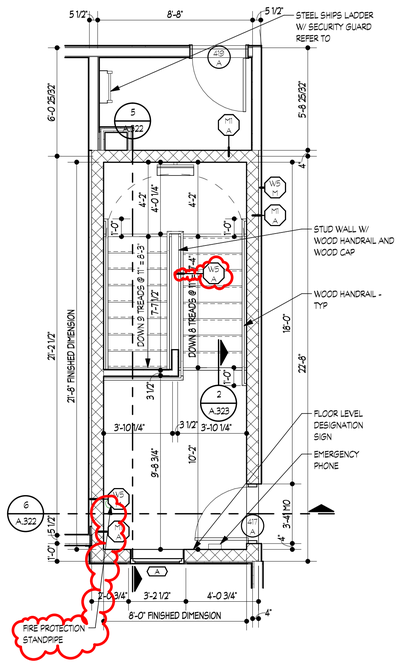


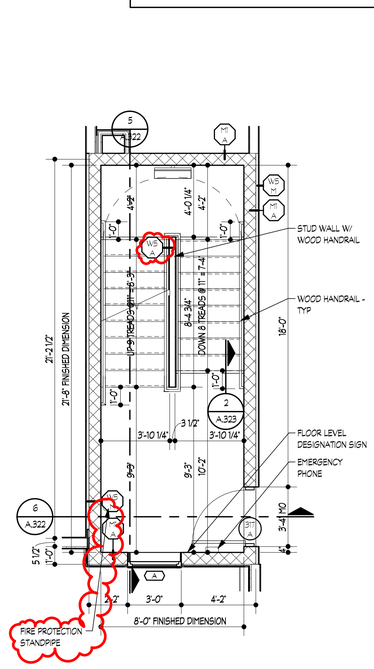

6 A.322 SOUTH STAIR SECTION
SCALE: 1/4" = 1'-0"



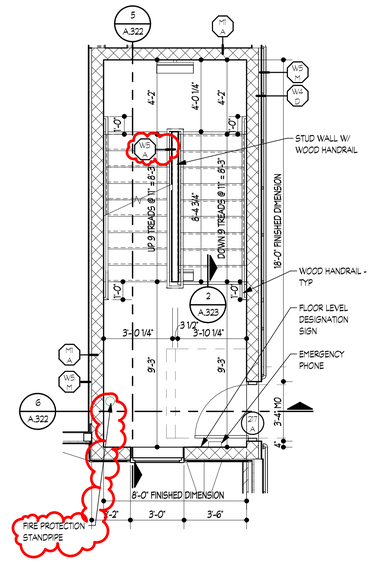

5 A.322 SOUTH STAIR SECTION
SCALE: 1/4" = 1'-0"



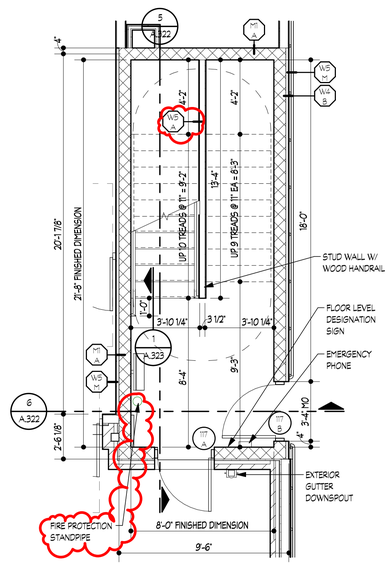

4 A.322 SOUTH STAIR - FOURTH FLOOR PLAN
SCALE: 1/4" = 1'-0"




3 A.322 SOUTH STAIR - THIRD FLOOR PLAN
SCALE: 1/4" = 1'-0"




2 A.322 SOUTH STAIR - SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"




1 A.322 SOUTH STAIR - FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

MICHIGAN

AFFORDABLE SENIOR LIVING

# GREYSTONE APARTMENTS

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| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

SOUTH STAIR PLAN AND SECTIONS

DRAWING NUMBER

A.322

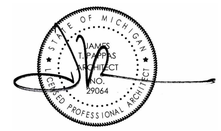
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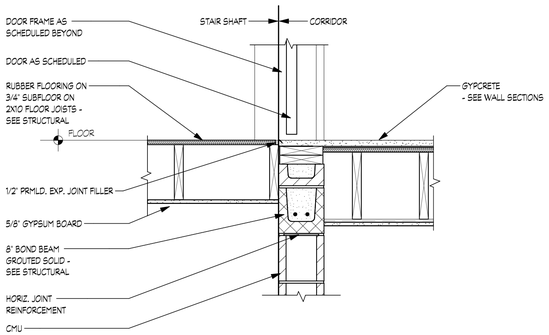
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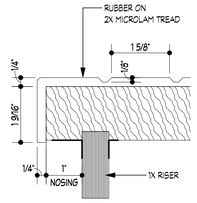
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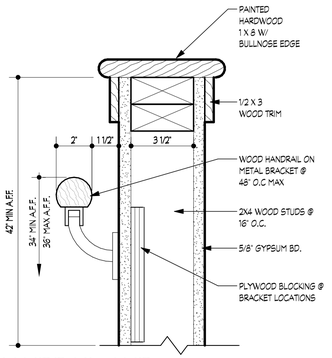

## STAIR FLOOR DETAIL

7 / A.323 — SCALE: 1" = 1'-0"



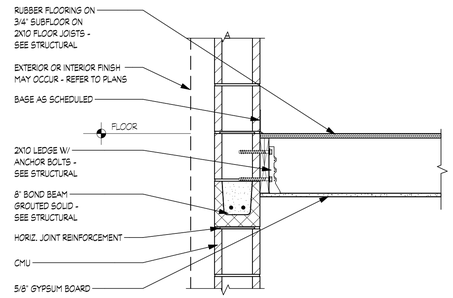

## TREAD SECTION

10 / A.323 — SCALE: 6" = 1'-0"



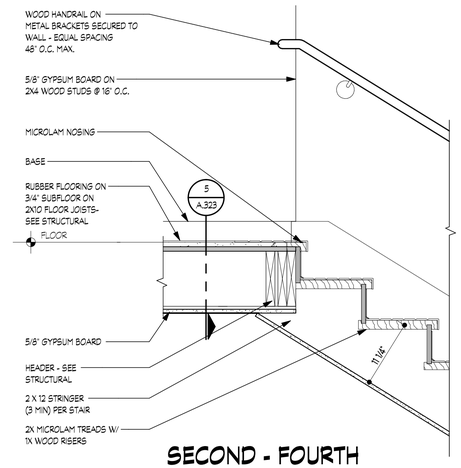

## HANDRAIL AND STAIR WALL CAP

9 / A.323 — SCALE: 3" = 1'-0"



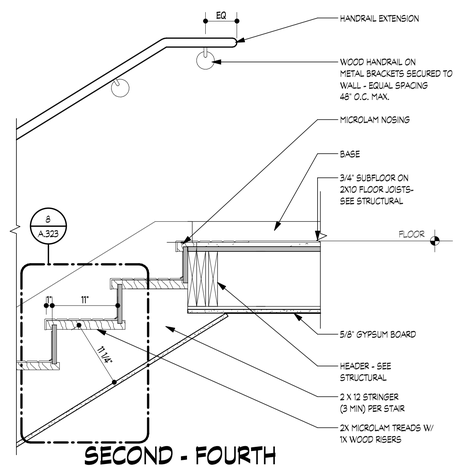

## STAIR FLOOR DETAIL

6 / A.323 — SCALE: 1" = 1'-0"



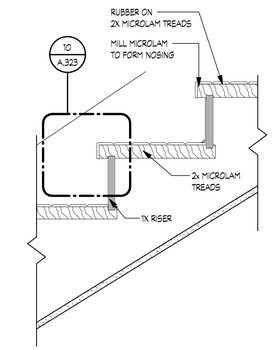

## SECOND - FOURTH FLOOR STAIR DETAIL

4 / A.323 — SCALE: 1" = 1'-0"



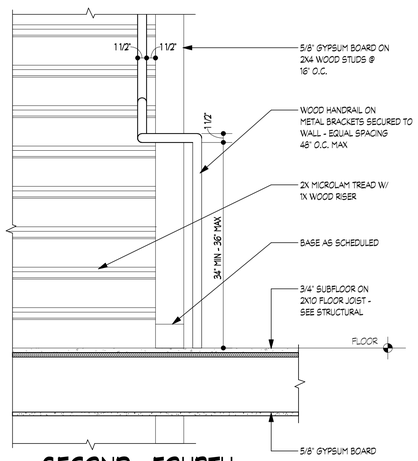

## SECOND - FOURTH FLOOR STAIR DETAIL

2 / A.323 — SCALE: 1" = 1'-0"



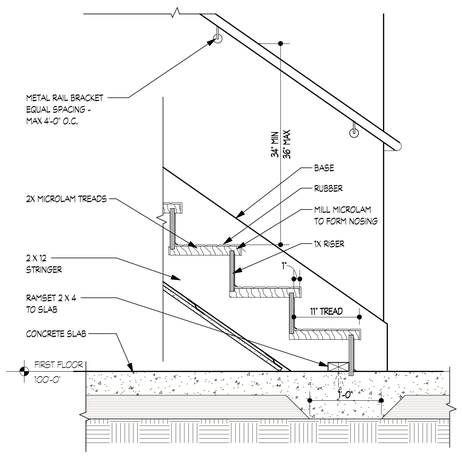

## TREAD SECTION

8 / A.323 — SCALE: 1 1/2" = 1'-0"



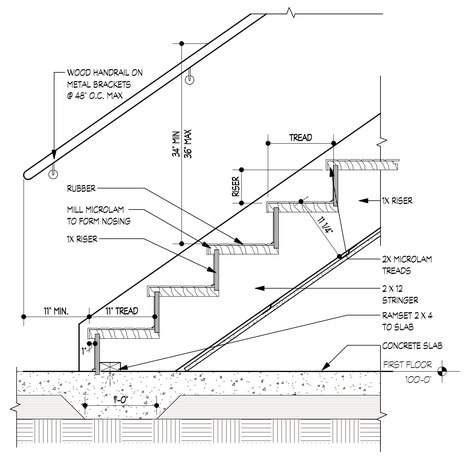

## SECOND - FOURTH FLOOR STAIR DETAIL

5 / A.323 — SCALE: 1" = 1'-0"




## FIRST FLOOR STAIR DETAIL

3 / A.323 — SCALE: 1" = 1'-0"




## FIRST FLOOR STAIR DETAIL

1 / A.323 — SCALE: 1" = 1'-0"

MICHIGAN

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS

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| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

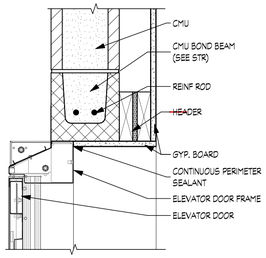
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

STAIR DETAILS

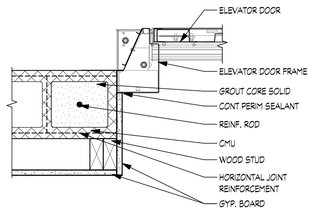
DRAWING NUMBER

A.323



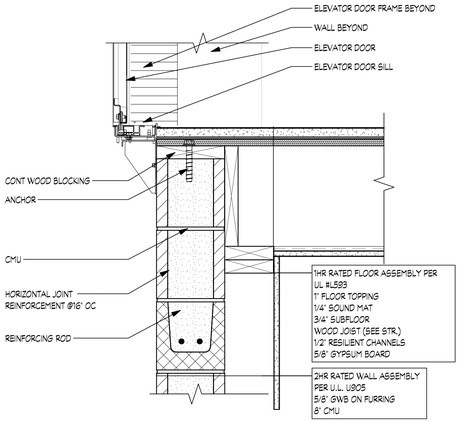

## 11/A.324 ELEVATOR DOOR HEAD

SCALE: 1 1/2" = 1'-0"



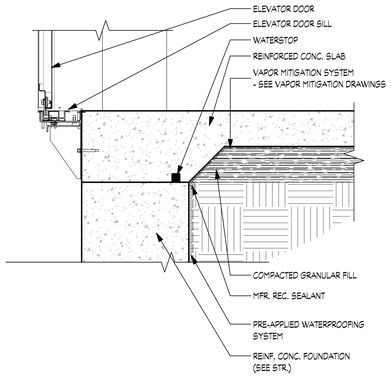

## 10/A.324 ELEVATOR DOOR JAMB

SCALE: 1 1/2" = 1'-0"



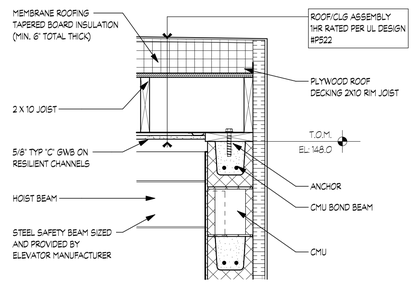

## 9/A.324 ELEVATOR DOOR SILL

SCALE: 1 1/2" = 1'-0"



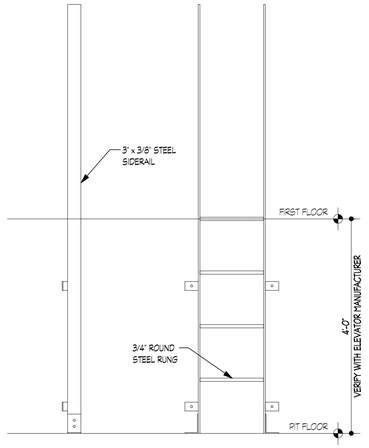

## 8/A.324 ELEVATOR DOOR SILL

SCALE: 1 1/2" = 1'-0"



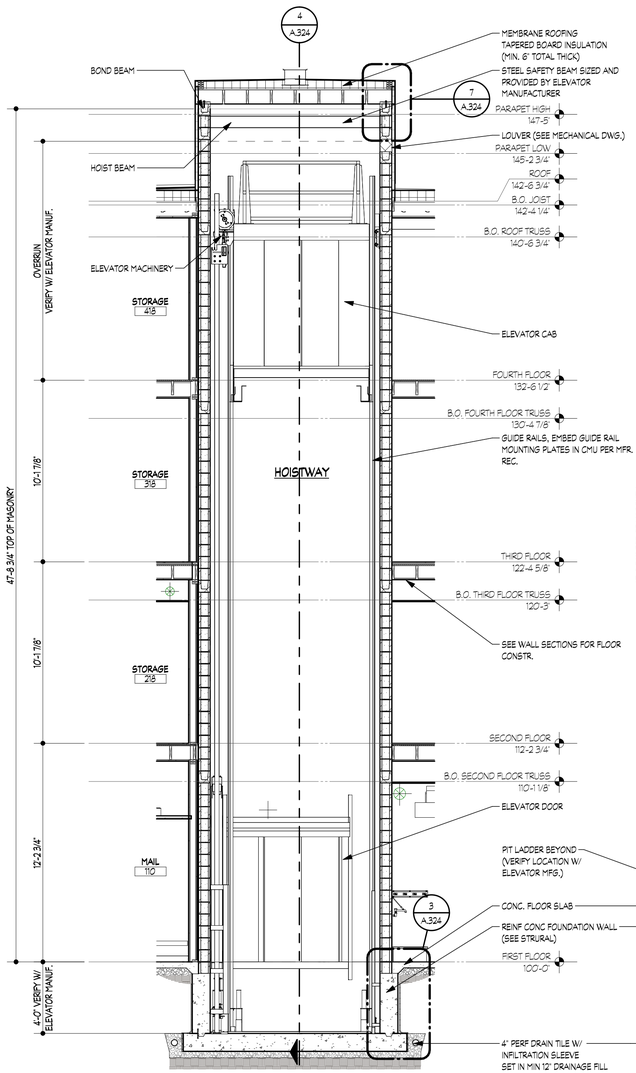

## 7/A.324 ELEVATOR ROOF DETAIL

SCALE: 1" = 1'-0"



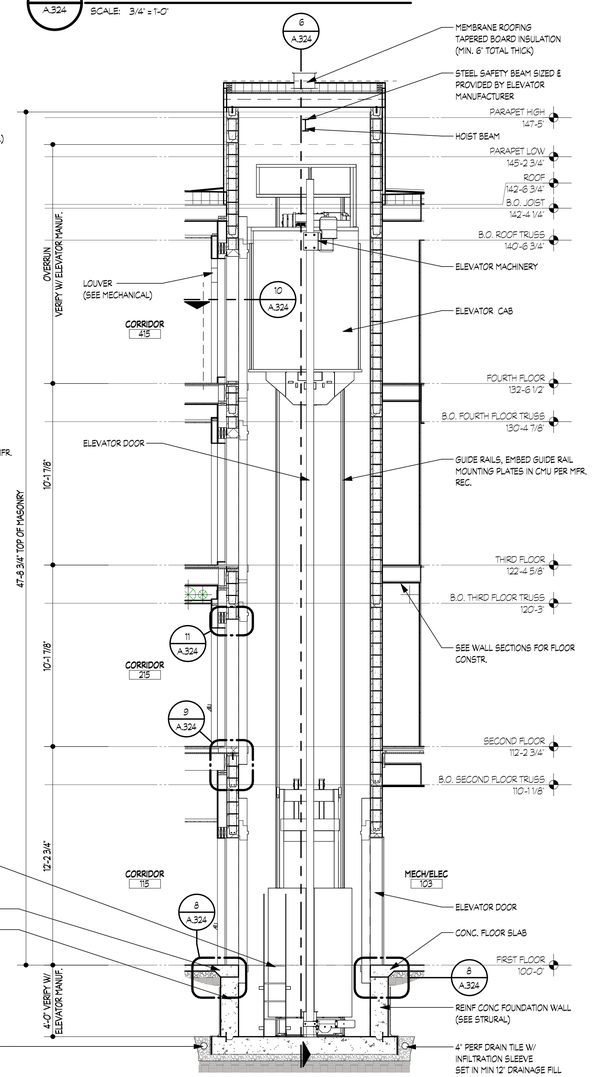

## 5/A.324 ELEVATOR PIT LADDER DETAIL

SCALE: 3/4" = 1'-0"



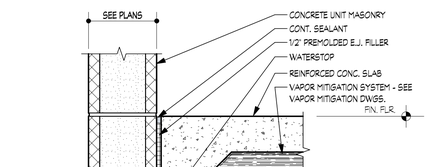

## 6/A.324 ELEVATOR SECTION

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



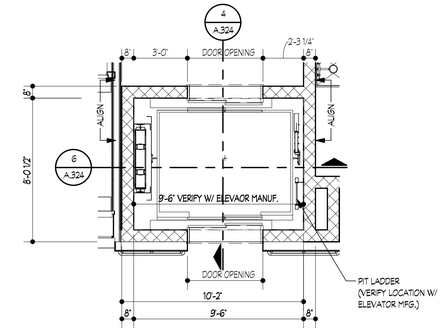

## 4/A.324 ELEVATOR SECTION

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



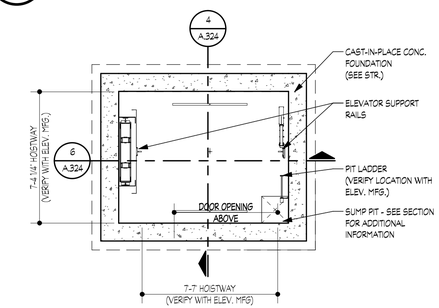

## 3/A.324 ELEV. PIT WATERPROOFING DETAIL

SCALE: 1 1/2" = 1'-0"




## 2/A.324 FIRST FLOOR ELEVATOR PLAN

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




## 1/A.324 ELEVATOR PIT PLAN

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

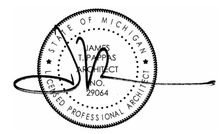
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KEY PLAN

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CCD18.002

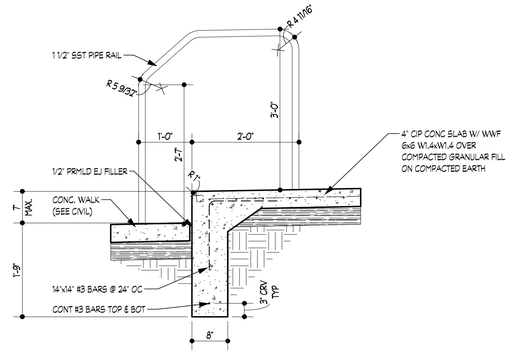
DRAWING TITLE

ELEVATOR PLANS & SECTIONS

DRAWING NUMBER

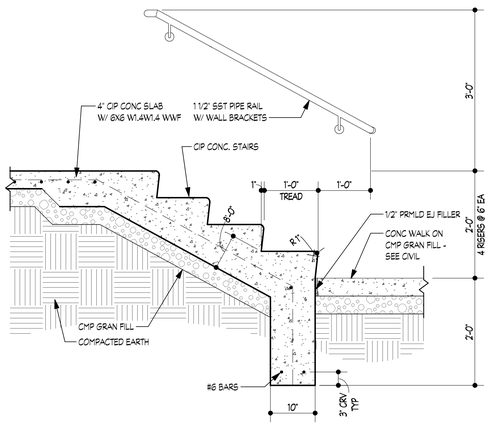
A.324

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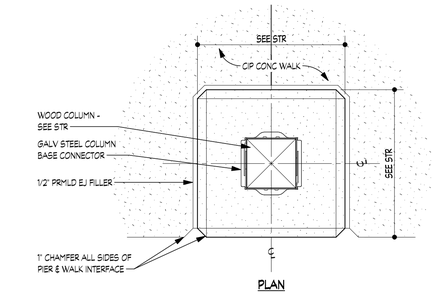

4 A.331 **ENTRY PATIO ENLARGED SECTION**

SCALE: 3/4" = 1'-0"

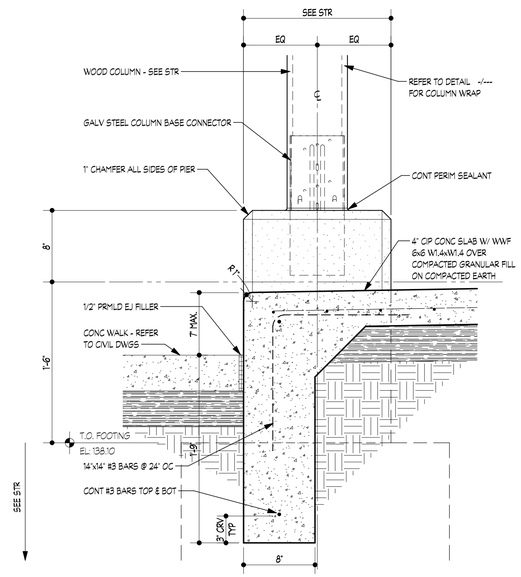



3 A.331 **SOUTH STAIR SECTION**

SCALE: 3/4" = 1'-0"




PLAN




1 A.331 **ENTRY CANOPY COLUMN DETAIL**

SCALE: 1 1/2" = 1'-0"

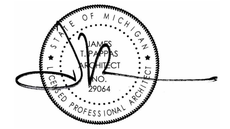

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AFFORDABLE SENIOR LIVING

# GREYSTONE APARTMENTS

MICHIGAN

DETROIT

| DATE | ISSUE |
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| | |
| | |
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.18.25 | ADDENDUM #3 |
| 08.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

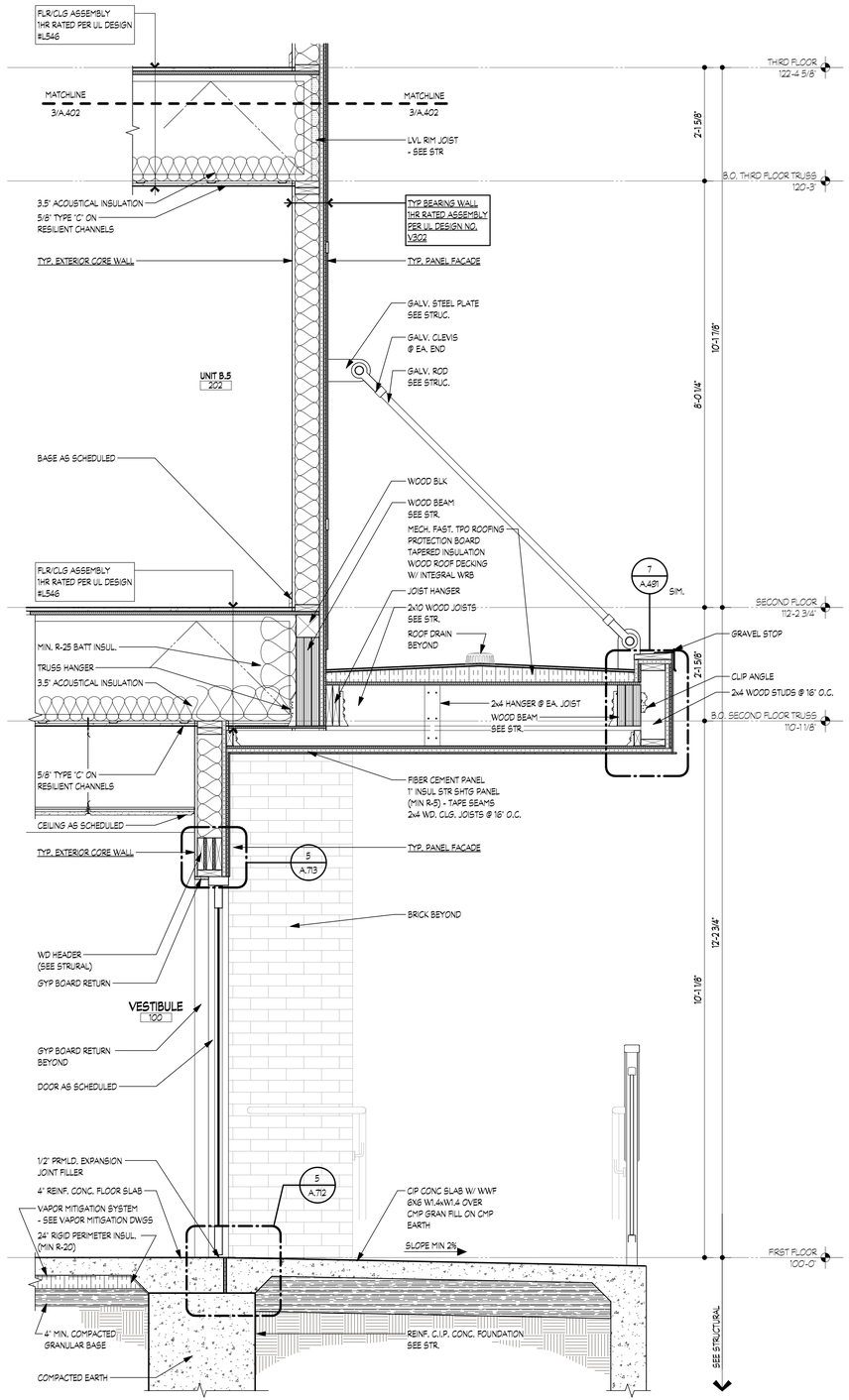
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

CANOPY SECTIONS & DETAILS

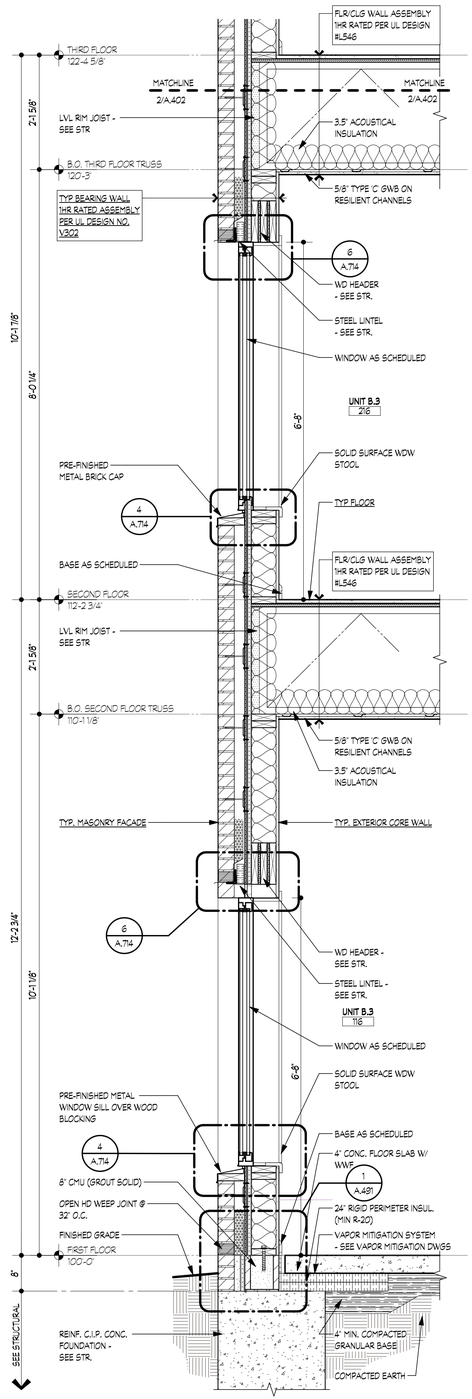
DRAWING NUMBER

A.331



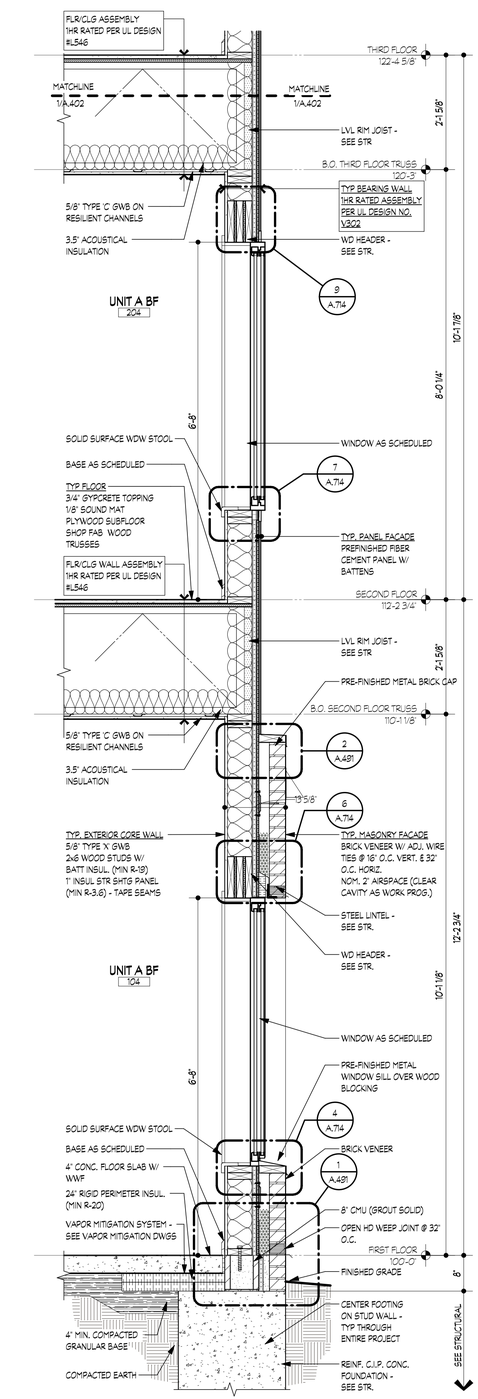

3 A.201 **EXTERIOR WALL SECTION @ VESTIBULE**

SCALE: 3/4" = 1'-0"




2 A.202 **TYPICAL WALL SECTION**

SCALE: 3/4" = 1'-0"




1 A.201 **TYPICAL WALL SECTION**

SCALE: 3/4" = 1'-0"

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STATE OF MICHIGAN
JAMES T. PAPPAS
LICENSED ARCHITECT
NO. 29064
REGISTERED PROFESSIONAL ARCHITECT

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

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| 10.30.25 | ADDENDUM #4 |
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| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

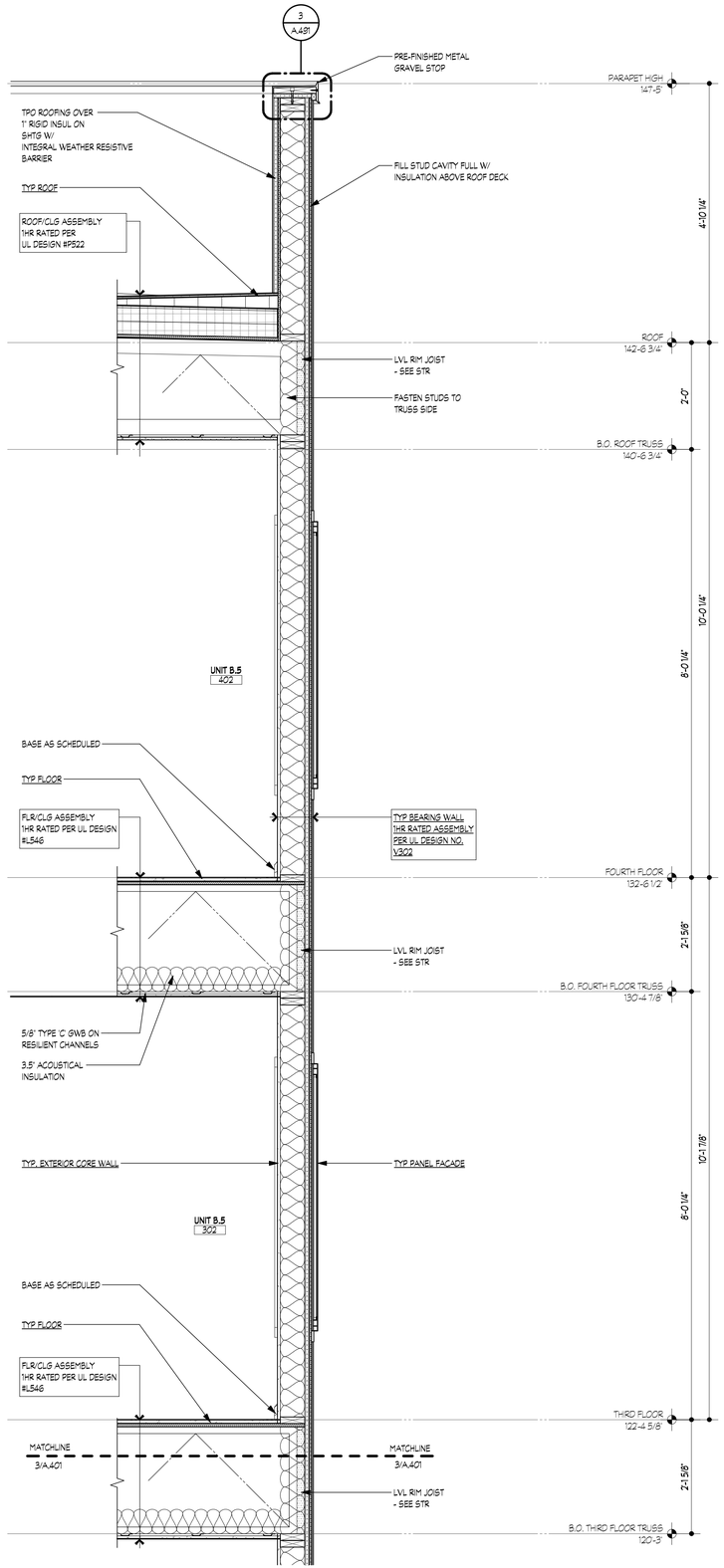
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

EXTERIOR WALL SECTIONS

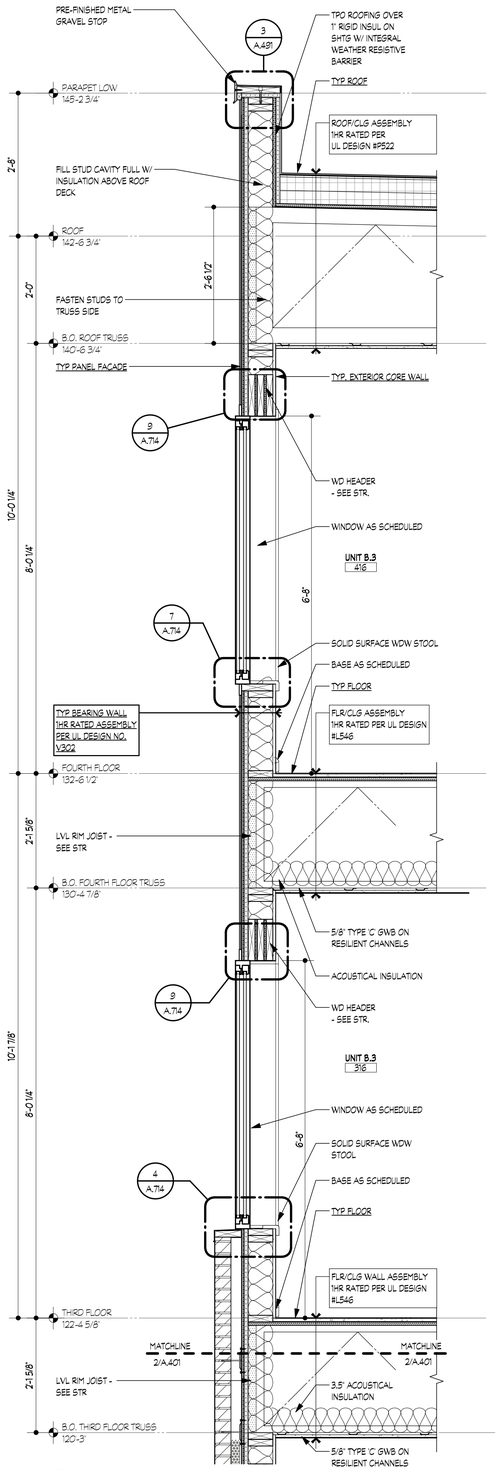
DRAWING NUMBER

A.401



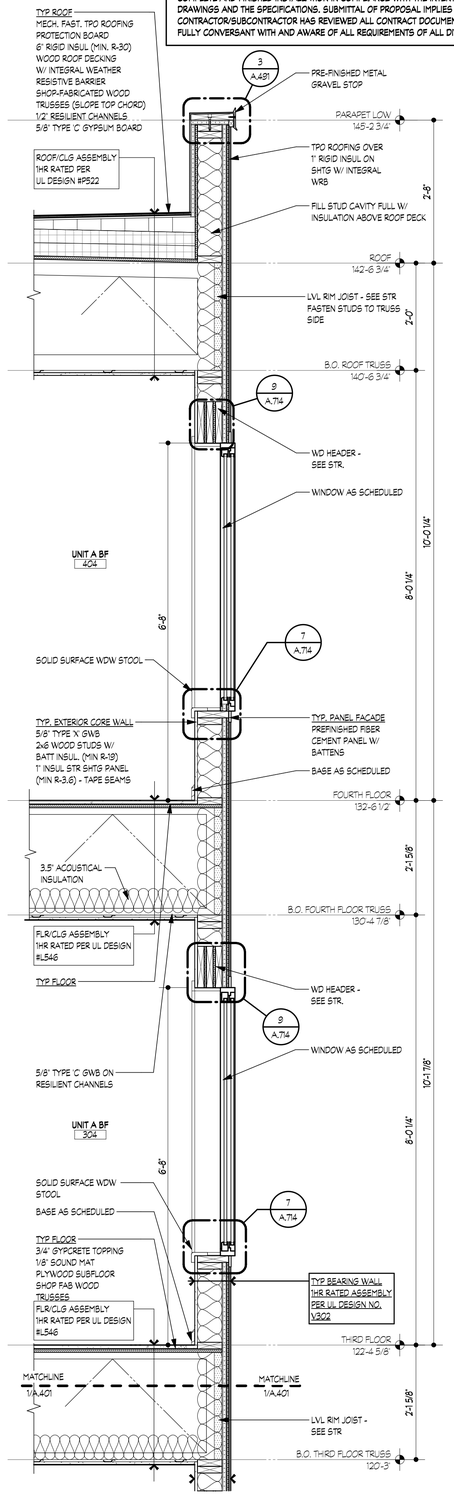

3/A.402 EXTERIOR WALL SECTION @ VESTIBULE

SCALE: 3/4" = 1'-0"




2/A.402 EXTERIOR WALL SECTION @ UNIT

SCALE: 3/4" = 1'-0"




1/A.402 EXTERIOR WALL SECTION @ UNIT

SCALE: 3/4" = 1'-0"

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| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

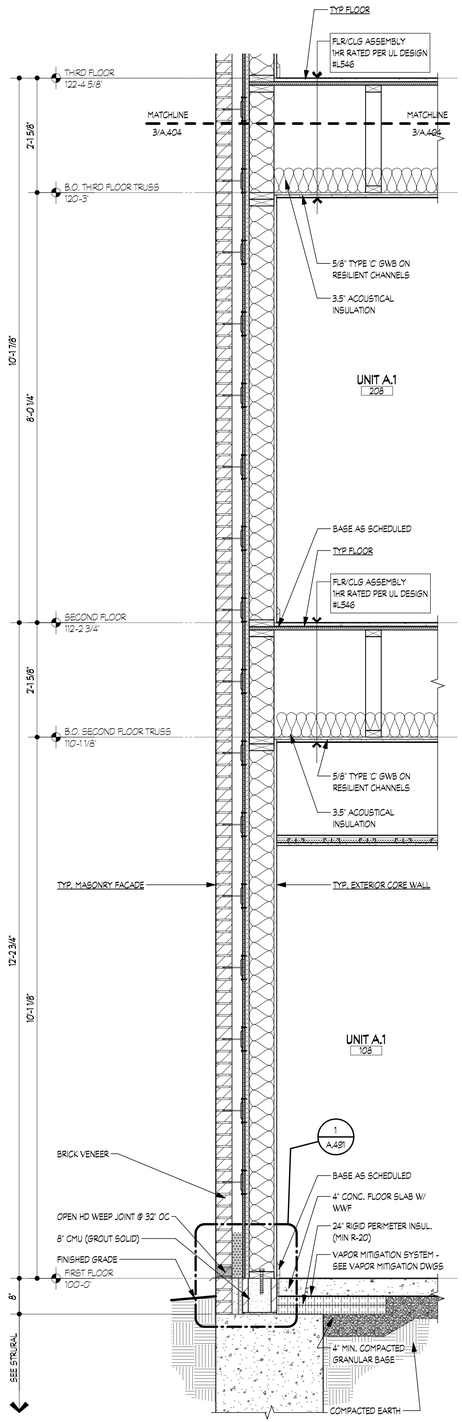
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

EXTERIOR WALL SECTIONS

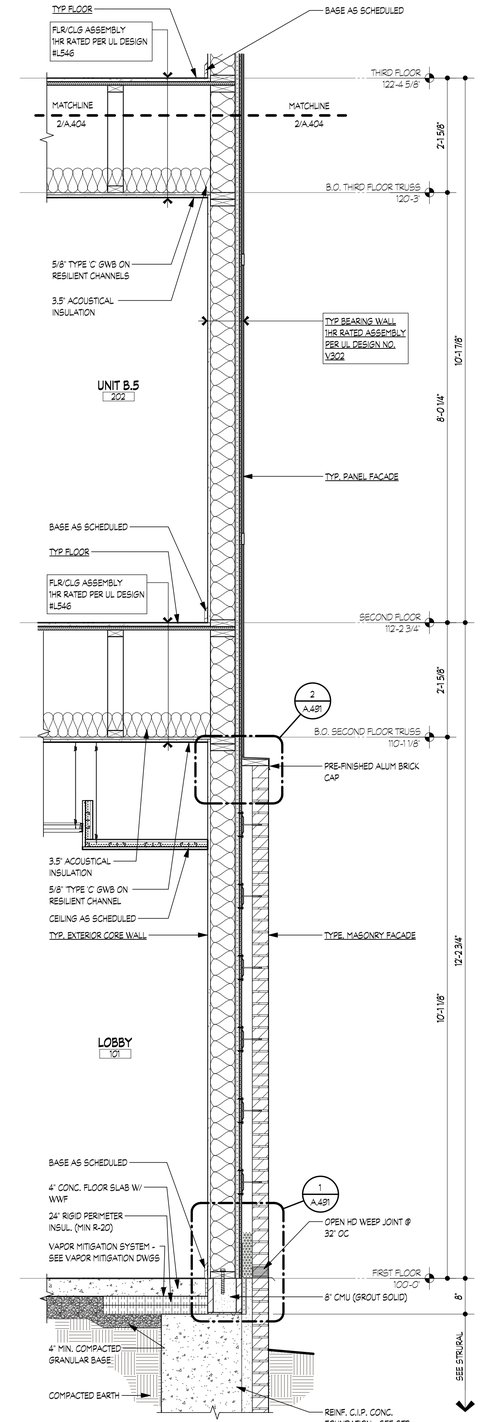
DRAWING NUMBER

A.402




3 A.403 **EXTERIOR WALL SECTION @ UNIT**

SCALE: 3/4" = 1'-0"




2 A.403 **EXTERIOR WALL SECTION @ LOBBY**

SCALE: 3/4" = 1'-0"

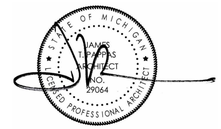
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| 09.23.24 | PERMITS |

KEY PLAN

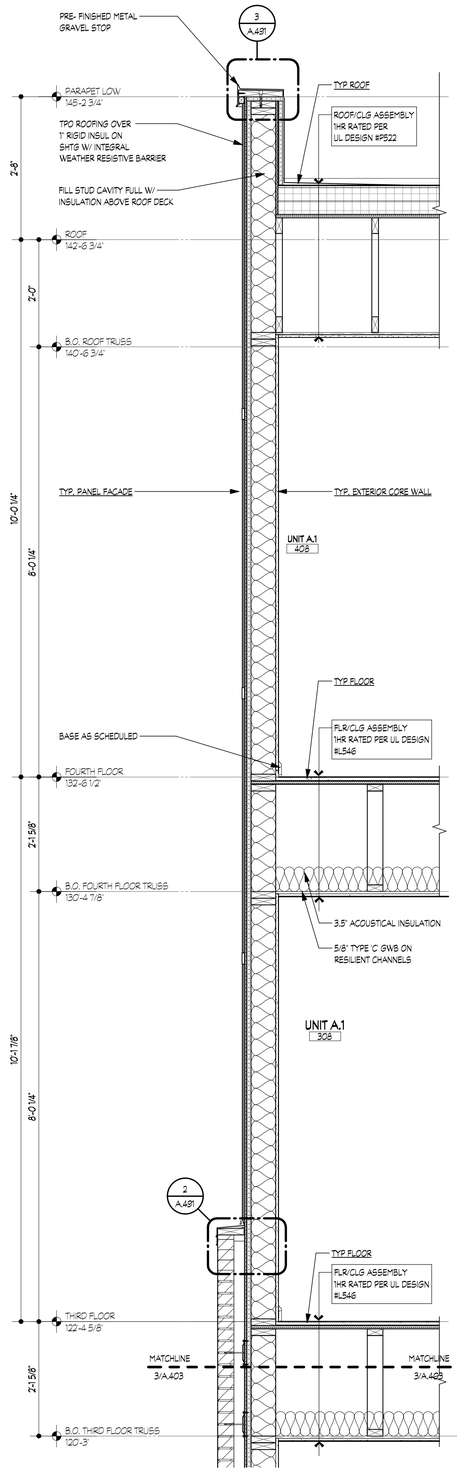
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

EXTERIOR WALL SECTIONS

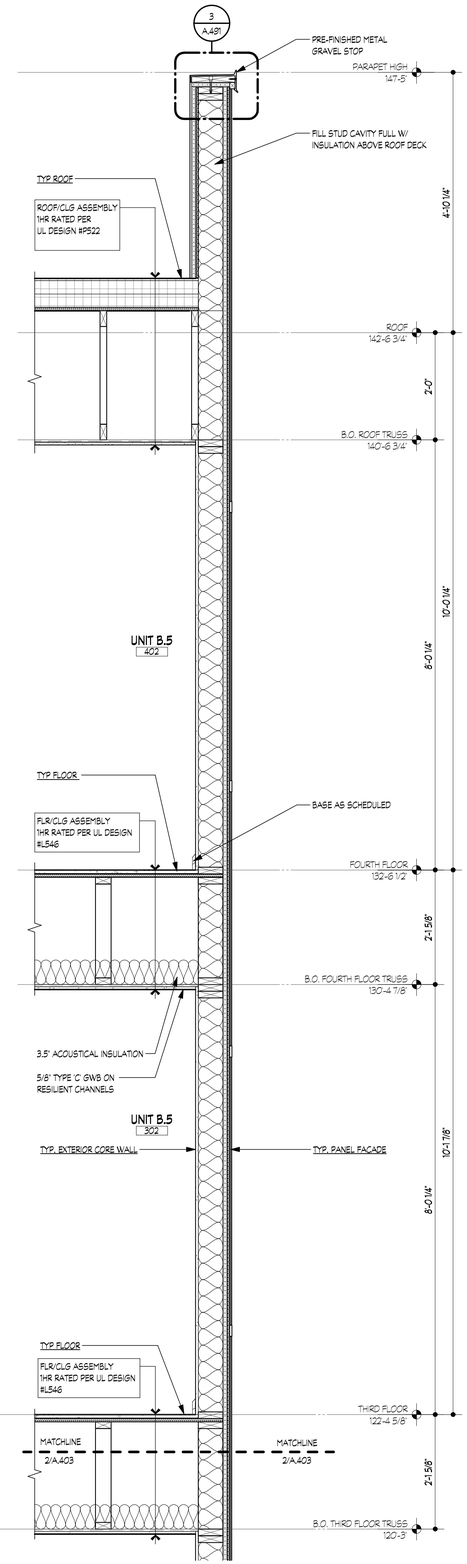
DRAWING NUMBER

A.403




## 3/A.404 EXTERIOR WALL SECTION @ UNIT

SCALE: 3/4" = 1'-0"




## 2/A.404 EXTERIOR WALL SECTION @ LOBBY

SCALE: 3/4" = 1'-0"

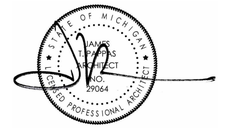
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# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS

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|---|---|
| 09.23.24 | PERMITS |
| 07.11.25 | ADDENDUM #1 |
| 09.12.25 | ADDENDUM #2 |
| 09.18.25 | ADDENDUM #3 |
| 10.30.25 | ADDENDUM #4 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 06.18.26 | BULLETIN #1 |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

EXTERIOR WALL SECTIONS

DRAWING NUMBER

A.404

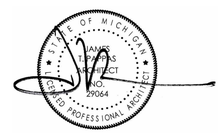
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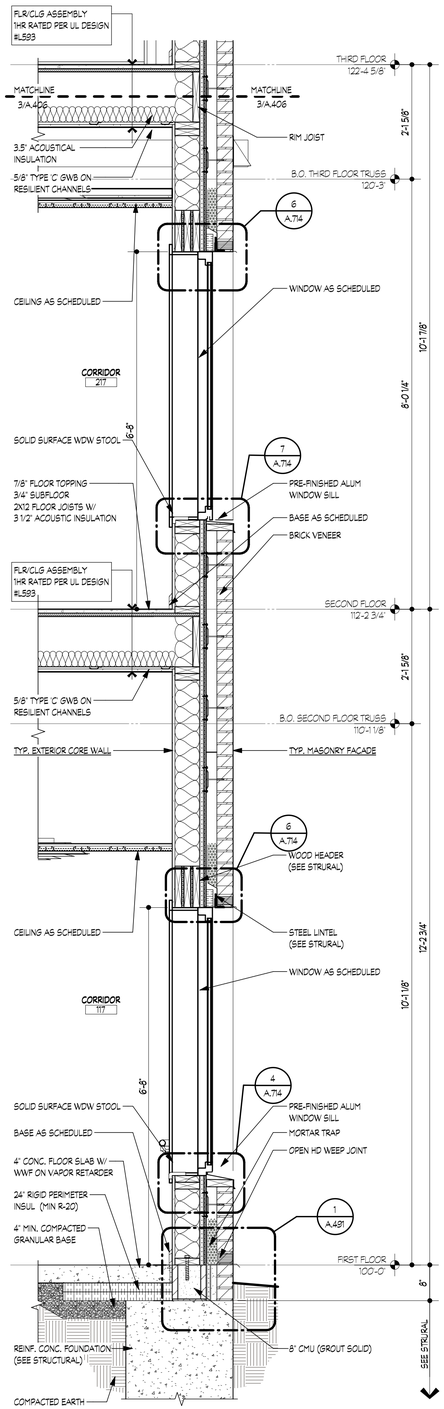
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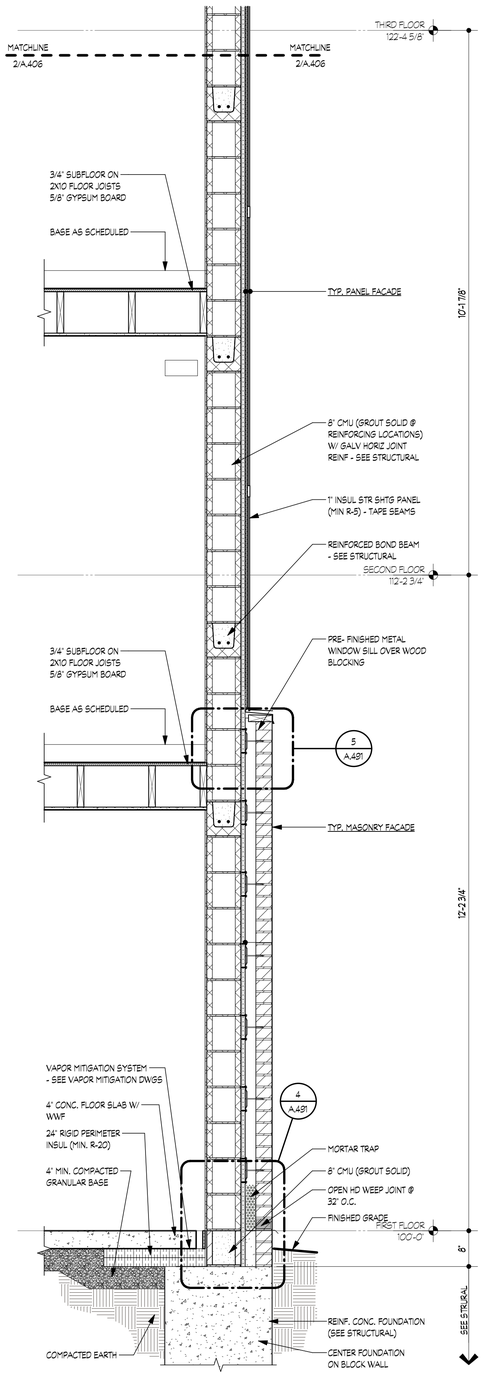
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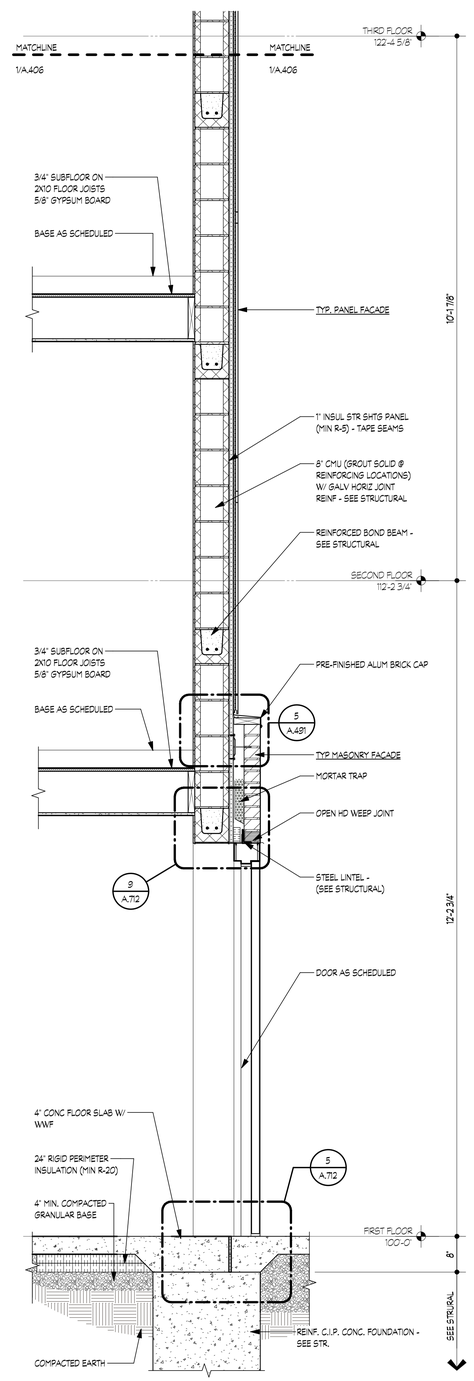



3 / A.405 EXTERIOR WALL SECTION @ CORRIDOR
SCALE: 3/4" = 1'-0"




2 / A.405 EXTERIOR WALL SECTION @ STAIR
SCALE: 3/4" = 1'-0"




1 / A.405 EXTERIOR WALL SECTION @ STAIR
SCALE: 3/4" = 1'-0"

AFFORDABLE SENIOR LIVING

# GREYSTONE APARTMENTS

DETROIT MICHIGAN

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KEY PLAN

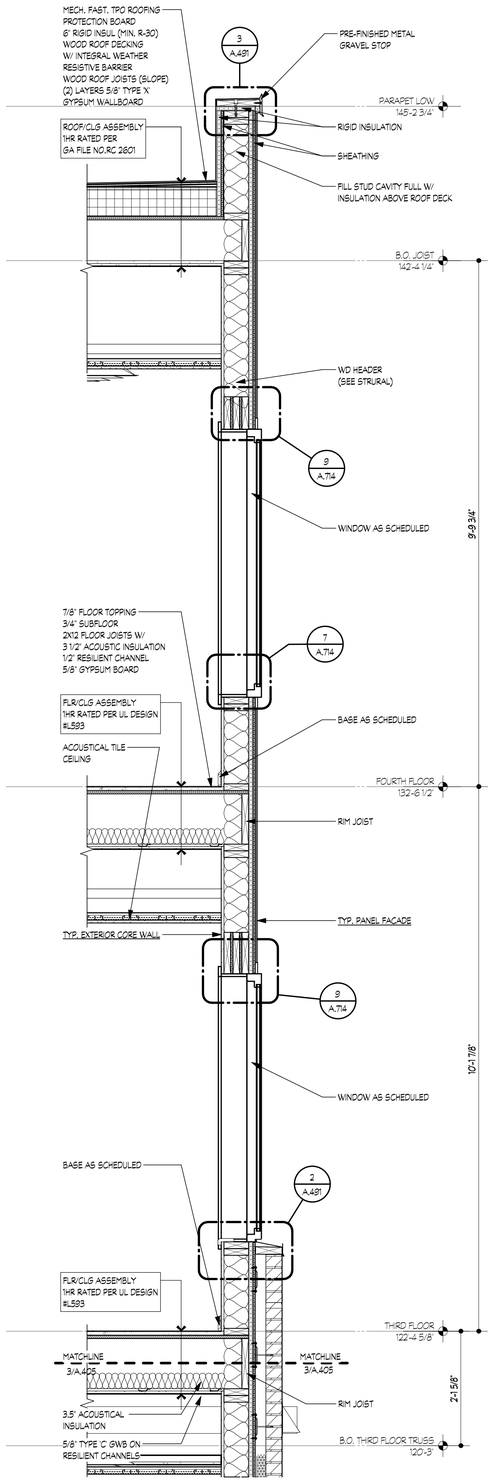
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CCD18.002

DRAWING TITLE

EXTERIOR WALL SECTIONS

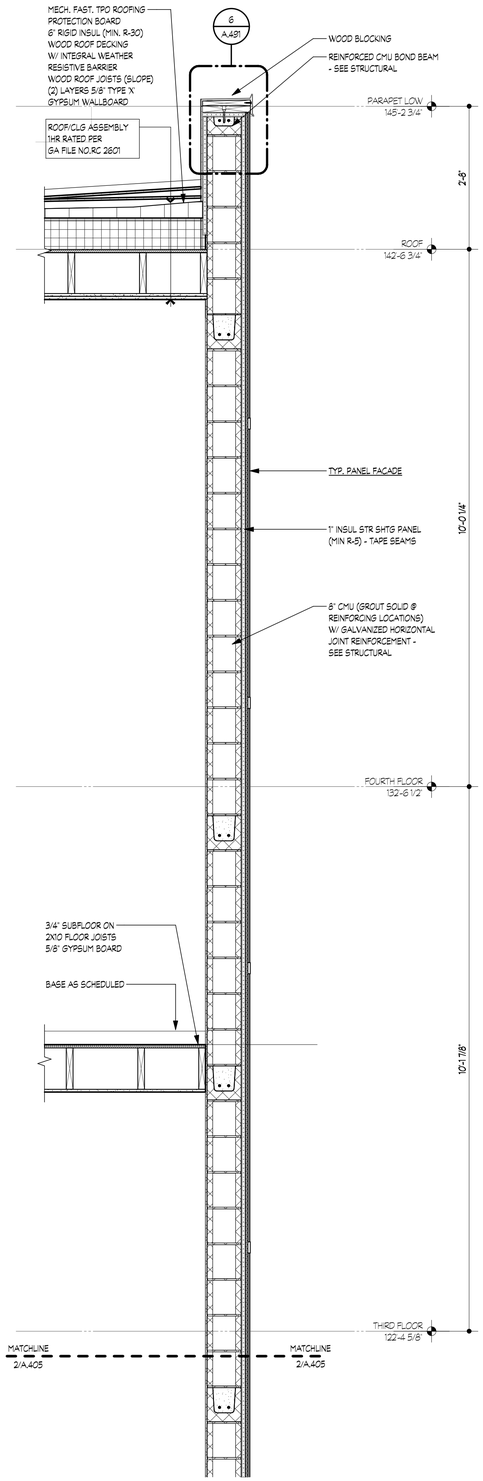
DRAWING NUMBER

A.405



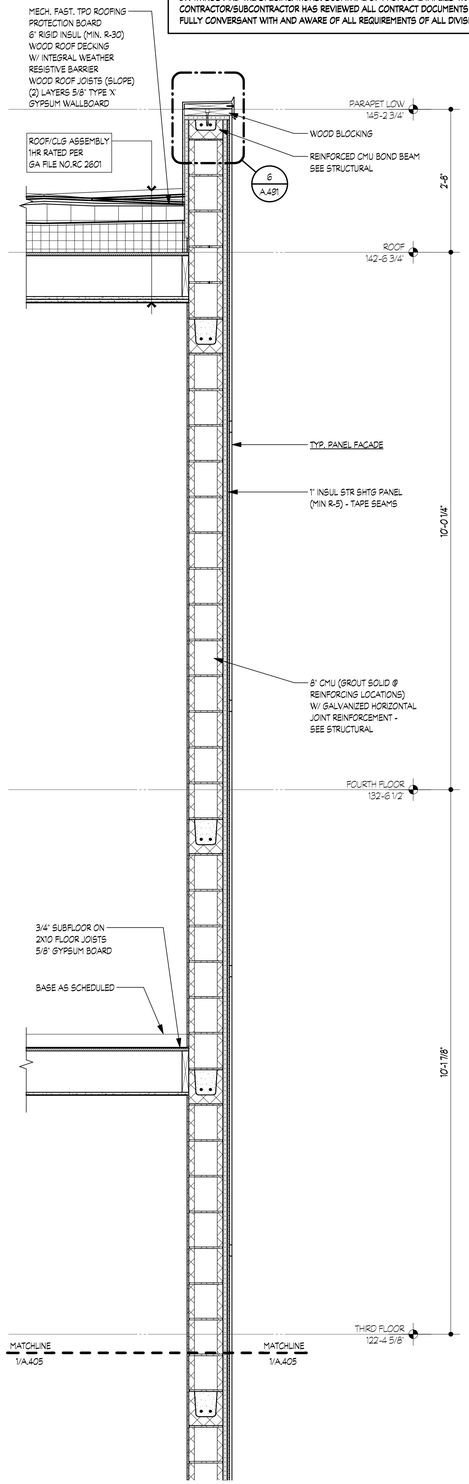

3 / A.406 EXTERIOR WALL SECTION @ CORRIDOR

SCALE: 3/4" = 1'-0"




2 / A.406 EXTERIOR WALL SECTION @ STAIR

SCALE: 3/4" = 1'-0"




1 / A.406 EXTERIOR WALL SECTION @ STAIR

SCALE: 3/4" = 1'-0"

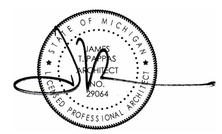
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| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

EXTERIOR WALL SECTIONS

DRAWING NUMBER

A.406

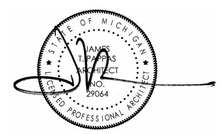
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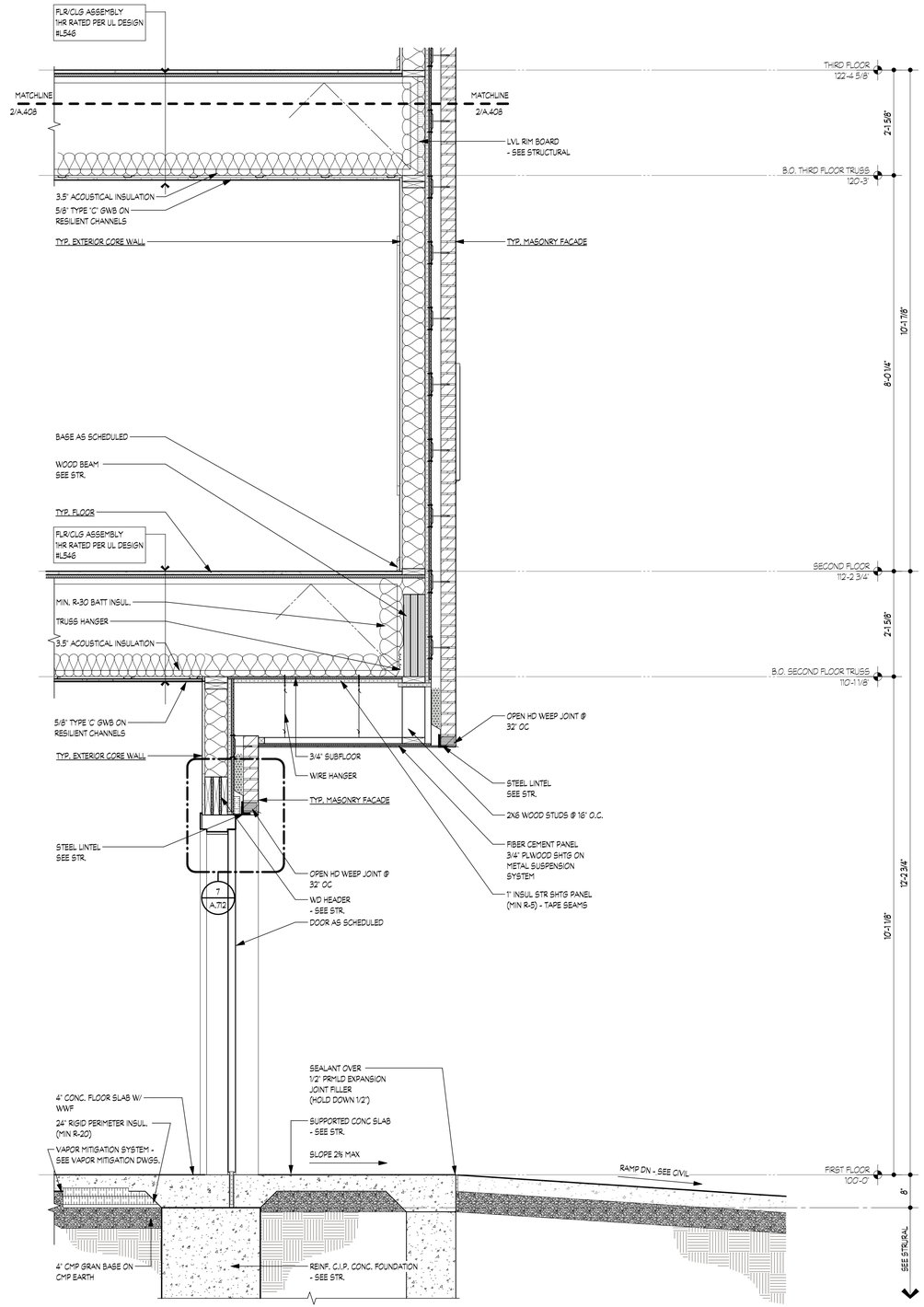
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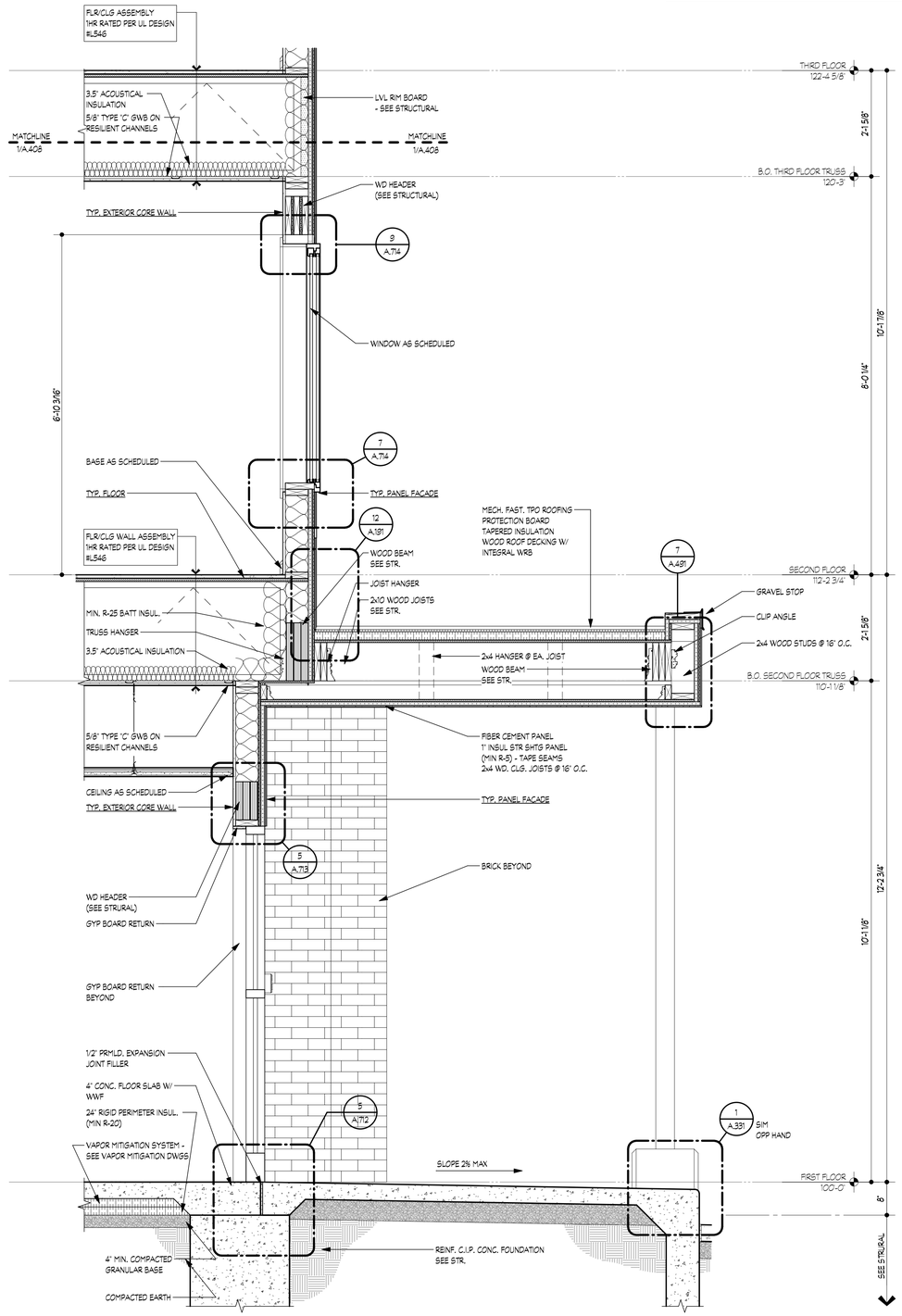
SEAL




2/A.407 EXTERIOR WALL SECTION @ MECH/ELEC.

SCALE: 3/4" = 1'-0"




1/A.407 EXTERIOR WALL SECTION @ VESTIBULE

SCALE: 3/4" = 1'-0"

# AFFORDABLE SENIOR LIVING
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## DETROIT
## MICHIGAN

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| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

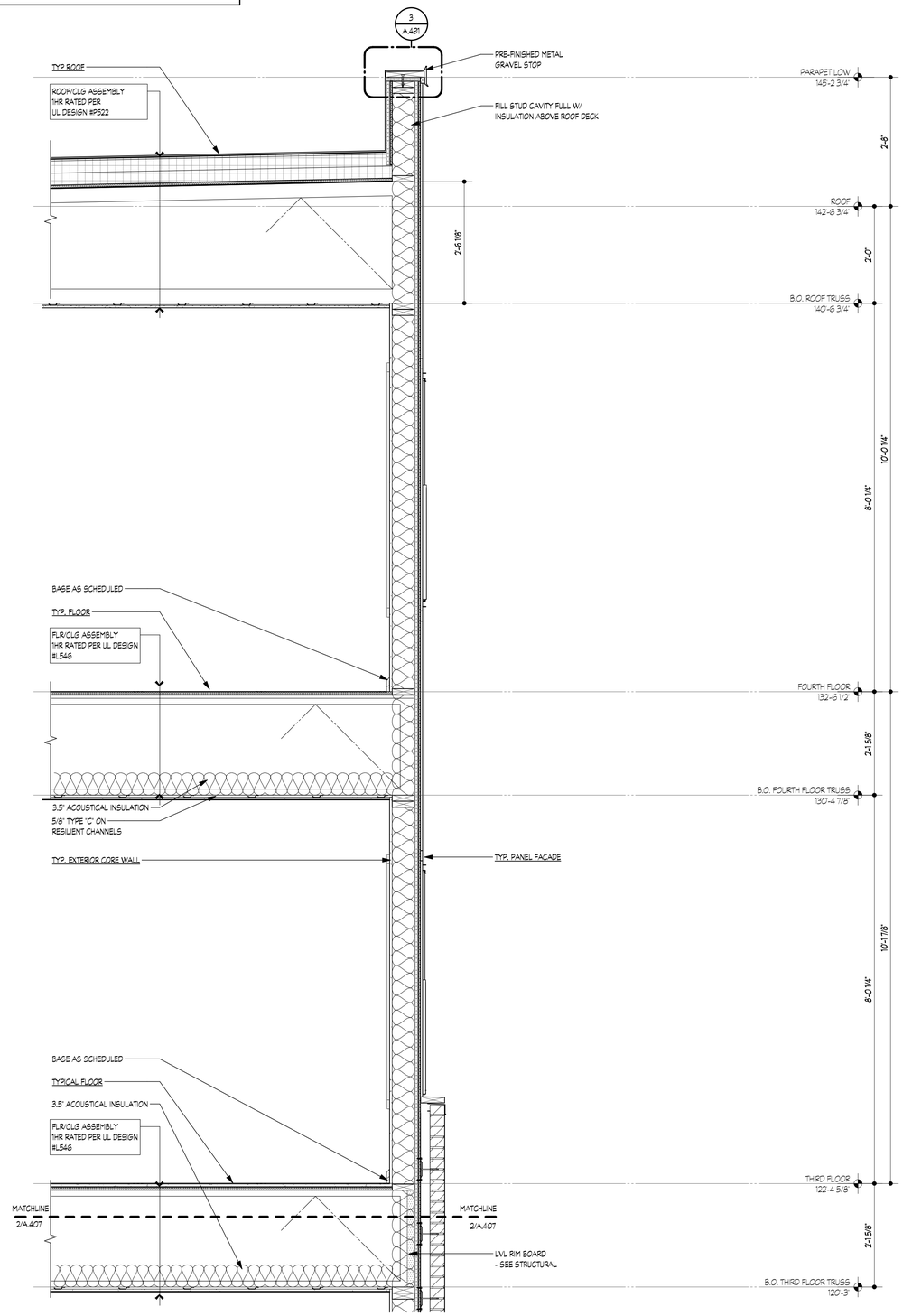
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EXTERIOR WALL SECTIONS

DRAWING NUMBER

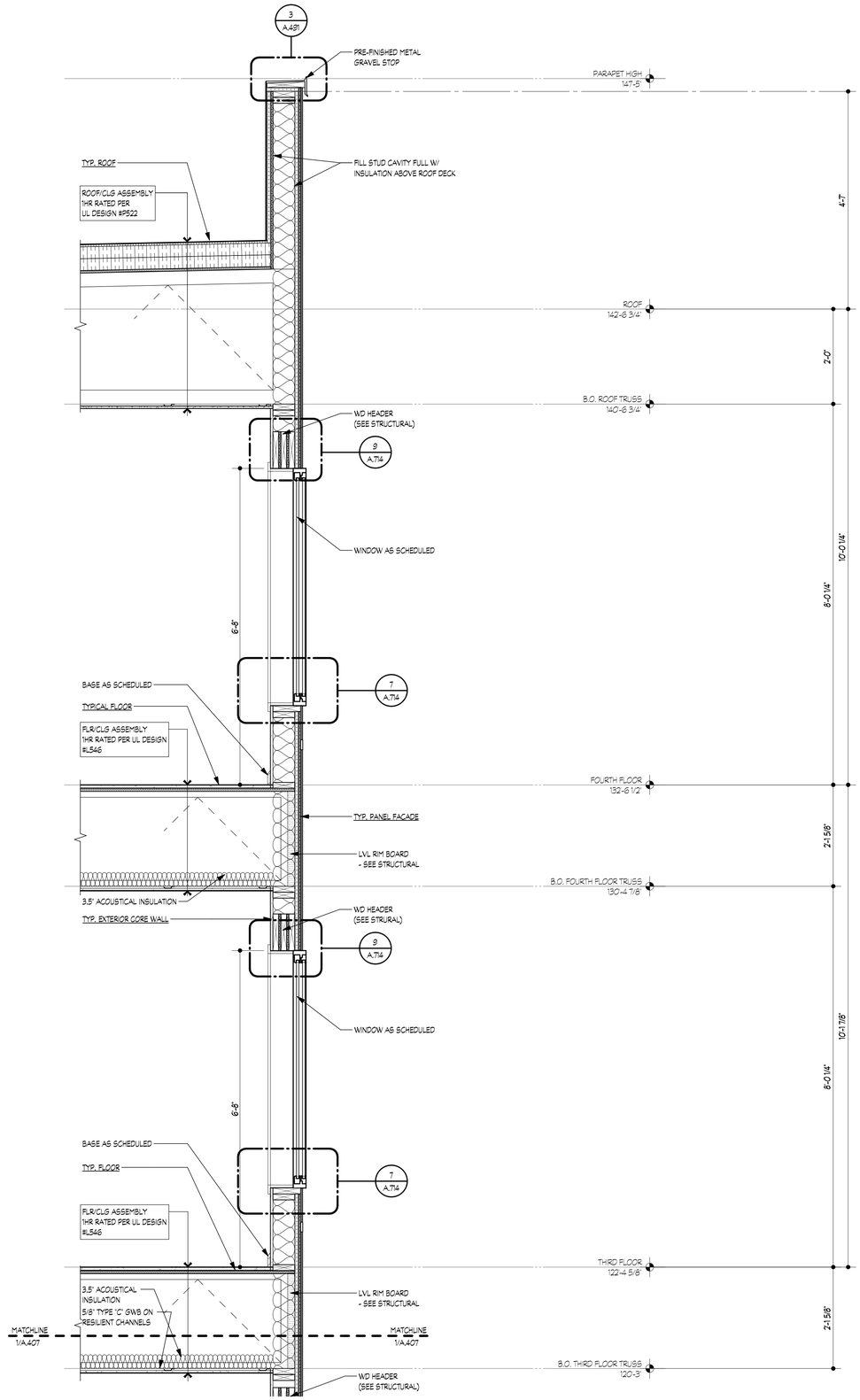
A.407

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.




2 A.408 EXTERIOR WALL SECTION @ MECH/ELEC.

SCALE: 3/4" = 1'-0"




1 A.408 EXTERIOR WALL SECTION @ VESTIBULE

SCALE: 3/4" = 1'-0"

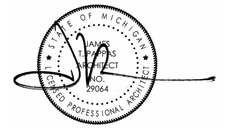

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ARCHITECTS AND PLANNERS

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MICHIGAN

AFFORDABLE SENIOR LIVING

# GREYSTONE APARTMENTS

DETROIT

| DATE | ISSUE |
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| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
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| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

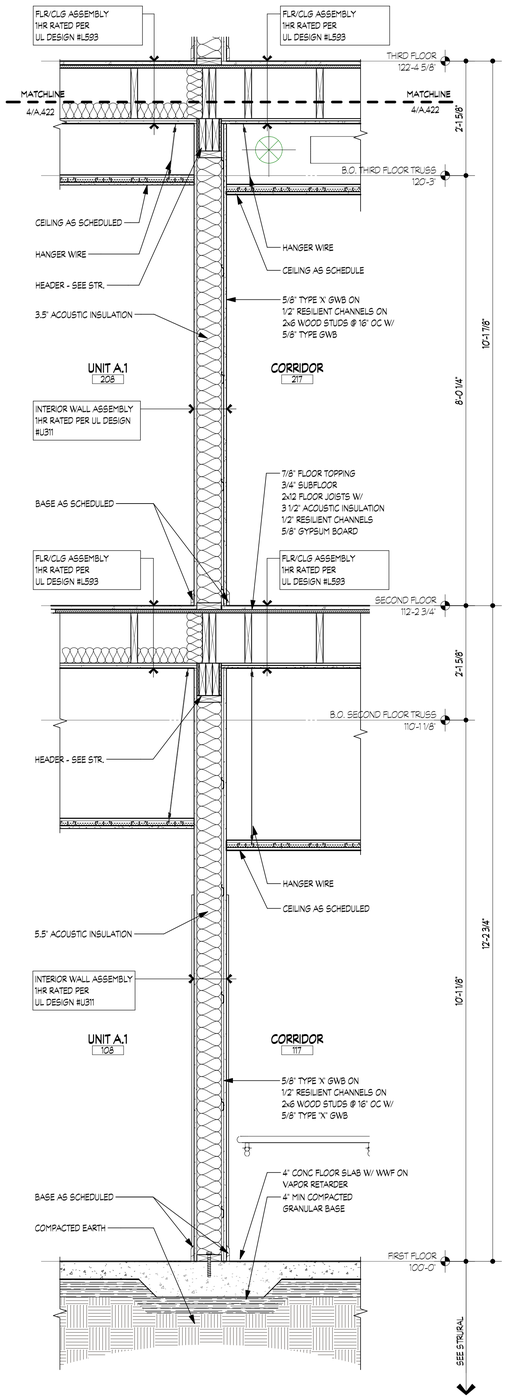
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

EXTERIOR WALL SECTIONS

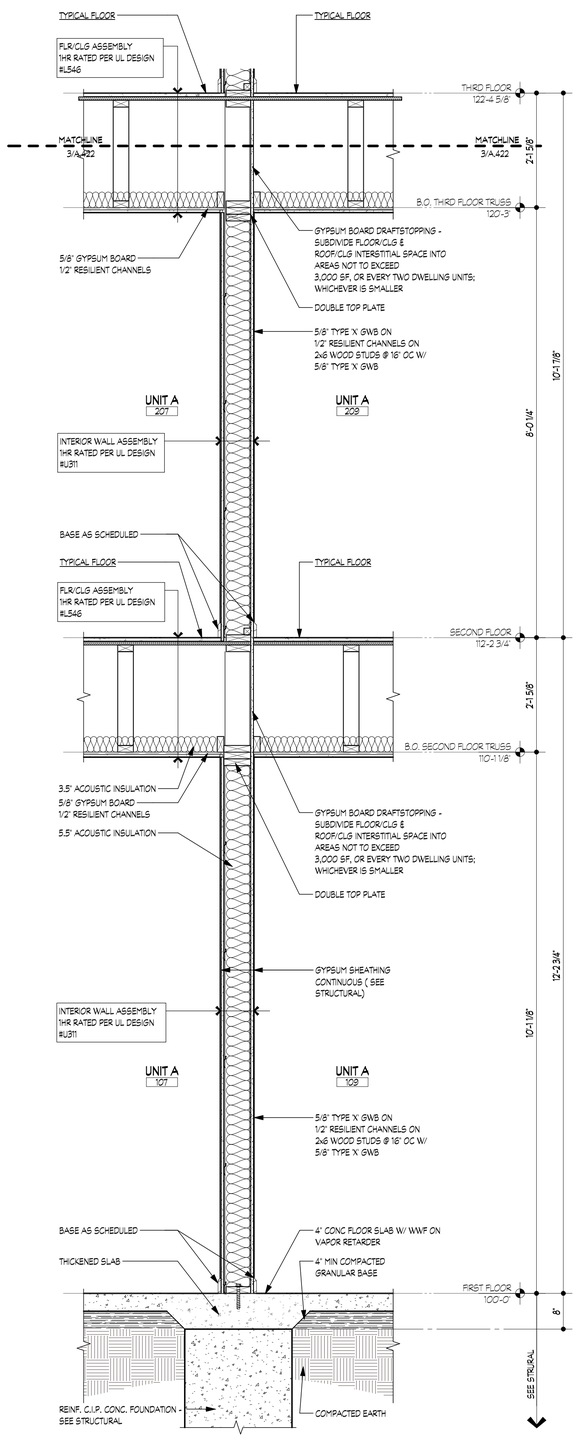
DRAWING NUMBER

A.408



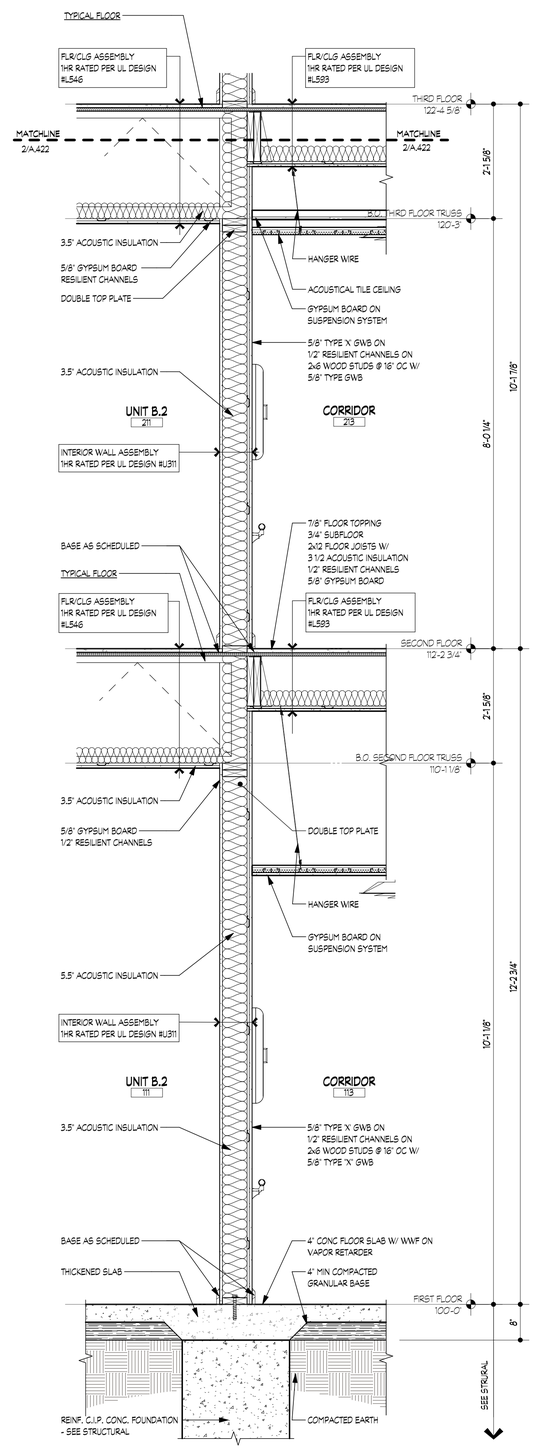

4 A.421 **UNIT / CORRIDOR WALL SECTION**

SCALE: 3/4" = 1'-0"



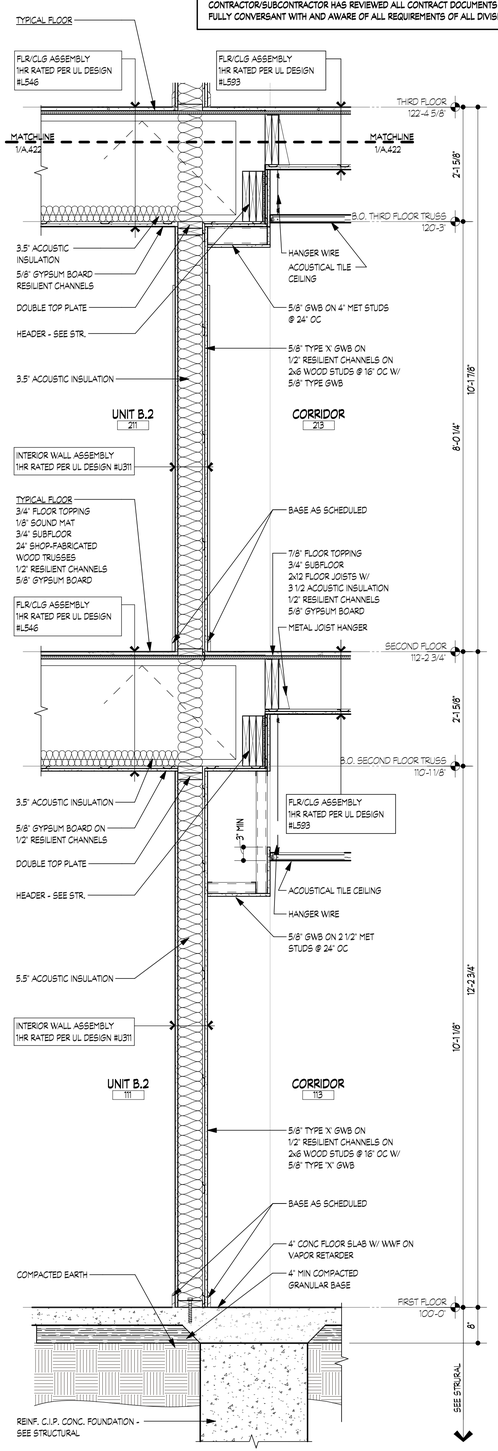

3 A.421 **UNIT / UNIT WALL SECTION**

SCALE: 3/4" = 1'-0"




2 A.421 **UNIT / CORRIDOR WALL SECTION**

SCALE: 3/4" = 1'-0"




1 A.421 **UNIT / CORRIDOR WALL SECTION**

SCALE: 3/4" = 1'-0"

**NOTE |** IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

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STATE OF MICHIGAN
JAMES T. PAPPAS
LICENSED ARCHITECT
NO. 39064
REGISTERED PROFESSIONAL ARCHITECT

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

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| 09.23.24 | PERMITS |

KEY PLAN

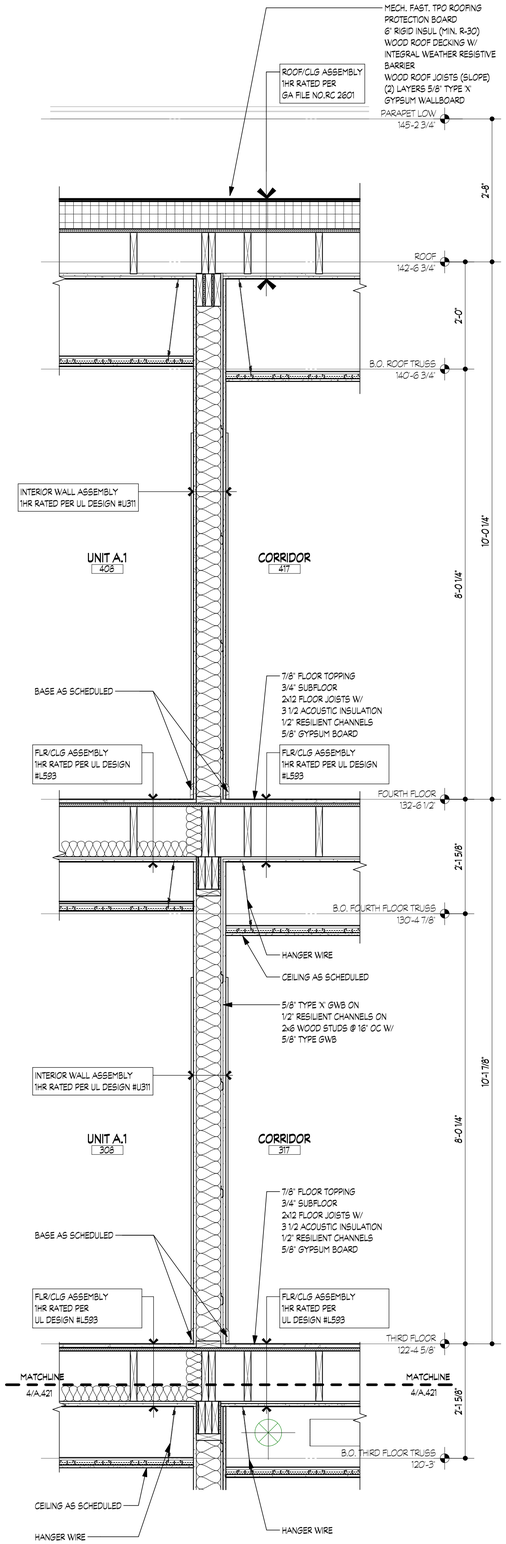
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

INTERIOR WALL SECTIONS

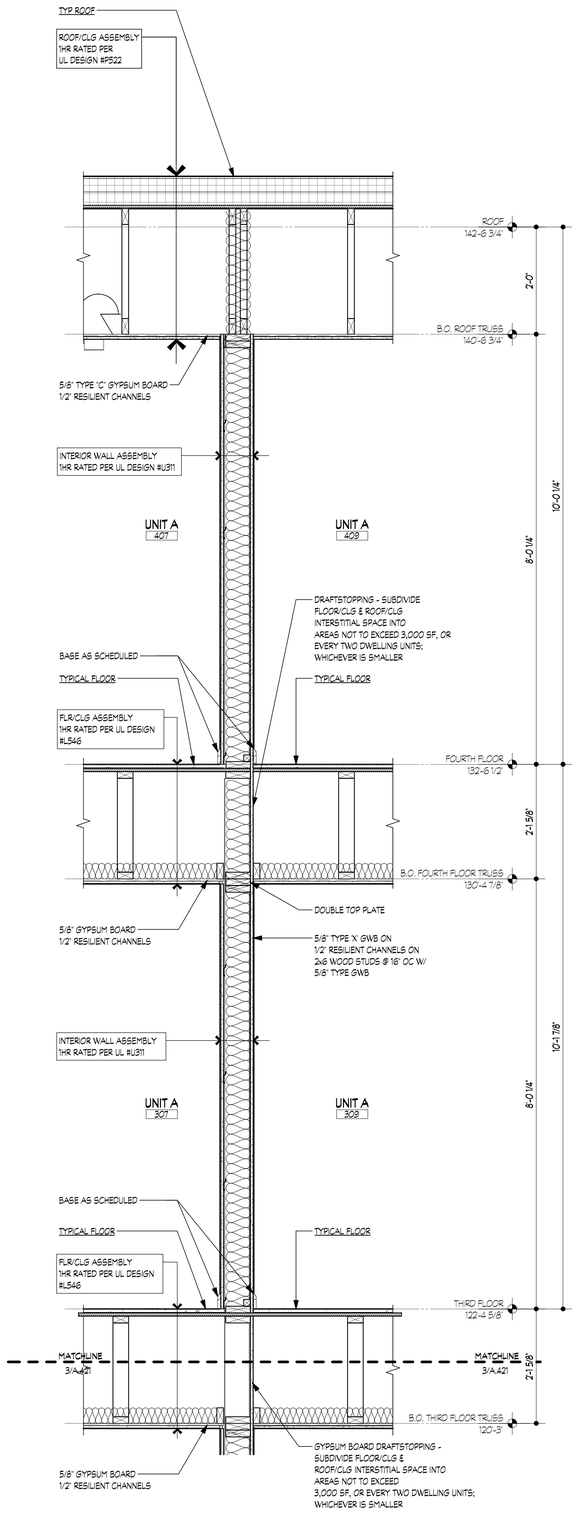
DRAWING NUMBER

A.421



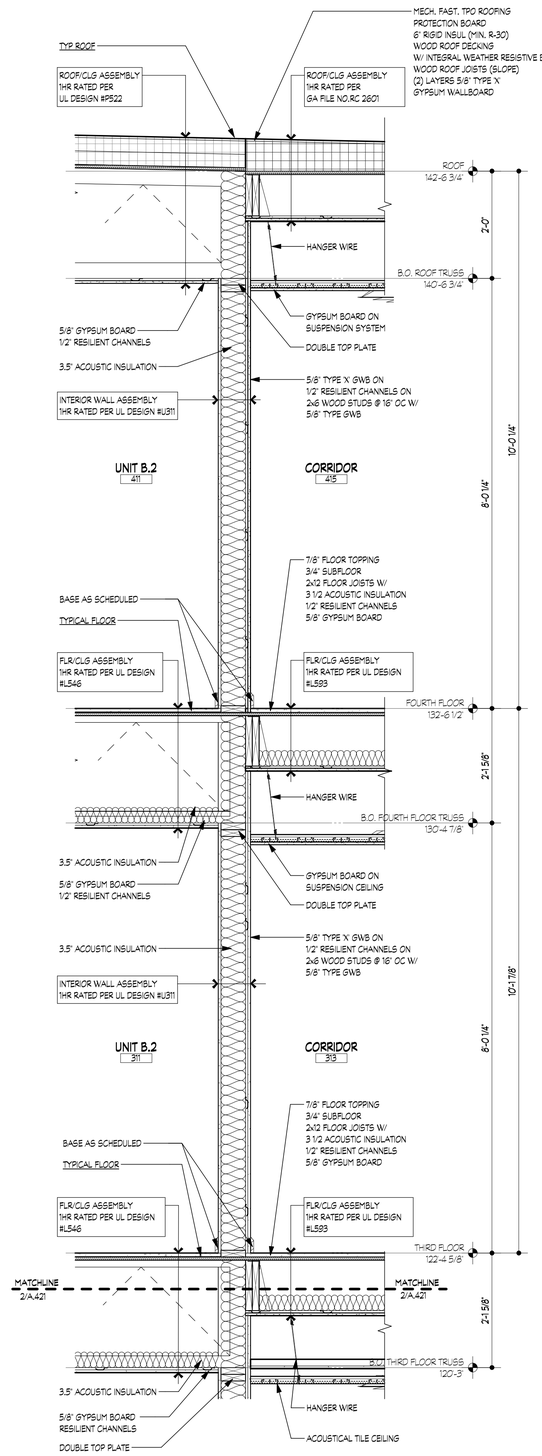

## 4 A.422 UNIT / CORRIDOR WALL SECTION

SCALE: 3/4" = 1'-0"



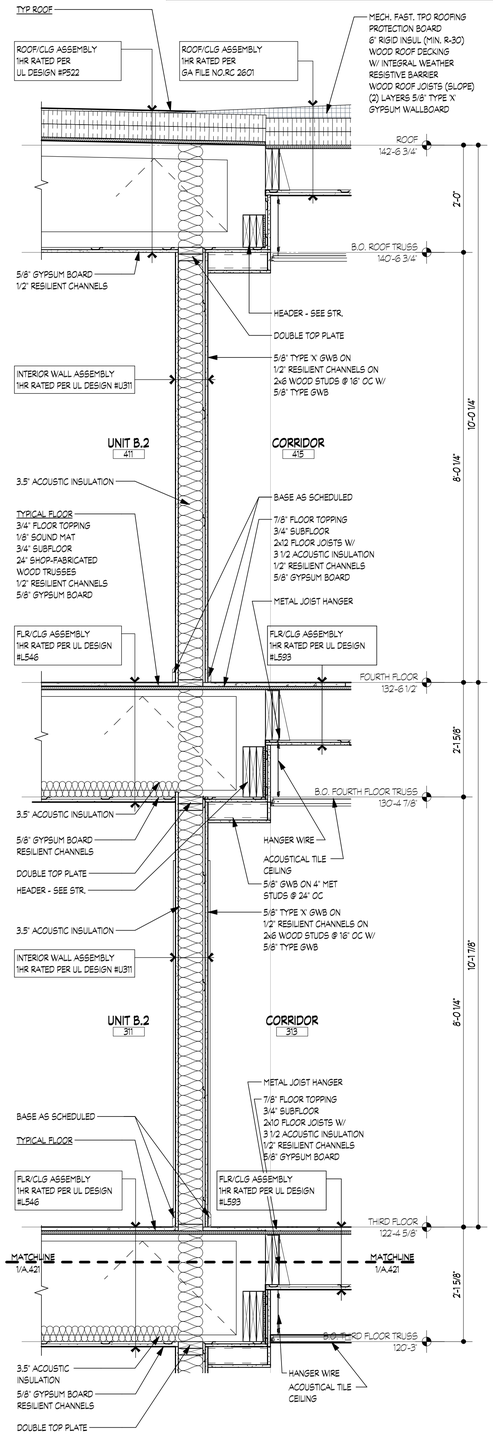

## 3 A.422 UNIT / UNIT WALL SECTION

SCALE: 3/4" = 1'-0"




## 2 A.422 UNIT / CORRIDOR WALL SECTION

SCALE: 3/4" = 1'-0"




## 1 A.422 UNIT / CORRIDOR WALL SECTION

SCALE: 3/4" = 1'-0"

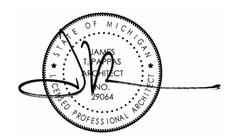
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| 09.23.24 | PERMITS |

KEY PLAN

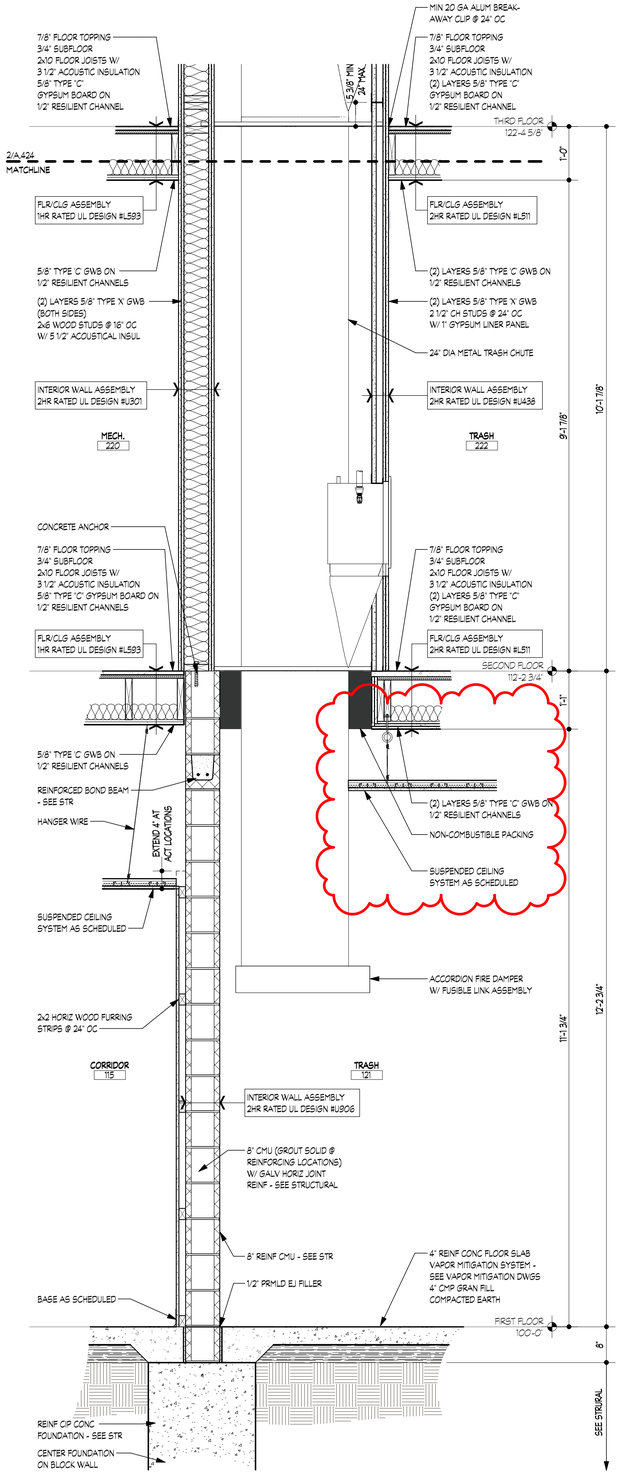
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

INTERIOR WALL SECTIONS

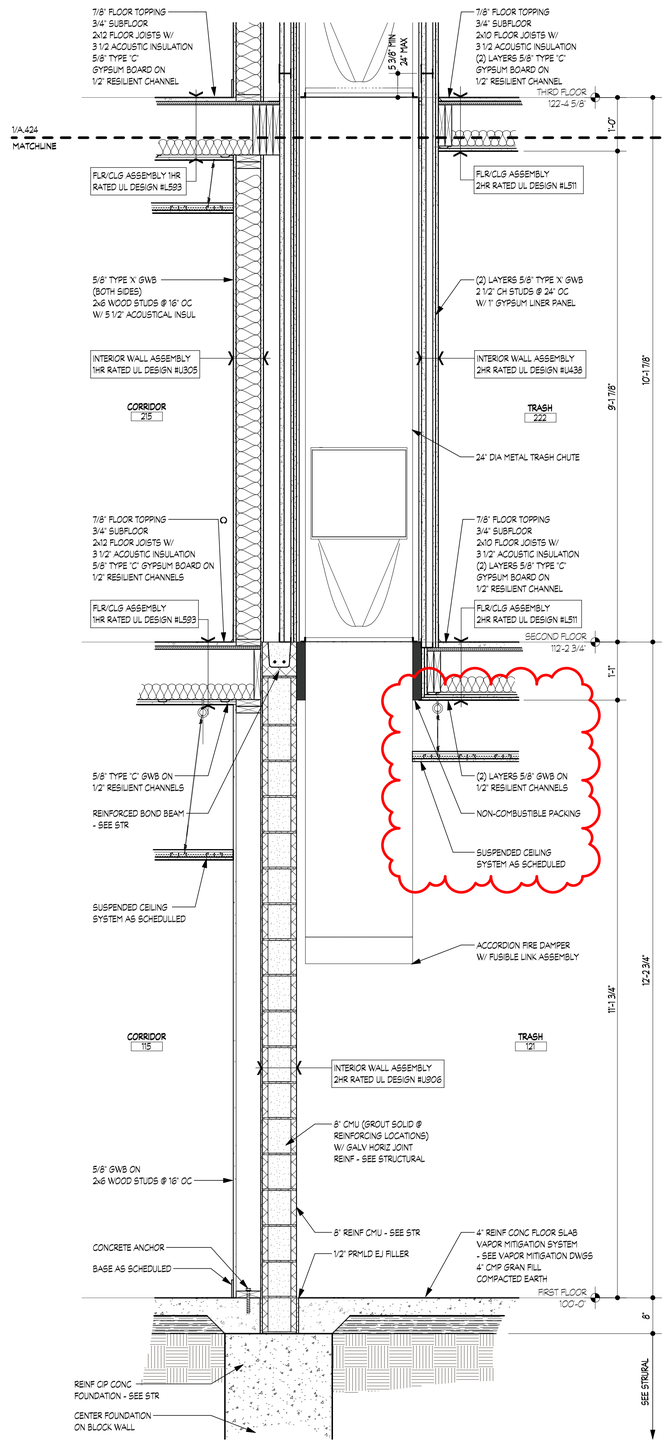
DRAWING NUMBER

A.422




2 / A.423 MECH. / TRASH WALL SECTION

SCALE: 3/4" = 1'-0"




1 / A.423 CORRIDOR / TRASH WALL SECTION

SCALE: 3/4" = 1'-0"

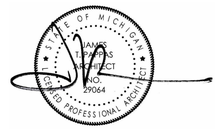
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| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

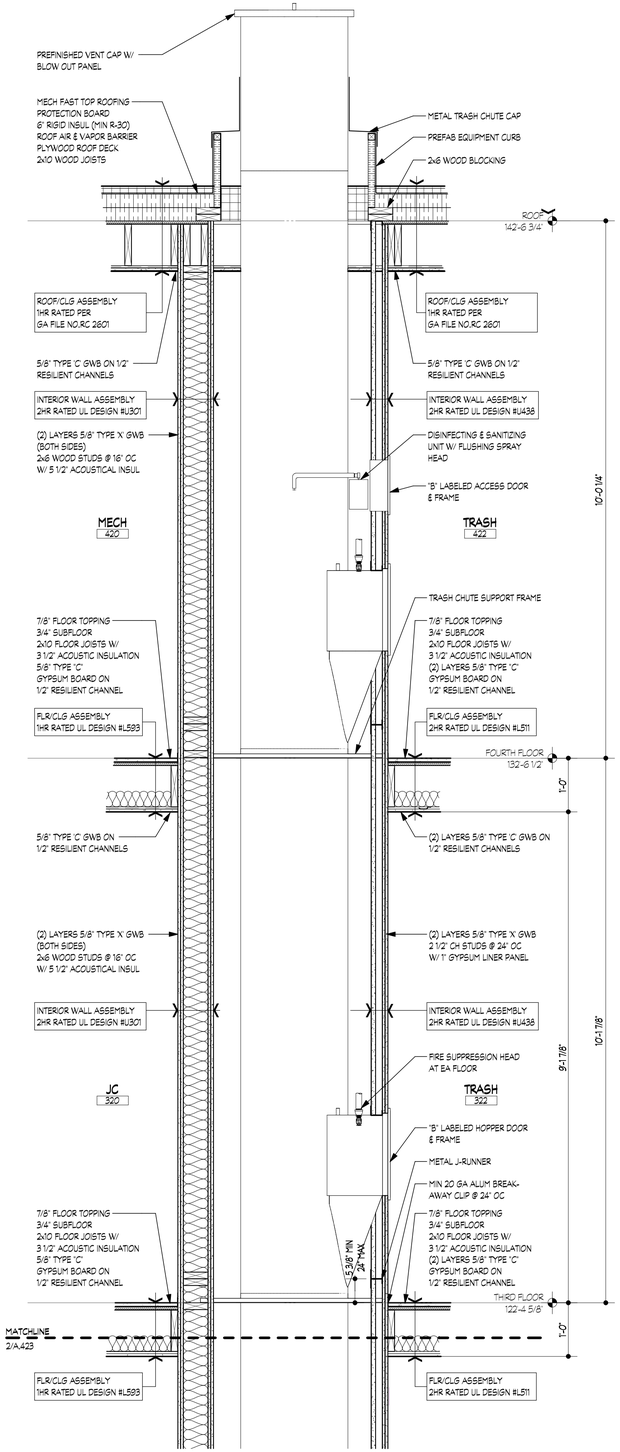
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INTERIOR WALL SECTIONS

DRAWING NUMBER

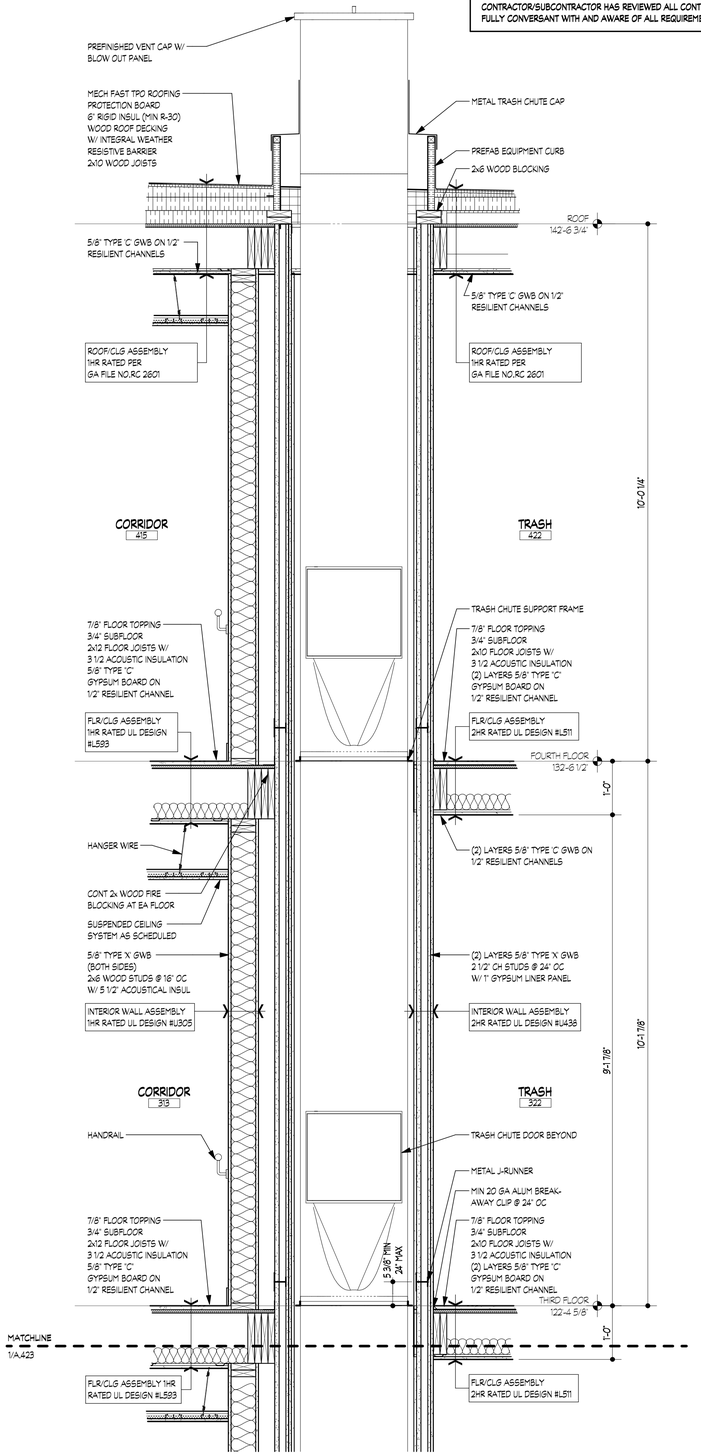
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## 2 A.424 MECH. / TRASH WALL SECTION

SCALE: 3/4" = 1'-0"




## 1 A.424 CORRIDOR / TRASH WALL SECTION

SCALE: 3/4" = 1'-0"


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| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

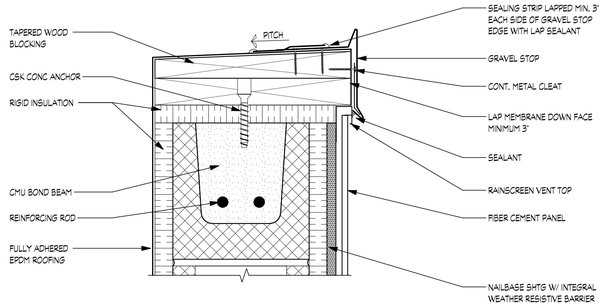
DRAWING TITLE

INTERIOR WALL SECTIONS

DRAWING NUMBER

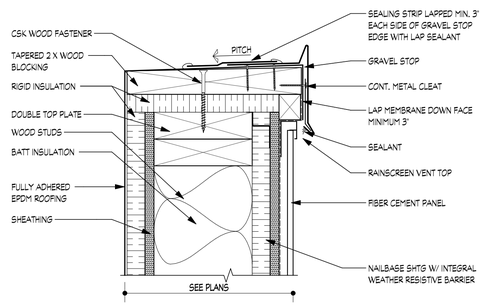
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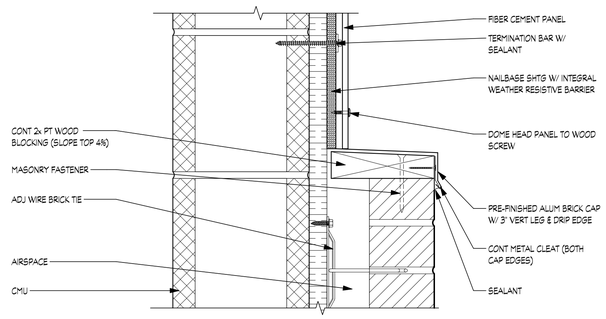

6 A.491 MASONRY WALL DETAIL W/ GRAVEL STOP

SCALE: 3" = 1'-0"



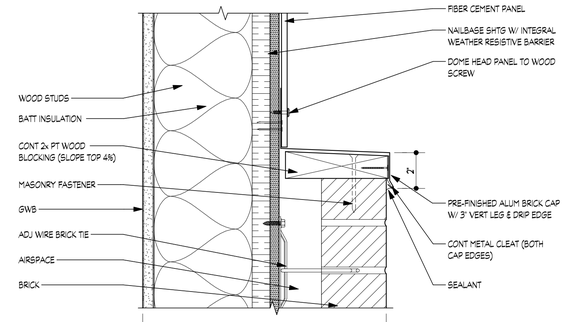

3 A.491 STUD WALL DETAIL W/ GRAVEL STOP

SCALE: 3" = 1'-0"



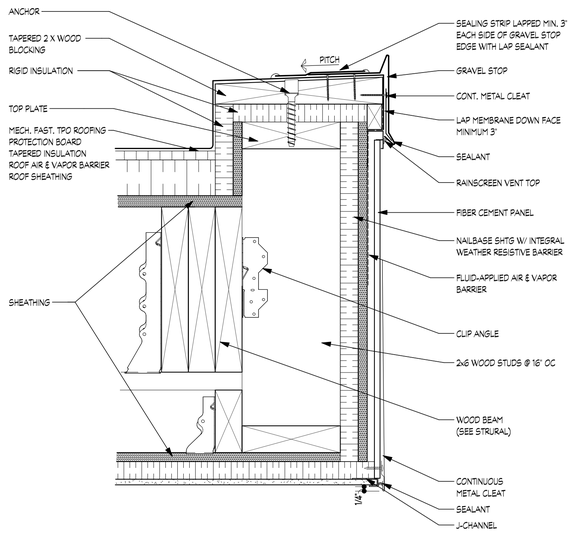

5 A.491 MASONRY WALL DETAIL W/ BRICK CAP

SCALE: 3" = 1'-0"



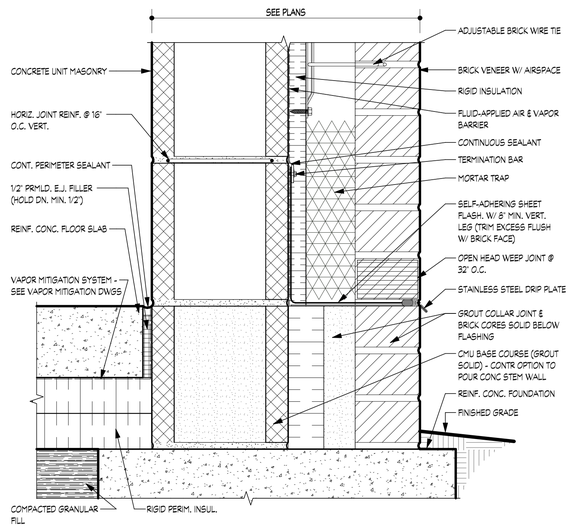

2 A.491 STUD WALL DETAIL W/ BRICK CAP

SCALE: 3" = 1'-0"



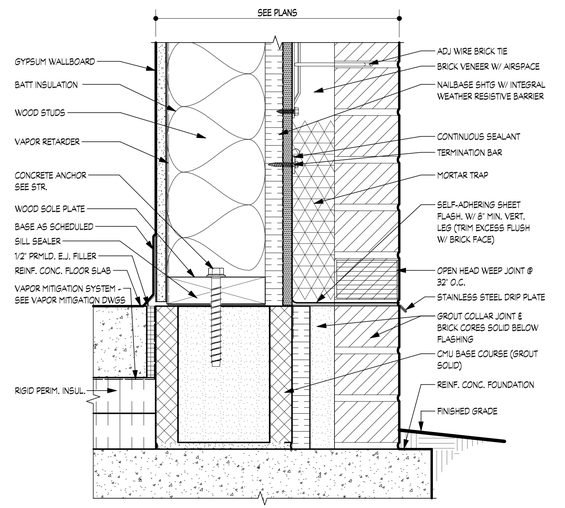

7 A.491 ENLARGED CANOPY DETAIL

SCALE: 3" = 1'-0"




4 A.491 ENLARGED BASE FLASHING DETAIL

SCALE: 3" = 1'-0"




1 A.491 ENLARGED BASE FLASHING DETAIL

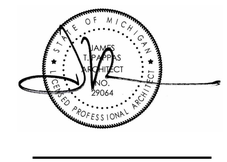
SCALE: 3" = 1'-0"

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KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

WALL SECTION DETAILS

DRAWING NUMBER

A.491

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

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LICENSED ARCHITECT
JAMES T. PAPPAS
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KEY PLAN

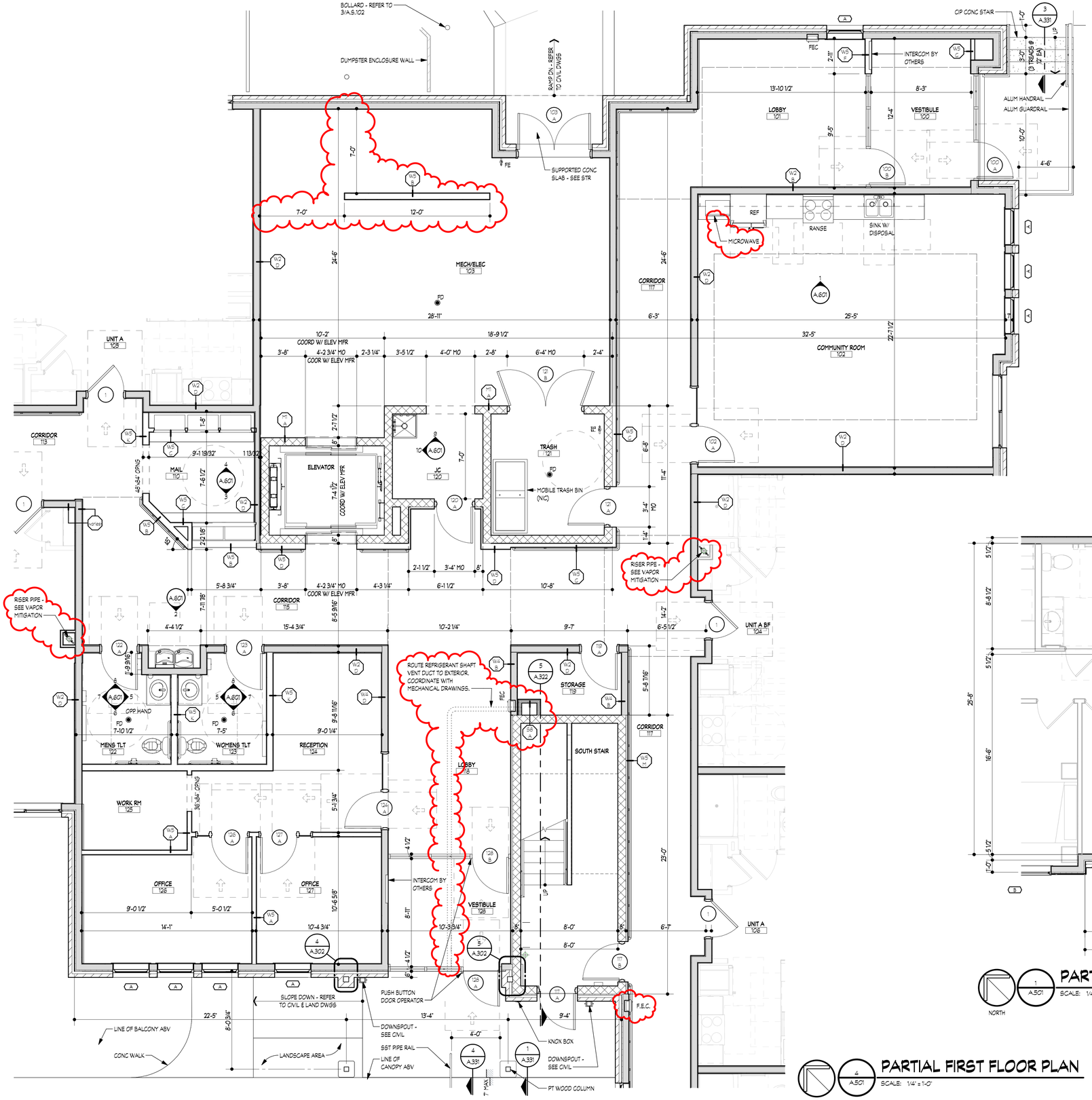
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

PARTIAL FLOOR PLANS

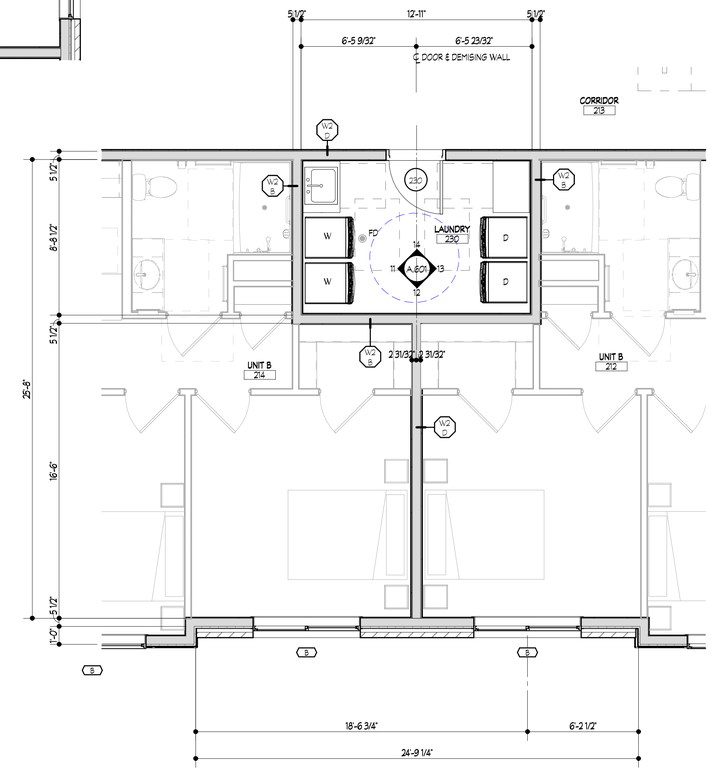
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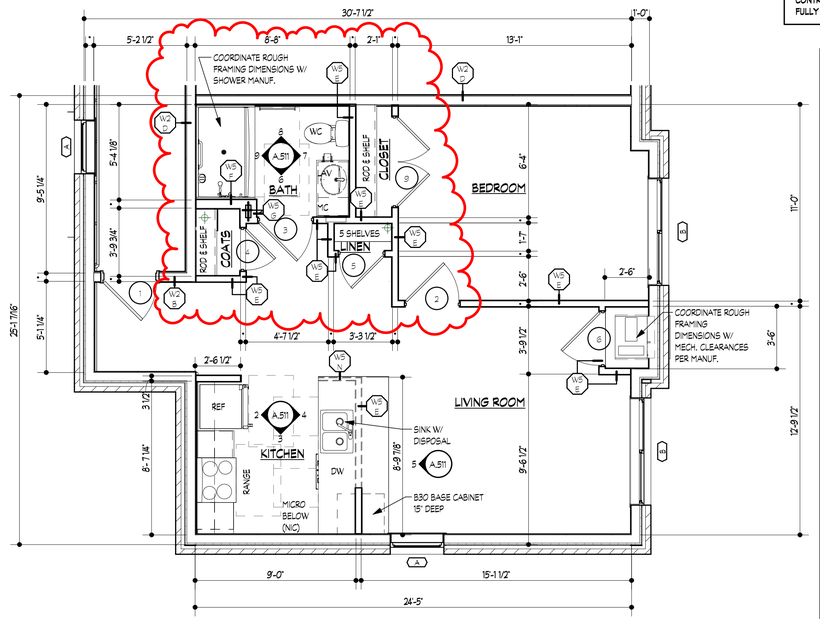

## PARTIAL FIRST FLOOR PLAN

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




## PARTIAL SECOND - FOURTH FLOOR PLANS

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




ICC A117.1 TYPE B UNIT

10/A.511 **UNIT A.1 PLAN - 1 BEDROOM**

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

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## INTERIOR NOTES

1. SEE A.C. SHEETS FOR STANDARD BARRIER FREE MOUNTING HEIGHTS AND DIMENSIONS.
2. ALL CASEWORK SHALL BE REMANUFACTURED WOOD WITH PLYWOOD CORES UNLESS NOTED OTHERWISE.
3. PROVIDE AND INSTALL SOLID WOOD BLOCKING BEHIND ALL WALL MOUNTED EQUIPMENT, CABINETS, FIXTURES, AND ACCESSORIES TO ALLOW FOR SOLID MOUNTING.
4. FILLERS ARE REQUIRED TO CLOSE ALL CABINET TO CABINET OR CABINET TO WALL GAPS AND TO PROVIDE FOR CLEARANCES REQUIRED. WHEN FILLERS ARE REQUIRED AT BOTH ENDS OF CASEWORK, BOTH FILLERS MUST BE EQUAL WIDTH.
5. PROVIDE AND INSTALL FULL EXTENSION UNDERMOUNT DRAWER GUIDES FOR ALL DRAWERS.
6. ALL PLASTIC LAMINATE CASEWORK INTERIOR EXPOSED SURFACES TO BE MELAMINE ON PARTICLE BOARD CORE. DRAWER BOXES ARE TO BE 1/2" MELAMINE. BACKS OF CASEWORK DOORS TO BE PLASTIC LAMINATE TO MATCH EXTERIOR.
7. ALL CASEWORK CABINET DOORS TO HAVE CONCEALED HINGES.
8. PROVIDE AND INSTALL FINISHED END/SIDE PANEL ON ALL EXPOSED CABINET ENDS/SIDES.
9. PROVIDE AND INSTALL WALL BRACKET SUPPORTS AT 48" O.C. MAX TO SUPPORT COUNTERTOP AT CONTINUOUS KNEE SPACE UNLESS NOTED OTHERWISE.
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    NOTE: SHELVES TO BE 3/4" THICK FOR SPANS UP TO 32" AND 1" FOR SPANS UP TO 36".
13. REFER TO INTERIOR DECOR DRAWINGS FOR WALL FINISHES, TILE PATTERN, AND MATERIAL TRANSITIONS NOT DEPICTED ON ARCHITECTURAL DRAWINGS.

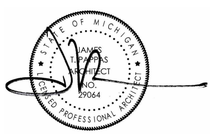

FSP FUSCO, SHAFFER & PAPPAS, INC.
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# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 08.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.18.25 | ADDENDUM #3 |
| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

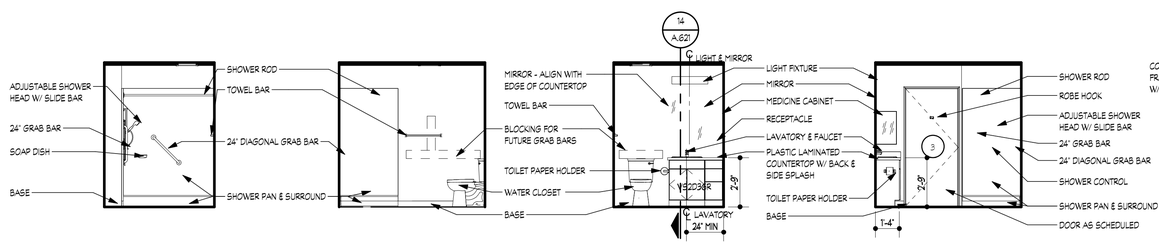
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

UNIT A & A.1 PLANS AND ELEVATIONS

DRAWING NUMBER

A.511

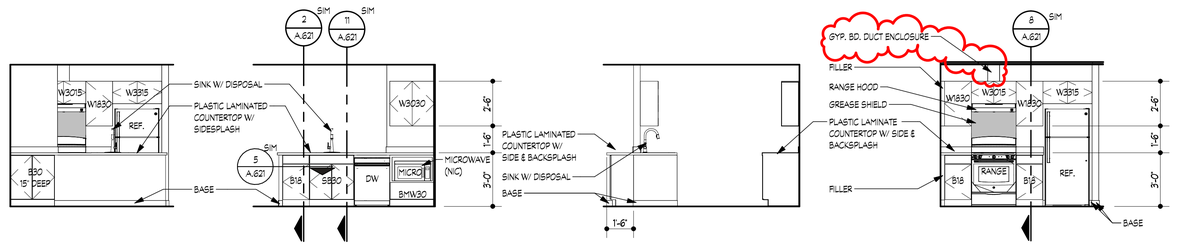



9/A.511 **UNIT A BATH** — SCALE: 1/4" = 1'-0"

8/A.511 **UNIT A BATH** — SCALE: 1/4" = 1'-0"

7/A.511 **UNIT A BATH** — SCALE: 1/4" = 1'-0"

6/A.511 **UNIT A BATH** — SCALE: 1/4" = 1'-0"

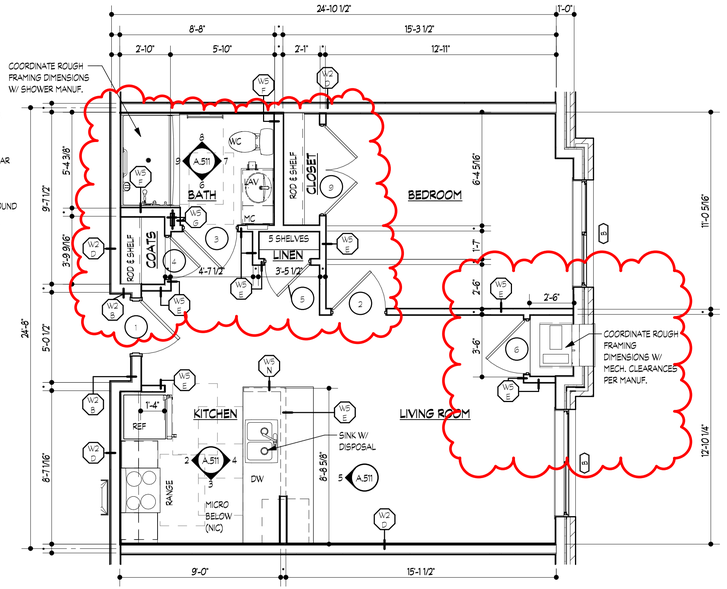



5/A.511 **UNIT A LIVING RM.** — SCALE: 1/4" = 1'-0"

4/A.511 **UNIT A KITCHEN** — SCALE: 1/4" = 1'-0"

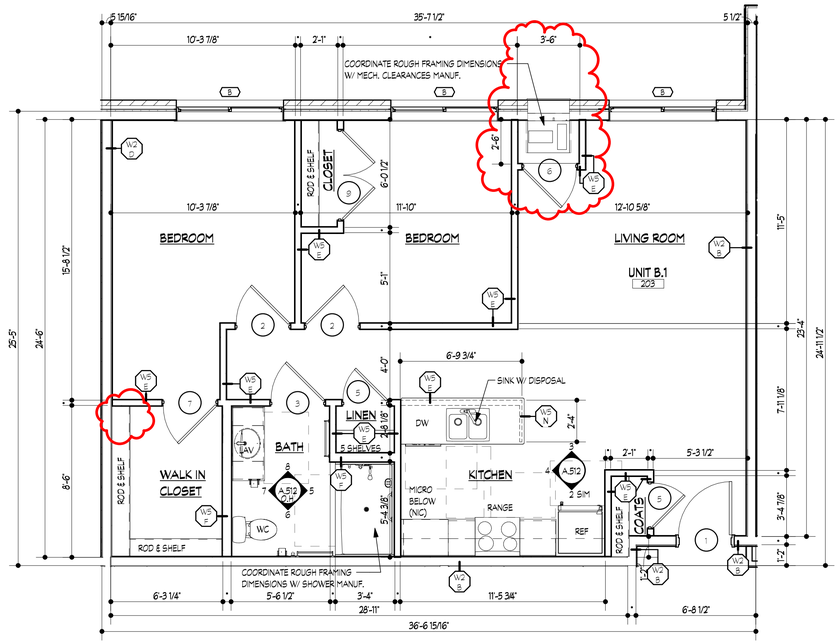
3/A.511 **UNIT A KITCHEN** — SCALE: 1/4" = 1'-0"

2/A.511 **UNIT A KITCHEN** — SCALE: 1/4" = 1'-0"




ICC A117.1 TYPE B UNIT

1/A.511 **UNIT A PLAN - 1 BEDROOM** — SCALE: 1/4" = 1'-0"




ICC A117.1 TYPE B UNIT

13 / A.512

## UNIT B.1 PLAN - 2 BEDROOM

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

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6. ALL PLASTIC LAMINATE CASEWORK INTERIOR EXPOSED SURFACES TO BE MELAMINE ON PARTICLE BOARD CORE. DRAWER BOXES ARE TO BE 1/2" MELAMINE. BACKS OF CASEWORK DOORS TO BE PLASTIC LAMINATE TO MATCH EXTERIOR.
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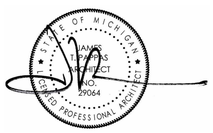

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# GREYSTONE APARTMENTS

DETROIT MICHIGAN

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| 07.11.25 | ADDENDUM #1 |
| 03.23.24 | PERMITS |

KEY PLAN

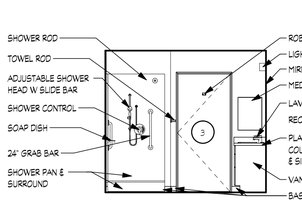
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

UNIT B & B.1 PLANS AND ELEVATIONS

DRAWING NUMBER

A.512

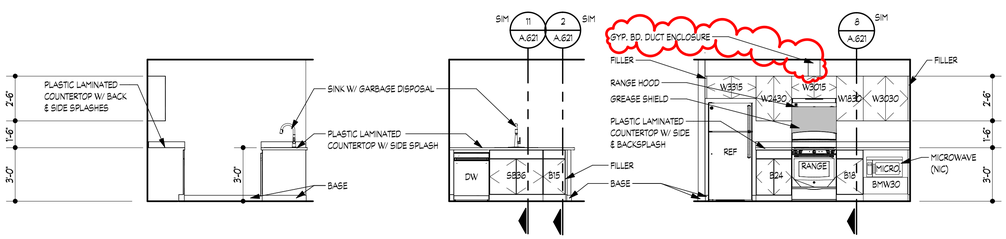



8 / A.512 — UNIT B BATH — SCALE: 1/4" = 1'-0"

7 / A.512 — UNIT B BATH — SCALE: 1/4" = 1'-0"

6 / A.512 — UNIT B BATH — SCALE: 1/4" = 1'-0"

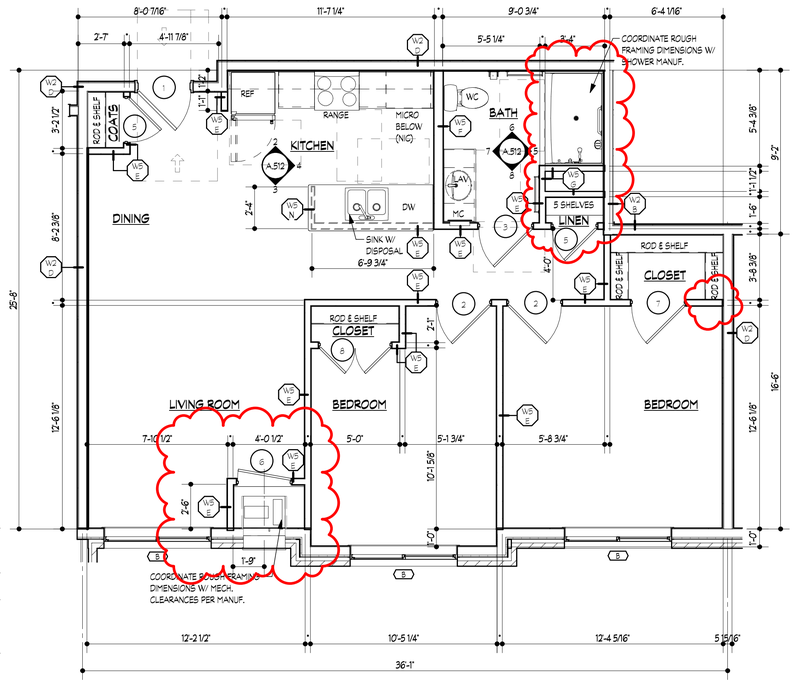
5 / A.512 — UNIT B BATH — SCALE: 1/4" = 1'-0"




4 / A.512 — UNIT B KITCHEN — SCALE: 1/4" = 1'-0"

3 / A.512 — UNIT B KITCHEN — SCALE: 1/4" = 1'-0"

2 / A.512 — UNIT B KITCHEN — SCALE: 1/4" = 1'-0"

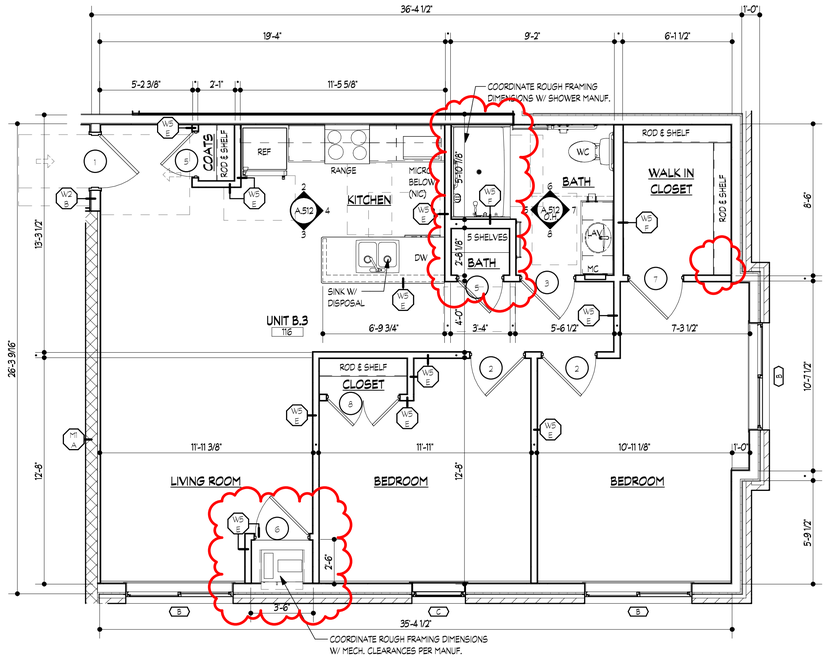



ICC A117.1 TYPE B UNIT

1 / A.512

## UNIT B PLAN - 2 BEDROOM

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

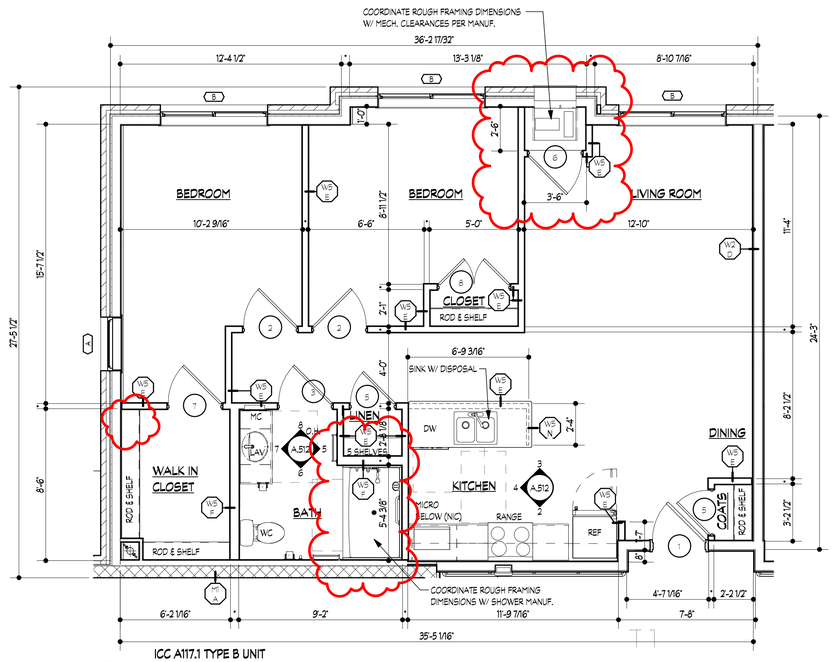



ICC A117.1 TYPE B UNIT

## UNIT B.3 PLAN - 2 BEDROOM

3 / A.513

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




ICC A117.1 TYPE B UNIT

## B.2 UNIT PLAN - 2 BEDROOM

1 / A.513

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

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ARCHITECTS AND PLANNERS

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# GREYSTONE APARTMENTS
DETROIT MICHIGAN

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| 12.19.25 | ISSUED FOR CONSTR. |
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| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

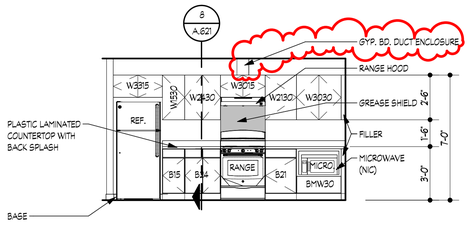
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

UNIT B.2 & B.3 PLANS AND ELEVATIONS

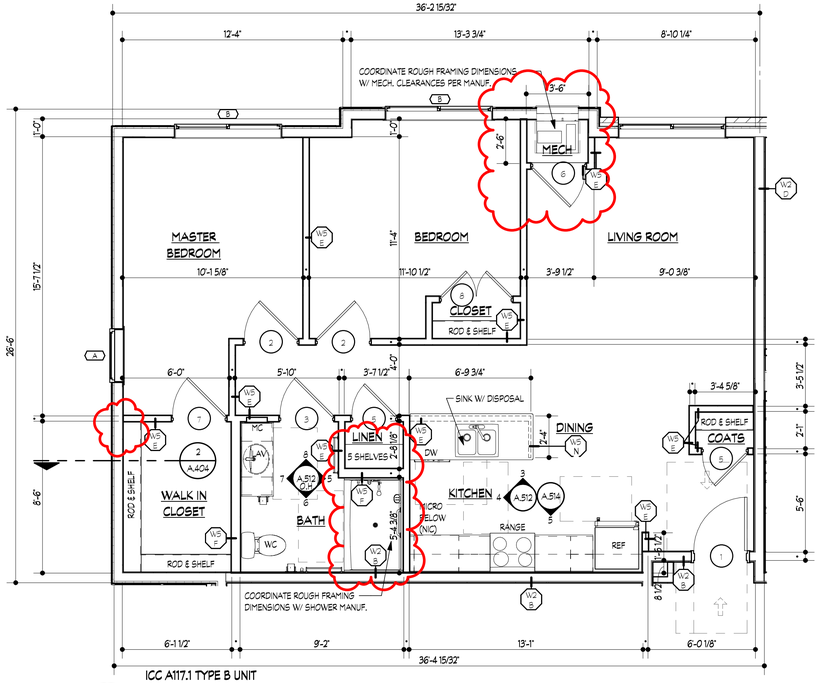
DRAWING NUMBER

A.513




5 A.514 **UNIT B.5 KITCHEN**

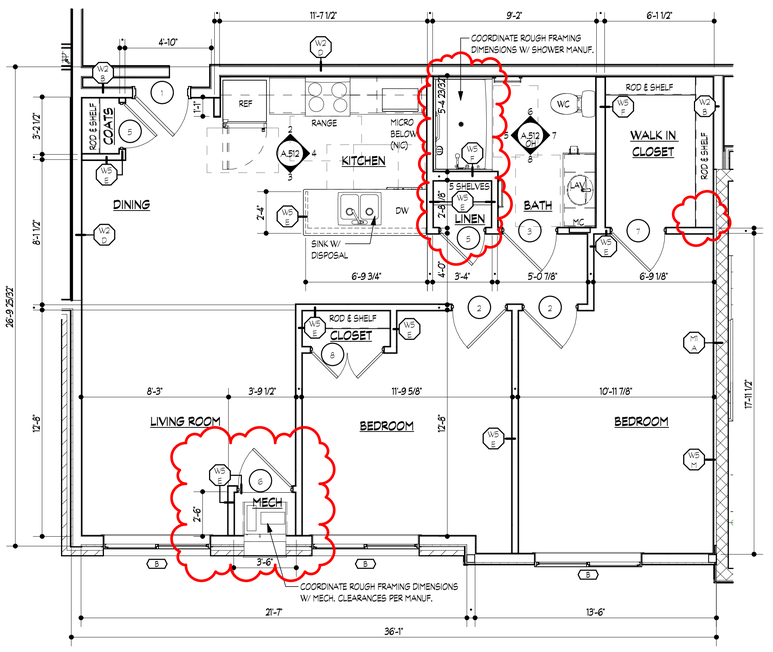
SCALE: 1/4" = 1'-0"




ICC A117.1 TYPE B UNIT

4 A.514 **UNIT B.5 PLAN - 2 BEDROOM**

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




ICC A117.1 TYPE B UNIT

1 A.514 **UNIT B.4 PLAN - 2 BEDROOM**

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

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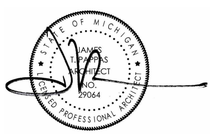
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KEY PLAN

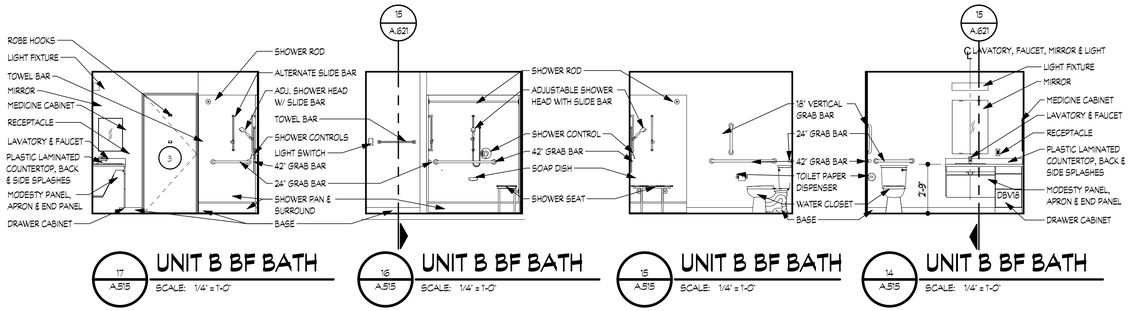
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

UNIT B.4 & B.5 PLANS AND ELEVATIONS

DRAWING NUMBER

A.514

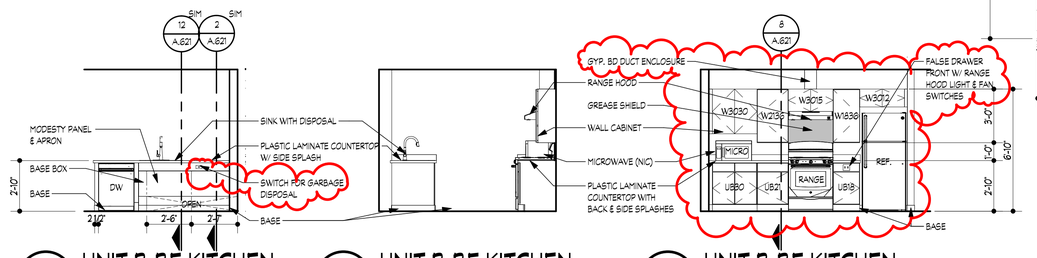



17 A.515 **UNIT B BF BATH** SCALE: 1/4" = 1'-0"

16 A.515 **UNIT B BF BATH** SCALE: 1/4" = 1'-0"

15 A.515 **UNIT B BF BATH** SCALE: 1/4" = 1'-0"

14 A.515 **UNIT B BF BATH** SCALE: 1/4" = 1'-0"



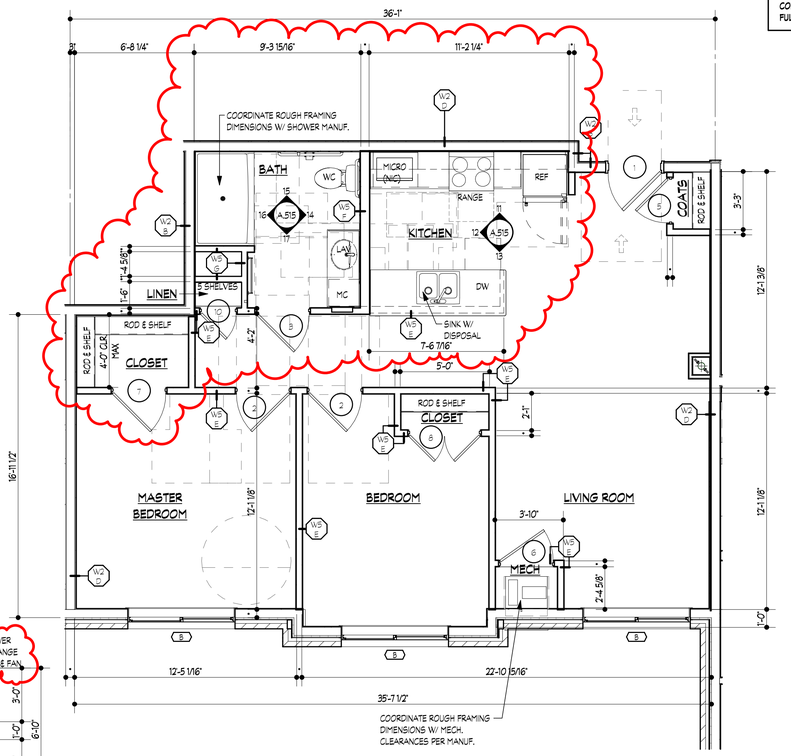

13 A.515 **UNIT B BF KITCHEN** SCALE: 1/4" = 1'-0"

12 A.515 **UNIT B BF KITCHEN** SCALE: 1/4" = 1'-0"

11 A.515 **UNIT B BF KITCHEN** SCALE: 1/4" = 1'-0"

ICC A117.1 TYPE A UNIT

10 A.515 **UNIT B BF PLAN - 2 BEDROOM** SCALE: 1/4" = 1'-0"

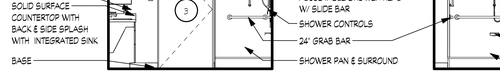



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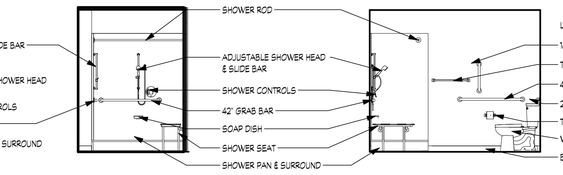
## INTERIOR NOTES

1. SEE A.C. SHEETS FOR STANDARD BARRIER FREE MOUNTING HEIGHTS AND DIMENSIONS.
2. ALL CASEWORK SHALL BE REMANUFACTURED WOOD WITH PLYWOOD CORES UNLESS NOTED OTHERWISE.
3. PROVIDE AND INSTALL SOLID WOOD BLOCKING BEHIND ALL WALL MOUNTED EQUIPMENT, CABINETS, FIXTURES, AND ACCESSORIES TO ALLOW FOR SOLID MOUNTING.
4. FILLERS ARE REQUIRED TO CLOSE ALL CABINET TO CABINET OR CABINET TO WALL GAPS AND TO PROVIDE FOR CLEARANCES REQUIRED. WHEN FILLERS ARE REQUIRED AT BOTH ENDS OF CASEWORK, BOTH FILLERS MUST BE EQUAL WIDTH.
5. PROVIDE AND INSTALL FULL EXTENSION UNDERMOUNT DRAWER GUIDES FOR ALL DRAWERS.
6. ALL PLASTIC LAMINATE CASEWORK INTERIOR EXPOSED SURFACES TO BE MELAMINE ON PARTICLE BOARD CORE. DRAWER BOXES ARE TO BE 1/2" MELAMINE. BACKS OF CASEWORK DOORS TO BE PLASTIC LAMINATE TO MATCH EXTERIOR.
7. ALL CASEWORK CABINET DOORS TO HAVE CONCEALED HINGES.
8. PROVIDE AND INSTALL FINISHED END/SIDE PANEL ON ALL EXPOSED CABINET ENDS/SIDES.
9. PROVIDE AND INSTALL WALL BRACKET SUPPORTS AT 48" O.C. MAX TO SUPPORT COUNTERTOP AT CONTINUOUS KNEE SPACE UNLESS NOTED OTHERWISE.
10. COMMON AREA APPLIANCES INCLUDING, BUT NOT LIMITED TO, REFRIGERATORS, FREEZERS, RANGES, HOODS, MICROWAVES, DISHWASHERS, ETC. SHALL BE PURCHASED AND INSTALLED BY THE GENERAL CONTRACTOR. REFER TO SPECIFICATIONS FOR MODELS.
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12. PROVIDE AND INSTALL ADJUSTABLE SHELVES IN CABINETS AT THE FOLLOWING LOCATIONS UNLESS NOTED OTHERWISE ON INTERIOR ELEVATIONS:
    - A. BASE CABINET - 1 SHELF
    - B. FULL HEIGHT CABINET - 5 SHELVES, 1 FIXED
    - C. WALL CABINET - 1 SHELF AT 24" HIGH CABINET; 2 SHELVES AT CABINETS OVER 24" HIGH.

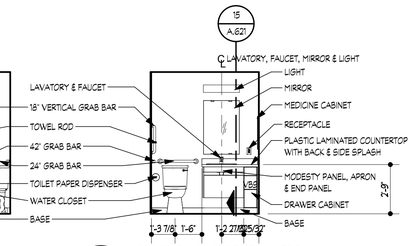
    NOTE: SHELVES TO BE 3/4" THICK FOR SPANS UP TO 32" AND 1" FOR SPANS UP TO 36".
13. REFER TO INTERIOR DECOR DRAWINGS FOR WALL FINISHES, TILE PATTERN, AND MATERIAL TRANSITIONS NOT DEPICTED ON ARCHITECTURAL DRAWINGS.




9 A.515 **UNIT A BF BATH** SCALE: 1/4" = 1'-0"




8 A.515 **UNIT A BF BATH** SCALE: 1/4" = 1'-0"

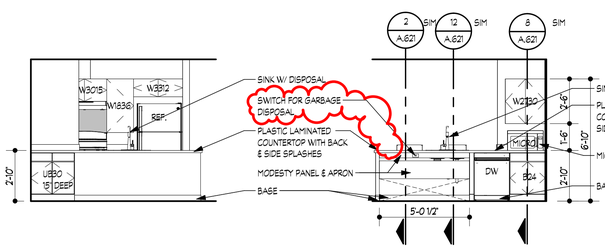



7 A.515 **UNIT A BF BATH** SCALE: 1/4" = 1'-0"

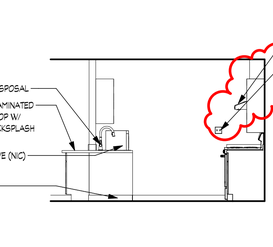
6 A.515 **UNIT A BF BATH** SCALE: 1/4" = 1'-0"




5 A.515 **UNIT A BF LIVING** SCALE: 1/4" = 1'-0"




4 A.515 **UNIT A BF KITCHEN** SCALE: 1/4" = 1'-0"

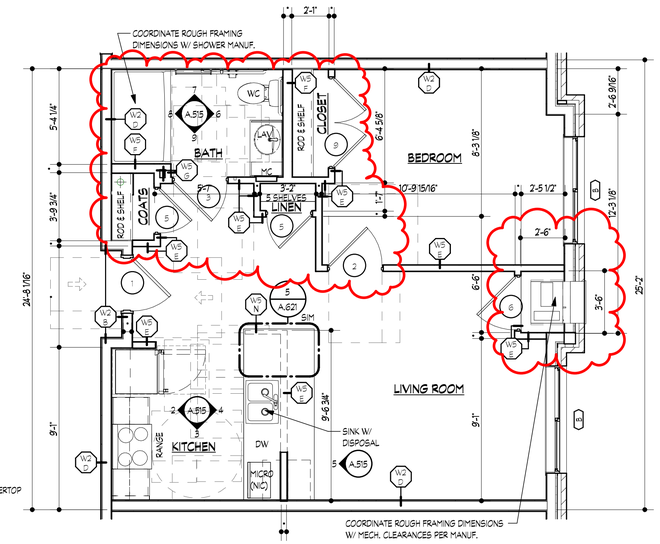



3 A.515 **UNIT A BF KITCHEN** SCALE: 1/4" = 1'-0"

2 A.515 **UNIT A BF KITCHEN** SCALE: 1/4" = 1'-0"

ICC A117.1 TYPE A UNIT

1 A.515 **UNIT A BF PLAN - 1 BEDROOM** SCALE: 1/4" = 1'-0"




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STATE OF MICHIGAN · JAMES LEMOINE · 39064 · REGISTERED PROFESSIONAL ARCHITECT

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

| DATE | ISSUE |
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| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

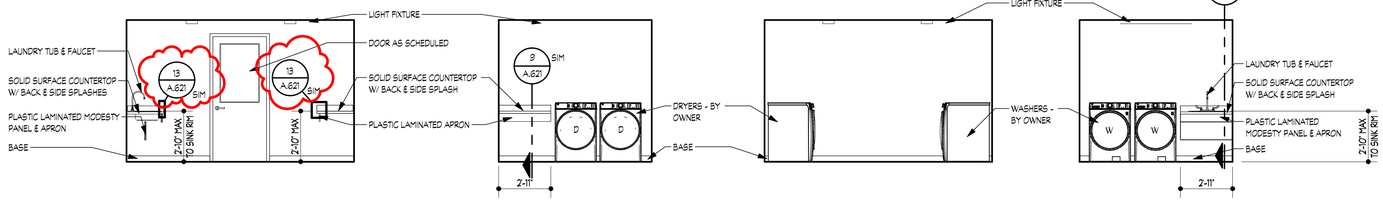
DRAWING TITLE

BF UNIT PLANS AND ELEVATIONS

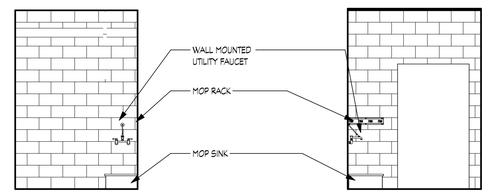
DRAWING NUMBER

A.515

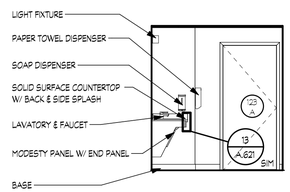
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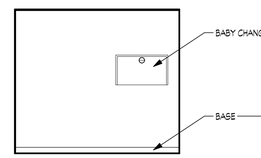

14 A.601 LAUNDRY 4 — SCALE: 1/4" = 1'-0"
13 A.601 LAUNDRY 3 — SCALE: 1/4" = 1'-0"
12 A.601 LAUNDRY 2 — SCALE: 1/4" = 1'-0"
11 A.601 LAUNDRY 1 — SCALE: 1/4" = 1'-0"



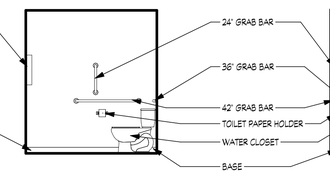

10 A.601 J C 120 — SCALE: 1/4" = 1'-0"
9 A.601 J C 120 — SCALE: 1/4" = 1'-0"



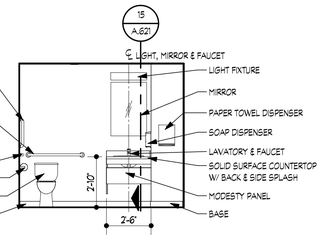

8 A.601 PUBLIC TOILET — SCALE: 1/4" = 1'-0"



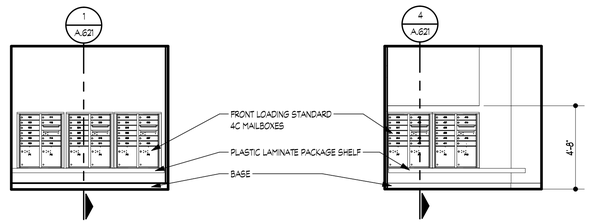

7 A.601 PUBLIC TOILET — SCALE: 1/4" = 1'-0"



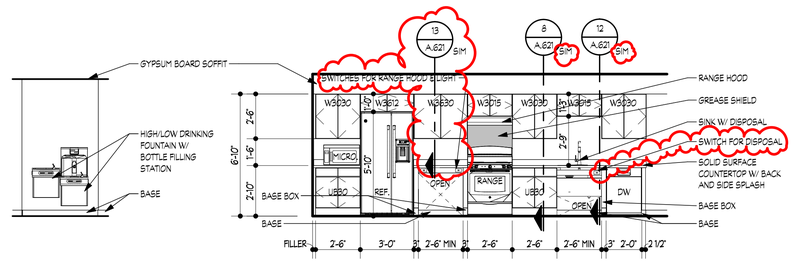

6 A.601 PUBLIC TOILET — SCALE: 1/4" = 1'-0"




5 A.601 PUBLIC TOILET — SCALE: 1/4" = 1'-0"




4 A.601 MAILROOM 110 — SCALE: 1/4" = 1'-0"
3 A.601 MAILROOM 110 — SCALE: 1/4" = 1'-0"




2 A.601 DRINKING FOUNTAIN — SCALE: 1/4" = 1'-0"
1 A.601 COMMUNITY ROOM 102 — SCALE: 1/4" = 1'-0"

## INTERIOR NOTES

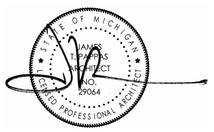
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# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
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KEY PLAN

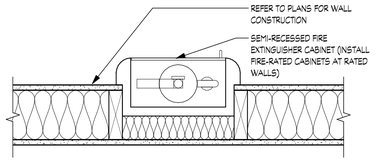
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

INTERIOR ELEVATIONS

DRAWING NUMBER

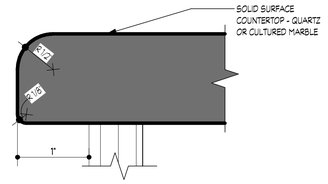
A.601




## FIRE EXTINGUISHER CABINET

18 / A.621

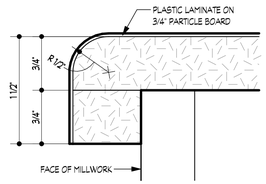
SCALE: 1 1/2" = 1'-0"




## SOLID SURFACE NOSING

13 / A.621

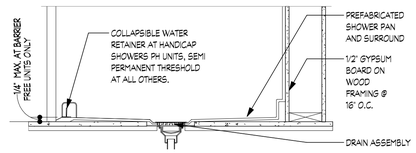
SCALE: 12" = 1'-0"




## PLASTIC LAMINATE NOSING

10 / A.621

SCALE: 12" = 1'-0"




## SHOWER PAN SECTION

7 / A.621

SCALE: 1" = 1'-0"

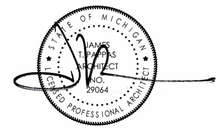
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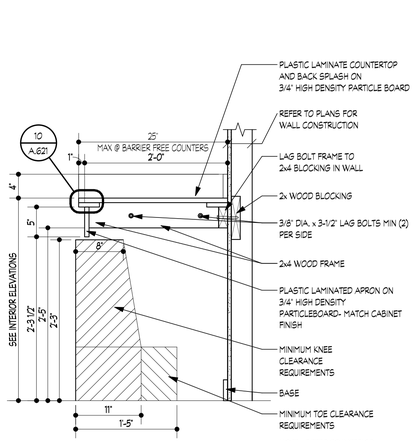
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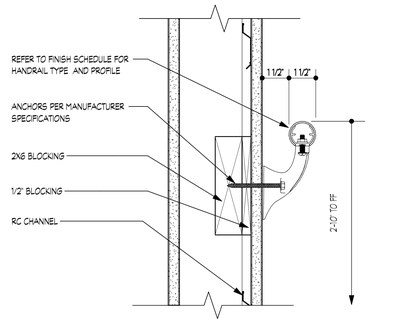



## ACCESSIBLE COUNTERTOP SECTION

9 / A.621

SCALE: 1" = 1'-0"

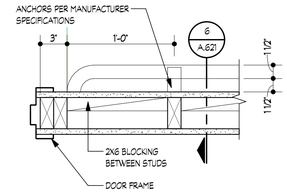



## HANDRAIL SECTION

6 / A.621

SCALE: 3" = 1'-0"

"NOTE: IF THE WALL IS LESS THAN 1'-0" IN LENGTH, THE FIRST HANDRAIL ANCHOR IS TO BE LOCATED 6" FROM THE HANDRAIL WALL RETURN.




## HANDRAIL DETAIL

3 / A.621

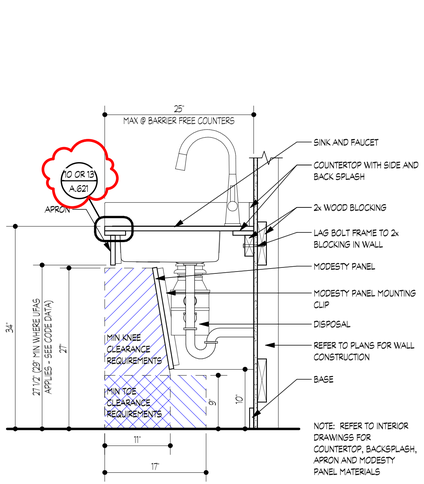
SCALE: 1 1/2" = 1'-0"




## ACCESSIBLE LAVATORY SECTION

15 / A.621

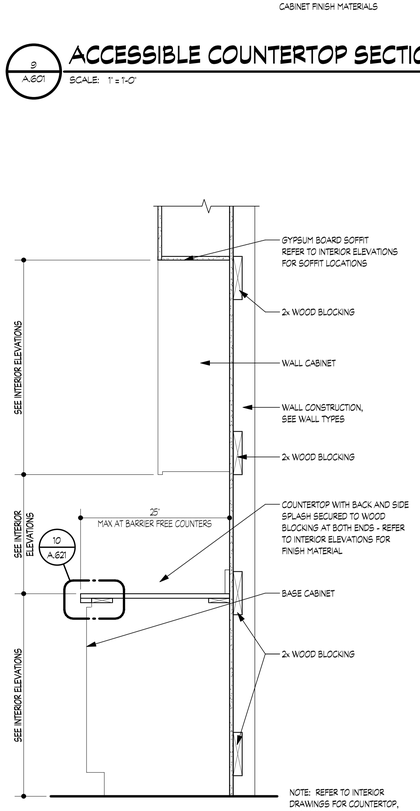
SCALE: 1" = 1'-0"




## ACCESSIBLE KITCHEN SINK SECTION

12 / A.621

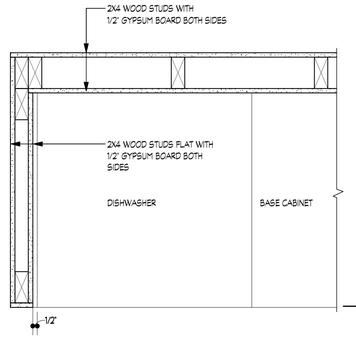
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## CABINET SECTION

8 / A.621

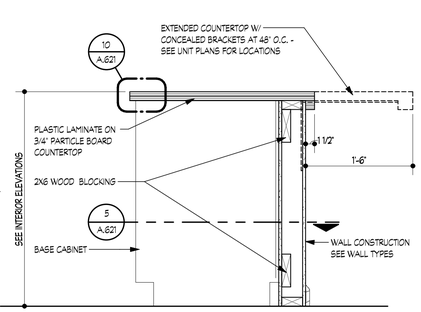
SCALE: 1" = 1'-0"




## CASEWORK SECTION

5 / A.621

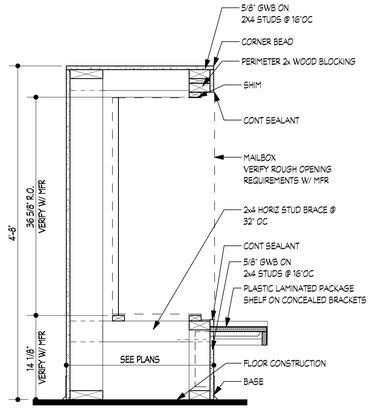
SCALE: 1 1/2" = 1'-0"




## CASEWORK SECTION

2 / A.621

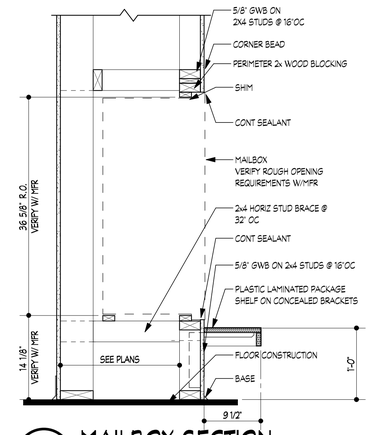
SCALE: 1" = 1'-0"




## MAILBOX SECTION

4 / A.621

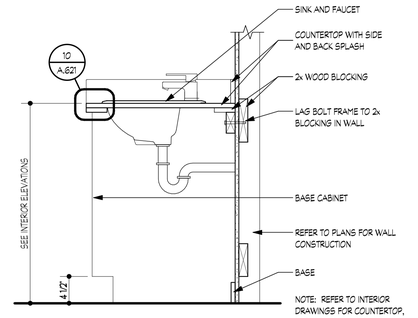
SCALE: 1" = 1'-0"




## MAILBOX SECTION

1 / A.621

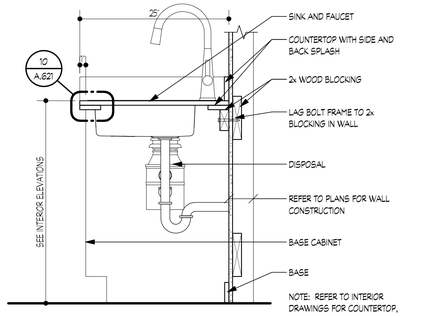
SCALE: 1" = 1'-0"




## LAVATORY SECTION

14 / A.621

SCALE: 1" = 1'-0"




NOTE: REFER TO INTERIOR DRAWINGS FOR COUNTERTOP, BACKSPLASH AND BASE CABINET FINISH MATERIALS

## KITCHEN SINK SECTION

11 / A.621

SCALE: 1" = 1'-0"

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KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

INTERIOR DETAILS

DRAWING NUMBER

A.621

## WINDOW SCHEDULE

| WINDOW | SIZE W | SIZE H | GLAZING | DETAILS HEAD | DETAILS JAMB | DETAILS SILL | DETAILS SHEET | NOTES |
|---|---|---|---|---|---|---|---|---|
| A | 3'-0" | 5'-0" | CLR LOW-E | 3,6,9 | 2,5,8 | 1,4,7 | A.715 | |
| B | 6'-0" | 5'-0" | CLR LOW-E | 6,9 | 5,8 | 4,7 | A.715 | |
| C | 3'-0" | 5'-0" | CLR LOW-E | 3,6,9 | 2,5,8 | 1,4,7 | A.715 | |

## WINDOW SCHEDULE NOTES

1. ALL GLAZING SHALL COMPLY WITH THE REQUIREMENTS OF THE 2015 MICHIGAN BUILDING CODE, CHAPTER 24 GLASS AND GLAZING
2. WINDOWS CONSISTING OF MULTIPLE UNITS SHALL BE FACTORY MULLED
3. ALL OPERABLE WINDOWS TO HAVE INSECT SCREENS
4. INSTALL WINDOW OPENING CONTROL DEVICES COMPLYING WITH ASTM F2090 ON OPERABLE WINDOWS WHERE THE TOP OF THE SILL IS LESS THAN 36" ABOVE FINISHED FLOOR AND MORE THAN 72" ABOVE FINISHED GRADE OR OTHER SURFACE BELOW
5. LOCATE OPERABLE WINDOW HARDWARE WITHIN THE REACH RANGE OF 15" MIN AND 48" MAX IN ACCESSIBLE UNITS (DESIGNATED BY 'BF' ON DRAWINGS).
6. SEE DOOR SCHEDULE FOR INTERIOR AND EXTERIOR SIDELITES WHICH ARE INTEGRAL TO DOOR FRAMES.
7. ALL WINDOWS TO HAVE BLINDS, SEE SPECS.

## ROOM FINISH SCHEDULE

| RM NO. | ROOM NAME | FLOOR FINISH | BASE FINISH | WALL MATERIAL | CEILING MATERIAL | PAINT / FINISH WALL | PAINT / FINISH CEILING | NOTES |
|---|---|---|---|---|---|---|---|---|
| UNITS | | | | | | | | |
| - | LIVING/DINING | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| - | BEDROOM | CPT | PVB | GYP. BD | GYP. BD | ESP | FP | |
| - | BATH | SV | PVB | GYP. BD | GYP. BD | SGP | FP | |
| - | KITCHEN | LVT | PVB | GYP. BD | GYP. BD | ESP | FP | |
| FIRST FLOOR | | | | | | | | |
| 100 | VESTIBULE | WOC | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 101 | LOBBY | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 102 | COMMUNITY ROOM | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 103 | MECH/ELEC | CONC | VB | CMU / GYP. BD | GYP. BD | ESP | FP | |
| 110 | MAIL | LVT | VB | GYP. BD | GYP. BD | ESP | FP | |
| 113 | CORRIDOR | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 115 | CORRIDOR | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 117 | CORRIDOR | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 118 | LOBBY | LVT | VB | GYP. BD | GYP. BD | ESP | FP | |
| 119 | STORAGE | VT | VB | GYP. BD | GYP. BD | ESP | FP | |
| 120 | JC | VT | VB | CMU | GYP. BD | ESP | FP | |
| 121 | TRASH | VT | VB | CMU | GYP. BD | ESP | FP | |
| 122 | MENS TLT | CT | CT | GYP. BD | GYP. BD | SGP | FP | |
| 123 | WOMENS TLT | CT | CT | GYP. BD | GYP. BD | SGP | FP | |
| 124 | RECEPTION | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 125 | WORK RM | LVT | VB | GYP. BD | ACT | ESP | FP | |
| 126 | OFFICE | LVT | VB | GYP. BD | ACT | ESP | FP | |
| 127 | OFFICE | LVT | VB | GYP. BD | ACT | ESP | FP | |
| 128 | VESTIBULE | WOC | PVB | GYP. BD | GYP. BD | ESP | FP | |
| 130 | FIRE PUMP | CONC | VB | CMU / GYP. BD | GYP. BD | ESP | FP | |
| 130 | LAUNDRY | LVT | VB | GYP. BD | GYP. BD | ESP | FP | |
| TYPICAL FLOOR | | | | | | | | |
| 213 | CORRIDOR | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 215 | CORRIDOR | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 217 | CORRIDOR | LVT | PVB | GYP. BD | GYP. BD / ACT | ESP | FP | |
| 218 | STORAGE | VT | VB | GYP. BD | GYP. BD | ESP | FP | |
| 219 | J.C. | VT | VB | GYP. BD | GYP. BD | ESP | FP | |
| 220 | MECH. | VT | VB | GYP. BD | GYP. BD | ESP | FP | |
| 222 | TRASH | LVT | VB | GYP. BD | GYP. BD | ESP | FP | |
| 230 | LAUNDRY | LVT | VB | GYP. BD | GYP. BD | ESP | FP | |
| CIRCULATION | | | | | | | | |
| - | SOUTH STAIR | SEALED CONC. | NONE | CONC. BLK. / GYP. BD. | GYP. BD | ESP | FP | 1 |
| - | NORTH STAIR | SEALED CONC. | NONE | CONC. BLK. / GYP. BD. | GYP. BD | ESP | FP | 1 |

### ROOM FINISH NOTES

1. STAIRS SHALL RECEIVE RUBBER TREAD AND RISER COVERS, RUBBER FLOORING W/ 4" COVED RUBBER BASE AT LANDINGS, PAINTED STRINGERS, STAINED WOOD HANDRAILS, AND STAINED WOOD WALL TOP CAP.
2. ALL HOLLOW METAL DOOR AND/OR DOOR FRAMES SHALL BE PAINTED.
3. SMALL ROOMS OR CLOSETS WHICH DO NOT APPEAR IN THE ROOM FINISH SCHEDULE SHALL BE FINISHED THE SAME AS THE ROOM IT OPENS ONTO, EXCEPT IF NOTED OTHERWISE ON THE DRAWINGS.

## DOOR SCHEDULE

| DOOR / LITE NO. | DOOR SIZE W | DOOR SIZE H | DOOR T | DOOR TYPE | DOOR MAT'L | FRAME DETAILS HEAD | FRAME DETAILS JAMB | FRAME DETAILS SILL | FRAME DETAILS SHEET | FRAME TYPE | FRAME GLAZING | FRAME MAT'L | HARDWARE | FIRE RATING LABEL / HRS. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNITS | | | | | | | | | | | | | | | |
| 1 | 3'-0" | 6'-8" | 1 3/4" | A.1 | WOOD | 1 | 2 | | A.712 | AA.1 | NONE | HM | 16 | 20 MIN | |
| 2 | 3'-0" | 6'-8" | 1 3/8" | B.1 | WOOD | 4 | 3 | | A.712 | BB.1 | NONE | KDM | 17 | | |
| 3 | 3'-0" | 6'-8" | 1 3/8" | B.1 | WOOD | 4 | 3 | | A.712 | BB.1 | NONE | KDM | 17 | | |
| 4 | 2'-4" | 6'-8" | 1 3/8" | B.1 | WOOD | 4 | 3 | | A.712 | BB.1 | NONE | KDM | 18 | | |
| 5 | 2'-6" | 6'-8" | 1 3/8" | B.1 | WOOD | 4 | 3 | | A.712 | BB.1 | NONE | KDM | 19 | | |
| 6 | 3'-0" | 6'-8" | 1 3/8" | B.1 | WOOD | 4 | 3 | | A.712 | BB.1 | NONE | KDM | 19 | | |
| 7 | 3'-0" | 6'-8" | 1 3/8" | B.1 | WOOD | 4 | 3 | | A.712 | BB.1 | NONE | KDM | 19 | | |
| 8 | 4'-0" | 6'-8" | 1 3/8" | B.1 | WOOD | 4 | 3 | | A.712 | BB.1 | NONE | KDM | 19 | | |
| 9 | 5'-0" | 6'-8" | 1 3/8" | B.1 | WOOD | 4 | 3 | | A.712 | BB.1 | NONE | KDM | 20 | | |
| 10 | 2'-0" | 6'-8" | 1 3/8" | B.1 | WOOD | 4 | 3 | | A.712 | BB.1 | NONE | KDM | 19 | | |
| FIRST FLOOR | | | | | | | | | | | | | | | |
| 100 A | 3'-0" | 7'-0" | 1 3/4" | D.4 | ALUM. | 23,26 | 22,25,20 | 21,24 | A.713 | EE.1 | INSULATED | ALUM | 1 | | |
| 100 B | 3'-0" | 7'-0" | 1 3/4" | D.3 | ALUM. | 17,19 | 16,18,20 | | A.713 | EE.2 | RATED | ALUM | 2 | | |
| 102 A | 3'-0" | 7'-0" | 1 3/4" | D.5 | WOOD | 2 | 1 | | A.712 | DD.2 | RATED | HM | 8 | 20 MIN | |
| 103 A | 6'-0" | 7'-0" | 1 3/4" | C.2 | HM | 7 | 6 | 5 | A.712 | CC.2 | INSULATED | HM | 5 | | |
| 113 A | 3'-0" | 7'-0" | 1 3/4" | E.2 | HM | 9 | 8 | 5 | A.712 | CC.2 | | HM | 6 | 90 MIN | 4" HEAD |
| 113 B | 3'-0" | 7'-0" | 1 3/4" | E.2 | HM | 15 | 14 | | A.712 | CC.1 | | HM | 9 | 90 MIN | 4" HEAD |
| 117 A | 3'-0" | 7'-0" | 1 3/4" | E.2 | HM | 9 | 8 | 5 | A.712 | CC.2 | | HM | 6 | 90 MIN | 4" HEAD |
| 117 B | 3'-0" | 7'-0" | 1 3/4" | E.2 | HM | 15 | 14 | | A.71 | CC.1 | | HM | 9 | 90 MIN | 4" HEAD |
| 119 A | 3'-0" | 7'-0" | 1 3/4" | C.3 | WOOD | 2 | 1 | | A.712 | AA.1 | | HM | 10 | 20 MIN | |
| 120 A | 3'-0" | 7'-0" | 1 3/4" | C.1 | HM | 15 | 14 | | A.712 | CC.1 | | HM | 10 | 20 MIN | |
| 121 A | 3'-0" | 7'-0" | 1 3/4" | E.2 | HM | 15 | 14 | | A.712 | CC.1 | | HM | 11 | 90 MIN | 4" HEAD |
| 121 B | 6'-0" | 7'-0" | 1 3/4" | C.1 | HM | 15 | 14 | | A.712 | CC.1 | | | 12 | 90 MIN | 4" HEAD |
| 122 A | 3'-0" | 7'-0" | 1 3/4" | C.3 | WOOD | 2 | 1 | | A.714 | AA.1 | | HM | 13 | 20 MIN | |
| 123 A | 3'-0" | 7'-0" | 1 3/4" | C.3 | WOOD | 2 | 1 | | A.714 | AA.1 | | HM | 13 | 20 MIN | |
| 124 A | 3'-0" | 7'-0" | 1 3/4" | D.5 | WOOD | 2 | 1 | | A.712 | DD.2 | RATED | HM | 14 | 20 MIN | |
| 126 A | 3'-0" | 7'-0" | 1 3/4" | C.3 | WOOD | 2 | 1 | | A.712 | DD.1 | RATED | HM | 14 | 20 MIN | |
| 127 A | 3'-0" | 7'-0" | 1 3/4" | C.3 | WOOD | 2 | 1 | | A.712 | DD.1 | RATED | HM | 14 | 20 MIN | |
| 128 A | 3'-0" | 7'-0" | 1 3/4" | D.4 | ALUM. | 23,26 | 22,25,20 | 21,24 | A.713 | EE.3 | INSULATED | ALUM | 3 | | |
| 128 B | 3'-0" | 7'-0" | 1 3/4" | D.3 | ALUM. | 17,19 | 16,18,20 | | A.713 | EE.4 | RATED | ALUM | 4 | | |
| 130 | 3'-0" | 7'-0" | 1 3/4" | F.1 | HM/GL | 2 | 1 | | A.712 | AA.1 | RATED | HM | 7 | 20 MIN | |
| SECOND FLOOR | | | | | | | | | | | | | | | |
| 213 A | 3'-0" | 7'-0" | 1 3/4" | E.1 | HM | 15 | 14 | | A.712 | CC.1 | RATED | HM | 9 | 90 MIN | |
| 217 A | 3'-0" | 7'-0" | 1 3/4" | E.1 | HM | 15 | 14 | | A.712 | CC.1 | RATED | HM | 9 | 90 MIN | |
| 218 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 15 | 20 MIN | |
| 219 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 15 | 20 MIN | |
| 220 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 15 | 20 MIN | |
| 222 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 11 | 20 MIN | |
| 230 | 3'-0" | 7'-0" | 1 3/4" | F.1 | HM/GL | 2 | 1 | | A.712 | AA.1 | RATED | | 7 | 20 MIN | |
| THIRD FLOOR | | | | | | | | | | | | | | | |
| 313 A | 3'-0" | 7'-0" | 1 3/4" | E.1 | HM | 15 | 14 | | A.712 | CC.1 | RATED | HM | 9 | 90 MIN | |
| 317 A | 3'-0" | 7'-0" | 1 3/4" | E.1 | HM | 15 | 14 | | A.712 | CC.1 | RATED | HM | 9 | 90 MIN | |
| 318 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 15 | 20 MIN | |
| 319 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 15 | 20 MIN | |
| 320 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 15 | 20 MIN | |
| 322 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 11 | 20 MIN | |
| 330 | 3'-0" | 7'-0" | 1 3/4" | F.1 | HM/GL | 2 | 1 | | A.712 | AA.1 | RATED | | 7 | 20 MIN | |
| FOURTH FLOOR | | | | | | | | | | | | | | | |
| 413 A | 3'-0" | 7'-0" | 1 3/4" | E.1 | HM | 15 | 14 | | A.712 | CC.1 | RATED | HM | 9 | 90 MIN | |
| 417 A | 3'-0" | 7'-0" | 1 3/4" | E.1 | HM | 15 | 14 | | A.712 | CC.1 | RATED | HM | 9 | 90 MIN | |
| 418 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 15 | 20 MIN | |
| 419 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 15 | 20 MIN | |
| 420 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 15 | 20 MIN | |
| 422 A | 3'-0" | 6'-8" | 1 3/4" | C.1 | HM | 2 | 1 | | A.712 | AA.1 | - | HM | 11 | 20 MIN | |
| 430 | 3'-0" | 7'-0" | 1 3/4" | F.1 | HM/GL | | | | | AA.1 | RATED | | 7 | 20 MIN | |

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

## DOOR SCHEDULE NOTES

1. ALL EXTERIOR DOORS SHALL HAVE WEATHER STRIPPING, THRESHOLDS, INSULATED SAFETY GLAZING, ETC. FOR A COMPLETE WEATHERTIGHT INSTALLATION.
2. ALL NON-RATED INTERIOR DOOR GLAZING SHALL BE SAFETY GLAZING.
3. ALL FIRE RATED DOORS SHALL BE FIRE PROTECTED OR FIRE RESISTANT SAFETY GLAZING AS REQUIRED. DO NOT USE WIRE GLASS.
4. VERIFY PUSH BUTTON LOCATIONS FOR POWER ASSISTED DOORS AND INTEGRATION OF ACTUATOR HARDWARE WITH ELECTRICAL DRAWINGS.
5. ALL GLAZING SHALL COMPLY WITH THE REQUIREMENTS OF THE 2015 MICHIGAN BUILDING CODE, CHAPTER 24 GLASS AND GLAZING.
6. COORDINATE OWNER'S SECURITY SYSTEM WITH DOOR HARDWARE.
7. PROVIDE SEALANT AT JOINTS BETWEEN DOOR FRAMES AND PARTITIONS.
8. PROVIDE FRAME ANCHORS TO ACCOMMODATE PARTITION TYPES AND REQUIREMENTS FOR FIRE RATING, INSTALL MINIMUM OF THREE ANCHORS PER JAMB AT EQUAL INTERVALS.
9. INTERIOR AND EXTERIOR METAL DOOR AND FRAME COLORS SHALL MATCH ADJACENT WALL COLORS AS SELECTED BY ARCHITECT.
10. PROVIDE COAT HOOKS AT ALL RESTROOM DOORS (2 IN ACCESSIBLE AND PUBLIC RESTROOMS)
11. PER 914.2 EQUIPMENT ROOM IDENTIFICATION: FIRE PROTECTION EQUIPMENT SHALL BE IDENTIFIED IN AN APPROVED MANNER. APPROVED SIGNS REQUIRED TO IDENTIFY FIRE PROTECTION EQUIPMENT AND EQUIPMENT LOCATION SHALL BE CONSTRUCTED OF DURABLE MATERIALS, PERMANENTLY INSTALLED AND READILY VISIBLE.

NOTE: QUANTITIES AND MATERAL AREA ESTIMATES PRESENTED HEREIN ARE APPROXIMATE AND ARE INTENDED TO AID IN THE ESTIMATING PROCESSES.
NOTE THAT THESE ESTIMATIONS DO NOT ABSOLVE THE CONTRACTOR FROM THE RESPONSIBILITY OF ACCURATELY DETERMINING FINAL QUANTITIES REQUIRED FOR PROCUREMENT. THE PROVIDED ESTIMATES DO NOT INCLUDE ALLOWANCES FOR ACCESSORIES OVERAGE, OR WASTE NECESSARY FOR A COMPREHENSIVE INSTALLATION.


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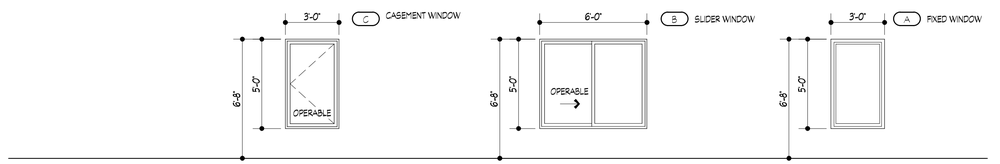

SEAL

STATE OF MICHIGAN
JAMES L. PAPPAS
ARCHITECT
LICENSE NO. 29064
REGISTERED ARCHITECT

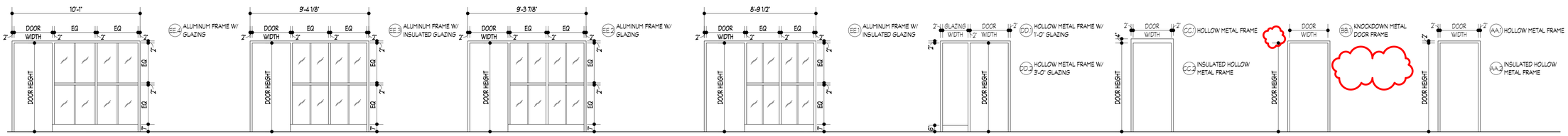
AFFORDABLE SENIOR LIVING

# GREYSTONE APARTMENTS

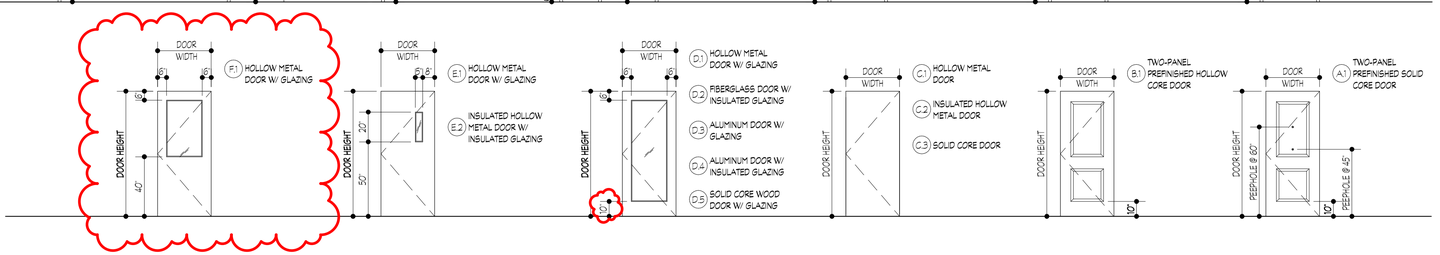
DETROIT MICHIGAN




WINDOW TYPES
1/4" = 1'-0"




FRAME TYPES
1/4" = 1'-0"




DOOR TYPES
1/4" = 1'-0"

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 06.06.26 | ASI #2 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.18.25 | ADDENDUM #3 |
| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

DOOR / BORROWED LITE & WINDOW SCHEDULE

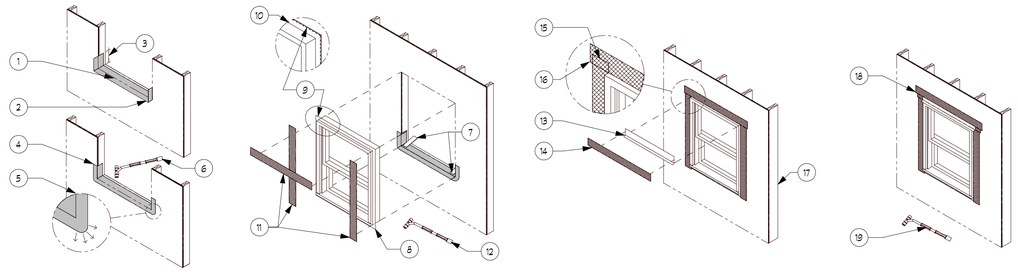
DRAWING NUMBER

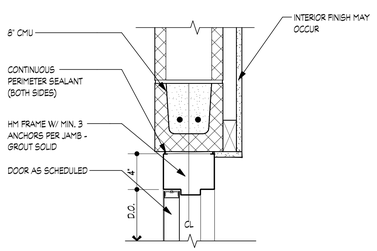
A.711

**ZIP SYSTEM™**

1. CENTER ZIP SYSTEM™ STRETCH TAPE ON WINDOW SILL. SILL PAN TO EXTEND INTO ROUGH OPENING AS SPECIFIED PER DESIGNER OF RECORD OR WINDOW MANUFACTURER.
2. ENSURE ZIP SYSTEM™ STRETCH TAPE FITS TIGHTLY INTO THE CORNERS.
3. EXTEND ZIP SYSTEM™ STRETCH TAPE UP THE JAMBS A MINIMUM OF 6-INCHES.
4. EXTEND ZIP SYSTEM™ STRETCH TAPE ON THE FACE OF THE ZIP SYSTEM™ PANEL A MINIMUM OF 2-INCHES.
5. WHEN ROLLING THE TAPE ONTO THE PANEL'S SURFACE, START WITH THE CORNERS.
6. ZIP SYSTEM™ ROLLER. ROLL ALL TAPE.
7. SHIMS AS REQUIRED BY THE WINDOW MANUFACTURER.
8. INSTALL GAPS IN THE SEALANT PER WINDOW MANUFACTURER.
9. APPLY A CONTINUOUS BEAD OF SEALANT* AROUND THE BACK SIDE (INTERIOR SURFACE) OF THE WINDOW MOUNTING FLANGE.
10. INSIDE SURFACE OF WINDOW FLANGE.
11. ZIP SYSTEM™ TAPE OR ADHESIVE BACKED FLASHING (MEETING AAMA 711 OR AC148).
12. ZIP SYSTEM™ ROLLER. ROLL ALL TAPE. CODE APPROVED FLASHING (ONLY REQUIRED WHEN BUILT-IN DRAINAGE CHANNELS ARE NOT APART OF THE WINDOW'S DESIGN).
13. ZIP SYSTEM TAPE™ OR ADHESIVE BACKED FLASHING (MEETING AAMA 711 OR AC148).
14. ENSURE JAMB FLASHING DOES NOT EXTEND MORE THAN HALF WAY THROUGH THE HEAD FLASHING.
15. EXTEND THE HEAD FLASHING BEYOND THE JAMB FLASHING A MINIMUM OF 1-INCH.
16. FROM THE INTERIOR, INSTALL LOW PRESSURE POLYURETHANE FOAM BETWEEN WINDOW AND ROUGH OPENING TO MAINTAIN CONTINUITY OF THE AIR BARRIER. IF GAP IS TOO NARROW USE A COMPATIBLE CAULK SEALANT*.
17. EXTEND THE HEAD FLASHING BEYOND THE JAMB FLASHING A MINIMUM OF 1-INCH.
18. ZIP SYSTEM™ ROLLER. ROLL ALL TAPE.

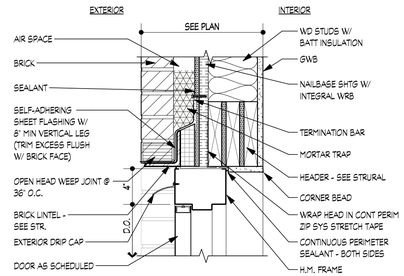
*FOR SEALANT COMPATIBILITY WITH ZIP SYSTEM™ PRODUCTS REFER TO TECH TIP "WINDOW AND DOOR SEALANT COMPATIBILITY WITH ZIP SYSTEM SHEATHING AND ACCESSORIES" AT HUBERWOOD.COM.



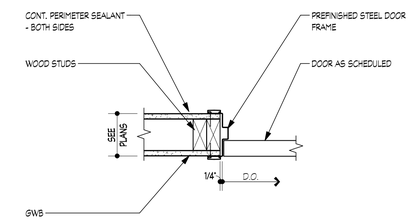

## HM FRAME HEAD @ INTERIOR CMU

14 / A.712 — SCALE: 1 1/2" = 1'-0"



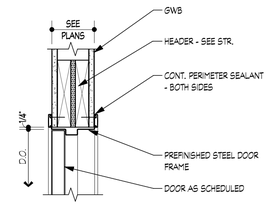

## HM FRAME DOOR HEAD - EXTERIOR BRICK

7 / A.712 — SCALE: 1 1/2" = 1'-0"



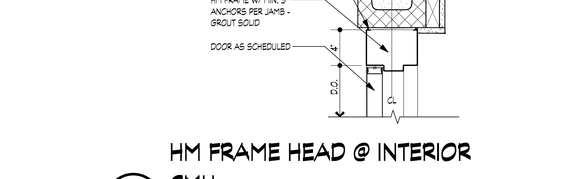

## KNOCKDOWN METAL FRAME - DOOR JAMB @ INTERIOR STUD WALL

3 / A.712 — SCALE: 1 1/2" = 1'-0"



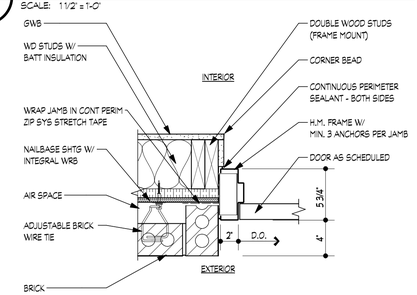

## KNOCKDOWN METAL FRAME - DOOR HEAD @ INTERIOR STUD WALL

4 / A.712 — SCALE: 1 1/2" = 1'-0"




## HM FRAME DOOR JAMB @ INTERIOR CMU

13 / A.712 — SCALE: 1 1/2" = 1'-0"



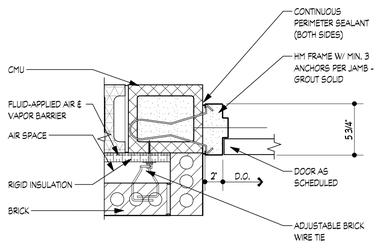

## H.M. FRAME - DOOR JAMB @ EXTERIOR STUD WALL W/ BRICK

6 / A.712 — SCALE: 1 1/2" = 1'-0"



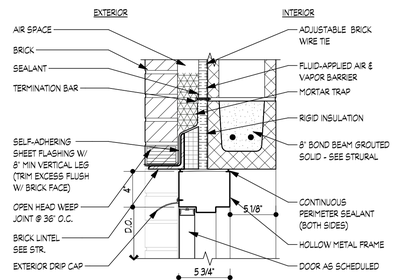

## H.M. FRAME - DOOR HEAD @ INTERIOR STUD WALL

2 / A.712 — SCALE: 1 1/2" = 1'-0"



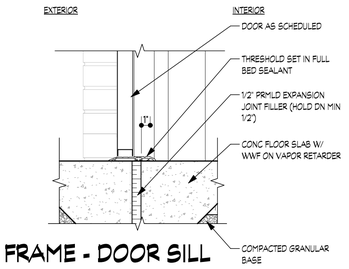

## HM FRAME DOOR JAMB - EXTERIOR BRICK

8 / A.712 — SCALE: 1 1/2" = 1'-0"



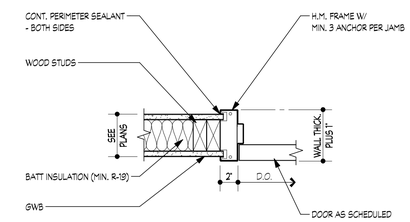

## HM FRAME DOOR HEAD - EXTERIOR BRICK

9 / A.712 — SCALE: 1 1/2" = 1'-0"




## H.M. FRAME - DOOR SILL @ EXTERIOR STUD WALL W/ BRICK

5 / A.712 — SCALE: 1 1/2" = 1'-0"




## H.M. FRAME - DOOR JAMB @ INTERIOR STUD WALL

1 / A.712 — SCALE: 1 1/2" = 1'-0"


FSP FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

550 E. NINE MILE ROAD
FERNDALE, MICHIGAN, 48220
PHONE 248.543.4100 FAX 248.543.4141


NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.


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STATE OF MICHIGAN
JAMES THOMAS KOSIT
LICENSE NO. 39064
REGISTERED PROFESSIONAL ARCHITECT

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS

DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.18.25 | ADDENDUM #3 |
| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 03.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

DOOR DETAILS, ZIP SYSTEM DETAILS

DRAWING NUMBER

A.712

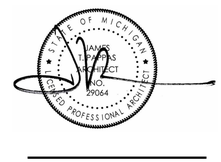
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SEAL




MICHIGAN

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# GREYSTONE APARTMENTS

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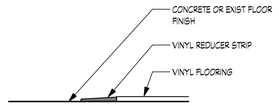
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

DOOR DETAILS

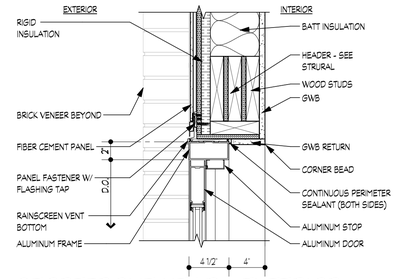
DRAWING NUMBER

A.713



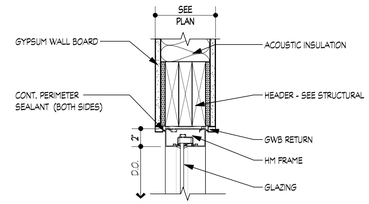

## VINYL TO CONCRETE TRANSITION DETAIL

12 / A.713 SCALE: 6" = 1'-0"



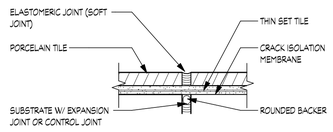

## STOREFRONT HEAD - EXTERIOR

5 / A.713 SCALE: 1 1/2" = 1'-0"



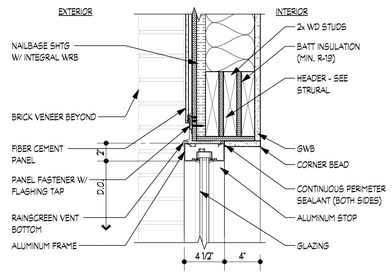

## STOREFRONT GLAZING HEAD - INTERIOR

4 / A.713 SCALE: 1 1/2" = 1'-0"



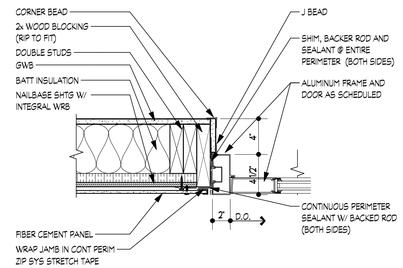

## CONTROL JOINT

13 / A.713 SCALE: 6" = 1'-0"



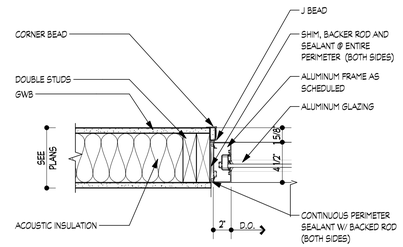

## STOREFRONT GLAZING HEAD - EXTERIOR

11 / A.713 SCALE: 1 1/2" = 1'-0"



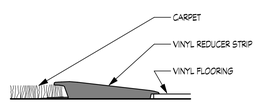

## STOREFRONT JAMB - EXTERIOR METAL PANEL

6 / A.713 SCALE: 1 1/2" = 1'-0"



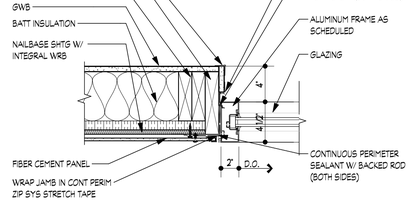

## STOREFRONT GLAZING JAMB - INTERIOR

3 / A.713 SCALE: 1 1/2" = 1'-0"



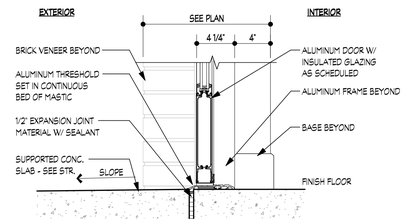

## CARPET TO VINYL TRANSITION DETAIL

14 / A.713 SCALE: 6" = 1'-0"



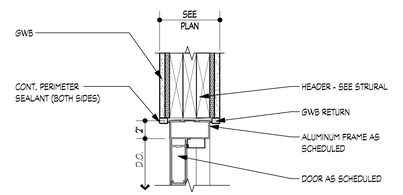

## STOREFRONT GLAZING JAMB - EXTERIOR METAL PANEL

10 / A.713 SCALE: 1 1/2" = 1'-0"



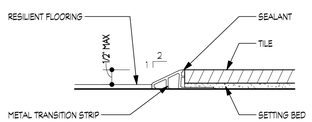

## STOREFRONT SILL @ EXTERIOR FLOOR

7 / A.713 SCALE: 1 1/2" = 1'-0"



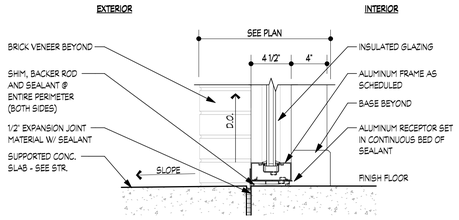

## STOREFRONT DOOR HEAD - INTERIOR

2 / A.713 SCALE: 1 1/2" = 1'-0"



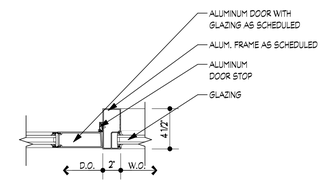

## VINYL TO CERAMIC TILE TRANSITION DETAIL

15 / A.713 SCALE: 6" = 1'-0"



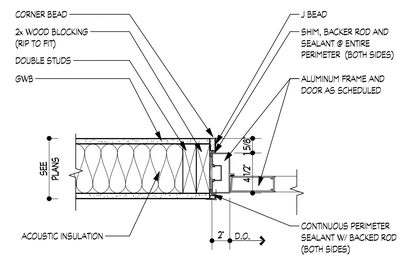

## STOREFRONT SILL @ EXTERIOR FLOOR

9 / A.713 SCALE: 1 1/2" = 1'-0"




## STOREFRONT DOOR JAMB @ STOREFRONT

8 / A.713 SCALE: 1 1/2" = 1'-0"




## STOREFRONT DOOR JAMB - INTERIOR

1 / A.713 SCALE: 1 1/2" = 1'-0"

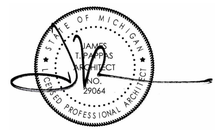
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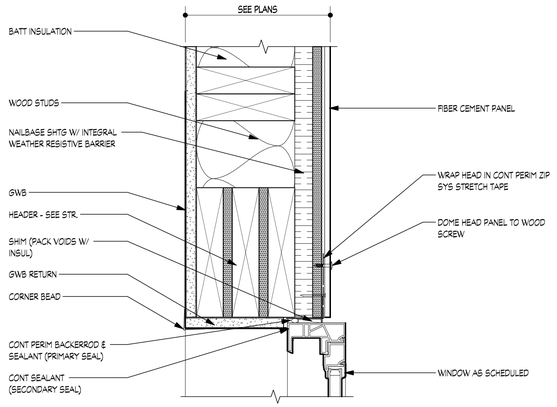
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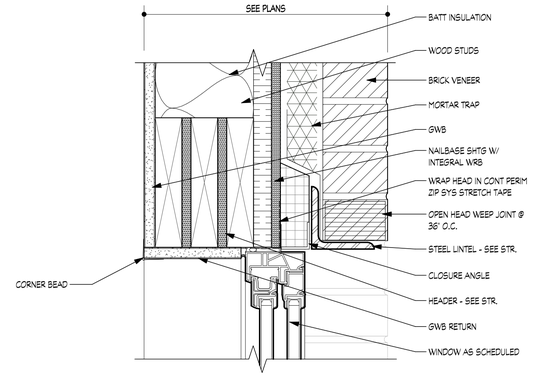
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SEAL

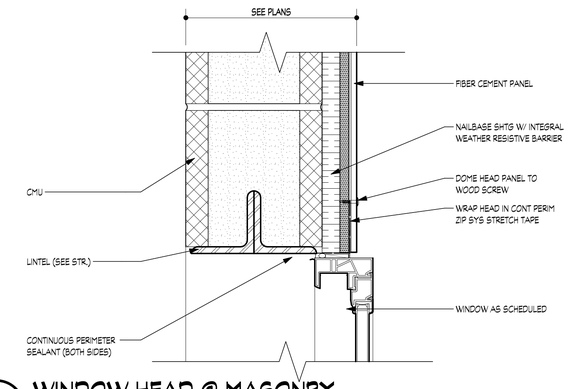


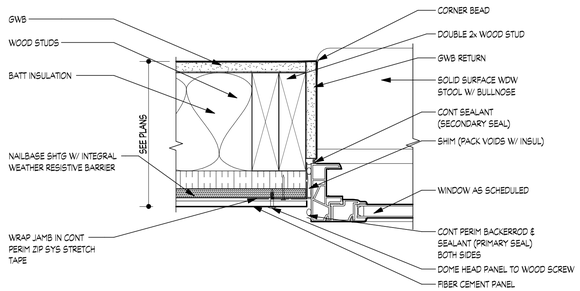

9 / A.714 — WINDOW HEAD
SCALE: 3" = 1'-0"



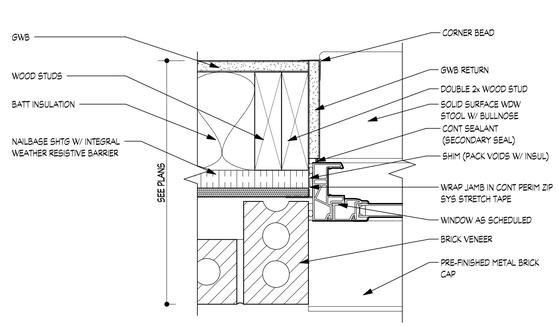

6 / A.714 — WINDOW HEAD W/ BRICK
SCALE: 3" = 1'-0"



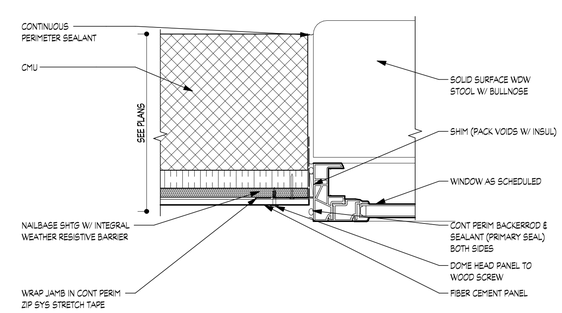

3 / A.714 — WINDOW HEAD @ MASONRY
SCALE: 3" = 1'-0"



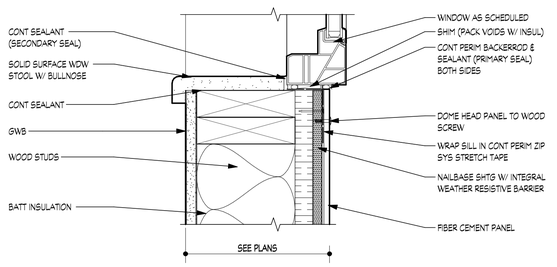

8 / A.714 — WINDOW JAMB
SCALE: 3" = 1'-0"



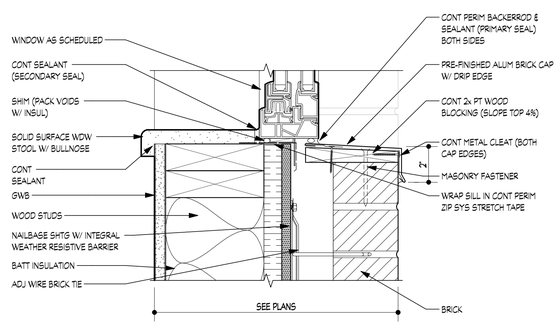

5 / A.714 — WINDOW JAMB W/ BRICK
SCALE: 3" = 1'-0"



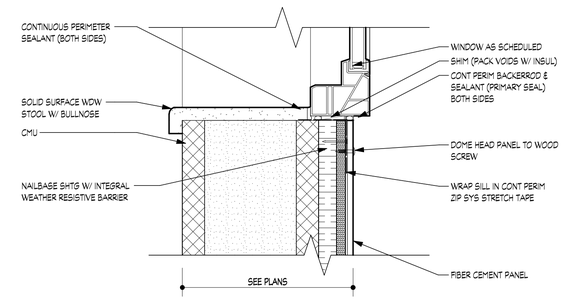

2 / A.714 — WINDOW JAMB
SCALE: 3" = 1'-0"




7 / A.714 — WINDOW SILL
SCALE: 3" = 1'-0"




4 / A.714 — WINDOW SILL W/ BRICK
SCALE: 3" = 1'-0"




1 / A.714 — WINDOW SILL @ MASONRY
SCALE: 3" = 1'-0"

MICHIGAN

AFFORDABLE SENIOR LIVING

# GREYSTONE APARTMENTS

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| 09.23.24 | PERMITS |

KEY PLAN

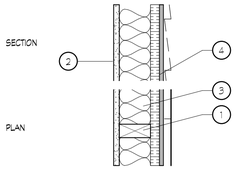
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

WINDOW DETAILS

DRAWING NUMBER

A.714



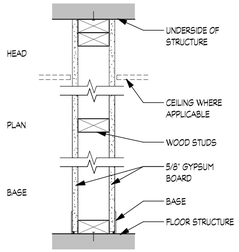

## ONE HOUR ASSEMBLY

ONE HOUR ASSEMBLY
FIRE TEST PER UL DESIGN #V302
(EXPOSED TO FIRE ON EXTERIOR FACE ONLY)
STC RATING = 54 TO 58 W/ BRICK VENEER (EST.)
STC RATING = 37 TO 41 W/ FIBER CEMENT PANEL (EST.)

1. **WOOD STUDS** - NOM 2 BY 4 IN., SPACED 16" OC.
2. **GYPSUM BOARD** - ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. U501, U512 OR U305. NOM. 5/8 IN THICK (MIN) 4 FT WIDE BEARING THE UL CLASSIFICATION MARKING FOR FIRE RESISTANCE APPLIED VERTICALLY. ATTACHED TO STUDS WITH 6D CEMENT COATED NAILS SPACED 7 IN. OC AT THE EDGES AND IN THE FIELD. VERTICAL JOINTS LOCATED OVER STUDS. JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
3. **BATTS AND BLANKETS** - MIN 3-1/2 IN. MINERAL WOOL BATTS PLACED TO FILL CAVITY WALL.
4. **BUILDING UNITS** - CONSISTING OF 7/16 IN. THICK PS-2 RATED ORIENTED STRAND BOARD (OSB) AS COVER BOARD BONDED TO RIGID 1/2 IN. TO 2 IN. THICK POLYISOCYANURATE INSULATION, INSTALLED VERTICALLY WITH VERTICAL JOINTS LOCATED OVER STUDS. FASTENED TO STUDS WITH MIN. 10D GALVANIZED NAILS, 2-7/8 IN. LONG, SPACED 6 IN. OC AT EDGES AND 12 IN. OC IN THE FIELD. LENGTH OF NAILS TO BE SUCH THAT THEY ENGAGE WITH STUDS MINIMUM 1-3/8 IN.

W6 A — AS ABOVE WITH 2x6 STUDS (REFER TO STRUCTURAL FOR OTHER SHEAR WALL INFORMATION)

## EXTERIOR WALL



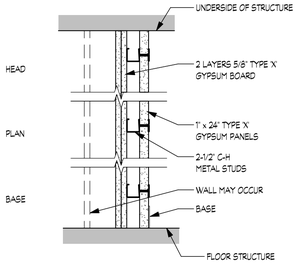

## ONE HOUR ASSEMBLY

GYPSUM ASSOCIATION #WP3605
FIRE TEST PER UL DESIGN #U305
SOUND TEST PER CR 64-8
STC RATING = 30 TO 34
STC RATING = 35 TO 39 W/ SOUND INSULATION (EST.)

1. **WOOD STUDS** - NOMINAL 2x4 WOOD STUDS SPACED 16" O.C. MAX, EFFECTIVELY FIRESTOPPED.
2. **GYPSUM BOARD** - ONE LAYER 5/8" TYPE X GYPSUM WALLBOARD, WATER RESISTANT BACKER BOARD OR VENEER BASE APPLIED PARALLEL WITH OR AT RIGHT ANGLES TO EACH SIDE OF 2X4 WOOD STUDS @ 16" O.C. WITH 6d COATED NAILS, 1-7/8" LONG, 0.0915" SHANK, 15/64" HEADS T.O.C. JOINTS OF SQUARE EDGE, BEVEL EDGE OR PREDECORATED WALLBOARD MAY BE LEFT EXPOSED OR COVERED. STAGGER JOINTS EACH SIDE.
3. **JOINTS AND SCREW HEADS** - WALLBOARD JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. SCREW HEADS COVERED WITH JOINT COMPOUND.

W1 A — 2x4 WOOD STUDS @ 16" O.C. W/ 5/8" GWB ON EACH SIDE
W1 B — 2x6 WOOD STUDS @ 16" O.C. W/ 5/8" GWB ON EACH SIDE
W1 C — 2x4 WOOD STUDS @ 16" O.C. W/ SOUND INSUL & 5/8" GWB ON EACH SIDE
W1 D — 2x6 WOOD STUDS @ 16" O.C. W/ SOUND INSUL & 5/8" GWB ON EACH SIDE

## INTERIOR ONE HOUR RATED WALL



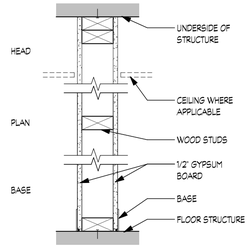

## TWO HOUR ASSEMBLY
## FIRE TEST PER UL DESIGN #U438
## STC RATING = 35 TO 39 (EST.)

NON-BEARING

1. **FLOOR AND CEILING RUNNERS** – "J" - SHAPED, 2 1/2 IN. WIDE WITH UNEQUAL LEGS OF 1 IN. AND 2 IN., FABRICATED FROM 24 MSG GALV STEEL (MIN 20 MSG STEEL REQUIRED WHEN ITEM 4B IS USED). RUNNERS POSITIONED WITH SHORT LEG TOWARD FINISHED SIDE OF WALL. RUNNERS ATTACHED TO STRUCTURAL SUPPORTS WITH STEEL FASTENERS LOCATED NOT GREATER THAN 24" O.C.
2. **STEEL STUDS** – "C-H" SHAPED STUDS, 2 1/2 IN. WIDE BY 1-1/2 IN. DEEP, FABRICATED FROM MIN 25 MSG GALV STEEL (MIN 20 MSG STEEL REQUIRED WHEN ITEM 4B, 4D OR 4E IS USED). CUT TO LENGTHS 3/8 TO 1/2" LESS THAN FLOOR TO CEILING HEIGHT AND SPACED 24 IN OR 600 MM OC (MAX 16 IN OC WHEN ITEMS 4B, 4D, 4E IS USED).
3. **GYPSUM BOARD"** – 1 IN. THICK GYPSUM WALLBOARD LINER PANELS, SUPPLIED IN NOMINAL 24 IN. OR 600 MM WIDTHS. PANELS CUT 1" LESS IN LENGTH THAN FLOOR TO CEILING HEIGHT. VERTICAL EDGES INSERTED IN "H" - SHAPED SECTION OF "C-H" STUDS. FREE EDGE OF PANELS ATTACHED TO LONG LEG OF "J" - RUNNERS WITH 1 5/8 IN. LONG TYPE S SCREWS SPACED NOT GREATER THAN 12 IN. OC.
CERTAINTEED GYPSUM INC - TYPE SHAFTLINER, LGFCSL
NATIONAL GYPSUM CO - FSW, FSW-7
UNITED STATES GYPSUM - TYPE SLX
4. **GYPSUM BOARD"** – 5/8 IN. THICK GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. INNER OR BASE LAYER ATTACHED TO STUDS WITH 1 IN. LONG TYPE S OR S-12 STEEL SCREWS SPACED 24 IN. OC WHEN INSTALLED VERTICALLY OR 16 IN. OC WHEN INSTALLED HORIZONTALLY. OUTER OR FACE LAYER ATTACHED TO STUDS WITH 1 5/8 IN. LONG TYPE S OR S-12 STEEL SCREWS SPACED 12 IN. OC WHEN INSTALLED VERTICALLY AND STAGGERED 12 IN. FROM BASE LAYER SCREWS OR 8 IN. OC WHEN INSTALLED HORIZONTALLY AND STAGGERED 8 IN. FROM BASSE LAYER SCREWS. HORIZONTAL JOINTS BETWEEN INNER AND OUTER LAYERS STAGGERED A MIN OF 12 IN. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED 24 IN. OUTER LAYER JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. EXPOSED SCREW HEADS COVERED WITH JOINT COMPOUND. PAPER TAPE AND JOINT COMPOUND MAY BE OMITTED WHEN GYPSUM BOARDS ARE SUPPLIED WITH SQUARE EDGES. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY.
5. **BATTS AND BLANKETS** – (OPTIONAL) – (NOT SHOWN) - MINERAL WOOL BATTS PARTIALLY OR COMPLETELY FILLING STUD CAVITY. ANY MINERAL WOOL OR GLASS FIBER BATT MATERIAL BEARING THE UL CLASSIFICATION MARKING AS TO FIRE RESISTANCE.

SS A — AS ABOVE

## SHAFT WALL - TWO HOUR RATED

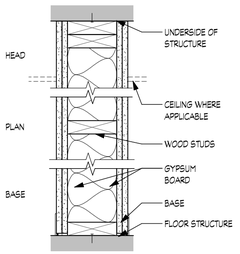



## NON RATED WALL

STC RATING = 30 TO 34
STC RATING = 35 TO 39 W/ SOUND INSULATION (EST.)

W5 A — 2x4 WOOD STUDS @ 16" O.C. W/ 5/8" GWB EACH SIDE
W5 B — 2x6 WOOD STUDS @ 16" O.C. W/ 5/8" GWB EACH SIDE
W5 C — 2x4 WOOD STUDS @ 16" O.C. W/ 5/8" GWB ON ONE SIDE
W5 D — 2x6 WOOD STUDS @ 16" O.C. W/ 5/8" GWB ON ONE SIDE
W5 E — 2x4 WOOD STUDS @ 16" O.C. W/ 1/2" GWB EACH SIDE
W5 F — 2x6 WOOD STUDS @ 16" O.C. W/ 1/2" GWB EACH SIDE
W5 G — 2x4 WOOD STUDS @ 16" O.C. W/ 1/2" GWB ON ONE SIDE
W5 H — 2x6 WOOD STUDS @ 16" O.C. W/ 1/2" GWB ON ONE SIDE
W5 J — 2x4 WOOD STUDS @ 16" O.C. W/ SOUND INSULATION & 5/8" GWB EACH SIDE
W5 K — 2x6 WOOD STUDS @ 16" O.C. W/ SOUND INSULATION & 5/8" GWB EACH SIDE
W5 L — 2x4 FLATWISE WOOD STUDS @ 16" O.C. W 5/8" GWB ON ONE SIDE
W5 M — 2x4 FLATWISE WOOD STUDS @ 16" O.C. W/ 1/2" GWB ON ONE SIDE
W5 N — 2x4 FLATWISE WOOD STUDS @ 16" O.C. W 1/2" GWB EACH SIDE

## INTERIOR NON-RATED WALL




## TWO HOUR ASSEMBLY

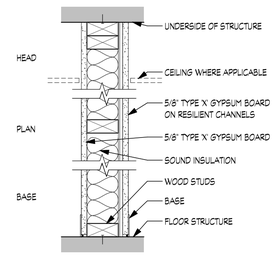
FIRE TEST PER UL DESIGN #U301
STC RATING = 56
STC RATING = XX W/ SOUND INSULATION (EST.)

1. **NAIL HEADS** - EXPOSED OR COVERED WITH JOINT COMPOUND.
2. **JOINTS** - EXPOSED JOINTS COVERED WITH JOINT COMPOUND AND PAPER TAPE. JOINT COMPOUND AND PAPER TAPE MAY BE OMITTED WHEN SQUARE EDGE BOARDS ARE USED. AS AN ALTERNATE, NOM 3/32 IN. THICK GYPSUM VENEER PLASTER MAY BE APPLIED TO THE ENTIRE SURFACE OF CLASSIFIED VENEER BASEBOARD WITH THE JOINTS REINFORCED WITH PAPER TAPE.
3. **NAILS** - 6D CEMENT COATED NAILS 1 7/8 IN. LONG, 0.0915 IN. SHANK DIAM, 1/4 IN. DIAM HEADS, AND 8D CEMENT COATED NAILS 2 3/8 IN. LONG, 0.113 IN. SHANK DIAM, 9/32 IN. DIAM HEADS.
4. **GYPSUM BOARD** - 5/8 IN. THICK, TWO LAYERS APPLIED EITHER HORIZONTALLY OR VERTICALLY. INNER LAYER ATTACHED TO STUDS WITH THE 1 7/8 IN. NAILS SPACED 6 IN. OC. OUTER LAYER ATTACHED TO STUDS WITH THE 2 3/8 IN. LONG NAILS SPACED 8 IN. OC. VERTICAL JOINTS LOCATED OVER STUDS. ALL JOINTS IN FACE LAYERS STAGGERED WITH JOINTS IN BASE LAYERS. JOINTS OF EACH BASE LAYER OFFSET WITH JOINTS OF BASE LAYER ON OPPOSITE SIDE.
WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM BOARD TO BE INSTALLED HORIZONTALLY.

UNITED STATES GYPSUM CO - TYPES AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, USGX, WRC, WRX

W3 A — 2x4 WOOD STUDS @ 16" O.C. W/ 5/8" GWB ON EACH SIDE
W3 B — 2x6 WOOD STUDS @ 16" O.C. W/ 5/8" GWB ON EACH SIDE
W3 C — 2x4 WOOD STUDS @ 16" O.C. W/ SOUND INSUL & 5/8" GWB ON EACH SIDE
W3 D — 2x6 WOOD STUDS @ 16" O.C. W/ SOUND INSUL & 5/8" GWB ON EACH SIDE

## INTERIOR TWO HOUR RATED WALL




## ONE HOUR ASSEMBLY

GYPSUM ASSOCIATION #WP3240
UL DESIGN #U311
FIRE TEST PER OSU T-3127
SOUND TEST PER RAL TL77-138
STC RATING = 50 TO 54

1. **WOOD STUDS** - NOM 2X4 SPACED 16" OR 24" OC. EFFECTIVELY CROSS BRACED.
2. **RESILIENT CHANNELS** - 25 MSG GALV STEEL. RESILIENT CHANNELS ATTACHED AT RIGHT ANGELS SPACED VERTICALLY 24" OC. FLANGE PORTION SCREW ATTACHED TO ONE SIDE OF STUDS WITH 6D COATED NAILS, 1 7/8" LONG, 0.086" SHANK, 1/4" HEADS. 1/2" x 3" GYPSUM WALLBOARD FILLER STRIPS ATTACHED TO PLATE AT FLOOR LINE WITH 6D NAILS.
3. **GYPSUM BOARD** - ONE LAYER 5/8" TYPE "X" GYPSUM WALL BOARD OR GYPSUM VENEER BASE APPLIED PARALLEL TO RESILIENT CHANNELS WITH 1" TYPE S DRYWALL SCREWS 6" O.C. AT HORIZONTAL JOINTS AND 12" O.C. AT INTERMEDIATE CHANNELS. OPPOSITE SIDE: ONE LAYER 5/8" TYPE "X" GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED AT RIGHT ANGLES TO STUDS WITH 6D NAILS 8" O.C. END JOINTS STAGGERED 48" ON OPPOSITE SIDES.
4. **BATTS AND BLANKETS** - 3" THICK MINERAL WOOL BATTS, PLACED TO FILL INTERIOR OF WALL, ATTACHED TO THE 4" FACE OF THE STUDS WITH STAPLES PLACED 24" OC. OR GLASS FIBER INSULATION - 3" THICK GLASS FIBER BATTS BEARING THE UL CLASSIFICATION MARKING AS TO SURFACE BURNING AND/OR FIRE RESISTANCE, PLACED TO FILL THE INTERIOR OF THE WALL, ATTACHED TO THE 4" FACE OF THE STUDS WITH STAPLES PLACED 24" OC.
5. **JOINTS AND SCREW HEADS** - WALLBOARD JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. SCREW HEADS COVERED WITH JOINT COMPOUND.
6. SOUND TESTED WITH 3 1/2" GLASS FIBER INSULATION IN STUD SPACE

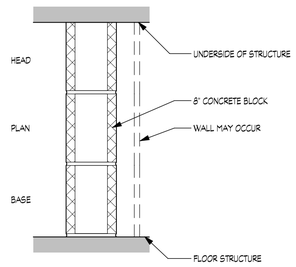
W2 A — 2x4 WOOD STUDS @ 16" O.C. W/ SOUND INSUL & 5/8" GWB ON RESIL CHANNELS ON ONE SIDE & 5/8" GWB ON OTHER SIDE
SHEAR WALL - SW-1 & SW-3 SEE STRUCTURAL FOR ADDITIONAL INFORMATION
2x6 WOOD STUDS @ 16" O.C. W/ SOUND INSUL &
5/8" GWB ON BOTH SIDES OF STUD - UNBLOCKED
5/8" GWB ON RESILIENT CHANNELS ON ONE SIDE

W2 B
SHEAR WALL - SW-2 SEE STRUCTURAL FOR ADDITIONAL INFORMATION
2x6 WOOD STUDS @ 16" O.C. W/ SOUND INSUL &
7/16 OSB ON BOTH SIDES OF STUD (FIRST AND SECOND FLOOR) & 7/16 OSB ON ONE SIDE ( THIRD AND FOURTH FLOORS) - BLOCKED
5/8" GWB ON RESILIENT CHANNELS ON ONE SIDE & 5/8" GWB ON OTHER SIDE

W2 C
SHEAR WALL - SW-4 SEE STRUCTURAL FOR ADDITIONAL INFORMATION
2x6 WOOD STUDS @ 16" O.C. W/ SOUND INSUL &
5/8" GWB ON RESILIENT CHANNELS ON 7/16 OSB ON ONE SIDE OF STUD - BLOCKED &
5/8" GWB ON OTHER SIDE

W2 D

## INTERIOR ONE HOUR RATED WALL




## TWO HOUR ASSEMBLY
## MICHIGAN MASONRY COUNCIL
## FIRE TEST PER UL DESIGN #U906
## STC RATING = 44 TO 48 W/ HOLLOW UNITS

NOMINAL 8" x 8" x 16" HOLLOW OR SOLID. CLASSIFICATION D-2. (2HOUR).

1. **CONCRETE BLOCKS** - NOMINAL 8" 60% SOLID SINGLE WYTHE CONCRETE MASONRY PER ASTM C-90 OR C-145. SEE TECHNICAL BULLETIN 1.2 PUBLISHED MAY, 1977 VARIOUS DESIGNS. CLASSIFICATION D-2. (2 HOUR).
2. **MORTAR** - BLOCKS LAID IN FULL BED OF MORTAR, NOMINAL 3/8" THICK, OF NOT LESS THAN 2-1/4 AND NOT MORE THAN 3-1/2 PARTS OF CLEAN SHARP SAND TO 1 PART PORTLAND CEMENT AND NOT MORE THAN 50% HYDRATED LIME. VERTICAL JOINTS STAGGERED.

M1 A — AS ABOVE

## MASONRY WALL

**NOTE |** IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

## WALL TYPE DESIGNATION NOTES

1. PARTITIONS ARE INDICATED ON THE FLOOR PLANS BY A WALL TYPE SYMBOL DESIGNATION.
2. WHERE PARTITION WALL TYPES ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
3. ALL PENETRATIONS INTO AND/OR THROUGH A FIRE RATED ASSEMBLY SHALL BE PROTECTED WITH AN APPROVED FIRE-STOP OR MEMBRANE PENETRATION SYSTEM. THE GENERAL CONTRACTOR SHALL SUBMIT ALL FIRE-STOP ASSEMBLIES, INCLUDING TYPE OF PRODUCT, ASSEMBLY AND INSTALLATION DETAILS, TO THE ARCHITECT FOR REVIEW PRIOR TO INSTALLATION. PRODUCTS SHALL MEET THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION (AHJ).
4. INSTALL CONTINUOUS ACOUSTICAL SEALANT ON BOTH SIDES OF TOP AND BOTTOM TRACKS AT ALL NONRATED WALLS.
5. **FIRE RESISTANCE RATING SIGNAGE:** FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS MUST BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING.
   A. SUCH IDENTIFICATION MUST INCLUDE LETTERING NOT LESS THAN 0.5" IN HEIGHT, INCORPORATING THE SUGGESTED WORDING: "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS" OR SIMILAR WORDING.
   B. SIGNS MUST BE LOCATED IN ACCESSIBLE CONCEALED FLOOR, FLOOR/CEILING OR ATTIC SPACES.
   C. SIGNS MUST BE REPEATED AT INTERVALS NOT EXCEEDING 30'-0" MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION.
6. **FOR ALL NON-RATED PARTITION TYPES:** WHERE WALL TILE IS THE SCHEDULED FINISH, PROVIDE AND INSTALL CEMENTITIOUS TILE BACKER BOARD IN LIEU OF GYPSUM BOARD.
7. **FOR ALL RATED PARTITION TYPES:** WHERE WALL TILE IS THE SCHEDULED FINISH, PROVIDE AND INSTALL CEMENTITIOUS TILE BACKER BOARD OVER THE RATED ASSEMBLY.
8. FOR PARTITIONS INDICATED TO RECEIVE SOUND ATTENUATION BLANKETS, EXTEND SOUND ATTENUATION BLANKETS TO FULL HEIGHT OF PARTITION UNLESS NOTED OTHERWISE. FLOOR TRACK TO BE SET IN A CONTINUOUS BED OF ACOUSTICAL SEALANT.
9. FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS AND SMOKE BARRIERS MUST EXTEND AND SEAL TO THE INSIDE FACE OF THE EXTERIOR SHEATHING, INCLUDING EXTENSIONS THROUGH SOFFITS.
10. CONTRACTOR SHALL REFER TO PUBLISHED UL DESIGN NUMBERS FOR A FULL AND COMPLETE LIST OF APPROVED ALTERNATIVE MATERIALS AND METHODS OF CONSTRUCTION NOT INDICATED ON THE DRAWINGS.

FUSCO, SHAFFER & PAPPAS, INC.
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550 E. NINE MILE ROAD
FERNDALE, MICHIGAN, 48220
PHONE 248.543.4100 FAX 248.543.4141

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SEAL

STATE OF MICHIGAN
JAMES
THOMAS
PROJECT
ARCHITECT
NO.
39064
REGISTERED PROFESSIONAL ARCHITECT

# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.18.25 | ADDENDUM #3 |
| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

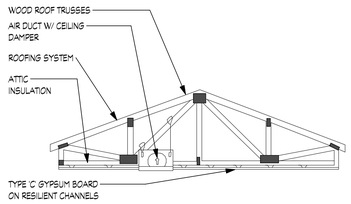
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

WALL TYPES

DRAWING NUMBER

A.721




## ROOF/CEILING ASSEMBLY - ONE HOUR
## FIRE TEST PER UL DESIGN #P522

**ROOFING SYSTEM*** - ANY UL CLASS A, B OR C ROOFING SYSTEM OR PREPARED ROOF COVERING ACCEPTABLE FOR USE OVER NOM 15/32 IN. THICK WOOD STRUCTURAL PANELS, MIN. GRADE 'C-D' OR 'SHEATHING'. NOM 15/32" THICK WOOD STRUCTURAL PANELS SECURED TO TRUSSES WITH NO. 6D RINGED SHANK NAILS SPACED 12" OC ALONG EACH TRUSS. STAPLES HAVING EQUAL OR GREATER WITHDRAWAL AND LATERAL RESISTANCE STRENGTH MAY BE SUBSTITUTED FOR THE 6D NAILS. CONSTRUCTION ADHESIVE MAY BE USED WITH EITHER THE NAILS OR STAPLES.

**TRUSSES** - PITCHED OR PARALLEL CHORD WOOD TRUSSES, SPACED A MAX OF 24" OC, FABRICATED FROM NOM 2X4 LUMBER, WITH LUMBER ORIENTED VERTICALLY OR HORIZONTALLY. TRUSS MEMBERS SECURED TOGETHER WITH MIN. 0.049" THICK GALV STEEL PLATES. PLATES HAVE 5/16" LONG TEETH PROJECTING PERPENDICULAR TO THE PLANE OF THE PLATE. THE TEETH ARE IN PAIRS FACING EACH OTHER (MADE BY THE SAME PUNCH), FORMING A SPLIT TOOTH TYPE PLATE. EACH TOOTH HAS A CHISEL POINT ON ITS OUTSIDE EDGE. THESE POINTS ARE DIAGONALLY OPPOSITE EACH OTHER FOR EACH PAIR. THE TOP HALF OF EACH TOOTH HAS A TWIST FOR STIFFNESS. THE PAIRS ARE REPEATED ON APPROXIMATELY 7/8" CENTERS WITH FOUR ROWS OF TEETH PER INCH OF PLATE WIDTH. WHERE THE TRUSS INTERSECTS WITH THE INTERIOR FACE OF THE EXTERIOR WALLS, THE MIN TRUSS DEPTH SHALL BE 12" WITH A MIN ROOF SLOPE OF 3/12 AND A MIN. AREA IN THE PLANE OF THE TRUSS OF 21 SQ.FT. WHERE THE TRUSS INTERSECTS WITH THE INTERIOR FACE OF THE EXTERIOR WALLS.

**BATTS AND BLANKETS** - GLASS FIBER INSULATION, SECURED TO THE WOOD STRUCTURAL PANELS WITH STAPLES SPACED 12 IN. OC OR TO THE TRUSSES WITH 0.080" DIAM GALV STEEL WIRES SPACED 12" OC. AS AN OPTION, THE INSULATION MAY BE FITTED IN THE CONCEALED SPACE, DRAPED OVER THE RESILIENT CHANNEL/GYPSUM BOARD CEILING MEMBRANE

**AIR DUCT** - ANY UL CLASS 0 OR CLASS 1 FLEXIBLE AIR DUCT INSTALLED IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED BY THE DAMPER MANUFACTURER.

**CEILING DAMPER** - MAX NOM AREA, 324 SQ IN. MAX SQUARE SIZE, 18"X18" RECTANGULAR SIZES NOT TO EXCEED 324 SQ IN. WITH A MAX WIDTH OF 18". MAX DAMPER HEIGHT IS 14" INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS PROVIDED WITH THE DAMPER. MAX DAMPER OPENINGS NOT TO EXCEED 162 SQ IN. PER 100 SQ FT OF CEILING AREA.
ALTERNATE CEILING DAMPER - MAX NOM AREA, 196 SQ IN. MAX SQUARE SIZE, 14 IN. BY 14 IN. RECTANGULAR SIZES NOT TO EXCEED 196 SQ IN. WITH A MAX WIDTH OF 24 IN. MAX OVERALL DAMPER HEIGHT IS 7 IN. INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS PROVIDED WITH THE DAMPER. MAX DAMPER OPENINGS NOT TO EXCEED 196 SQ IN. PER 100 SQ FT OF CEILING AREA.

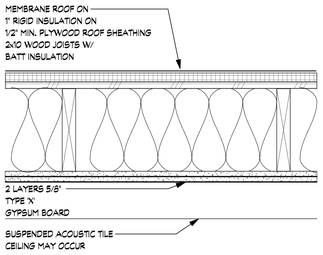
**RESILIENT CHANNELS** -- RESILIENT CHANNELS, NOM, 1/2" DEEP BY 2-3/8" WIDE AT THE BASE AND 1-3/8" WIDE AT THE FACE, FORMED OF 25 MSG GALV STEEL, INSTALLED PERPENDICULAR TO THE TRUSSES SPACED A MAX OF 16" OC WHEN NO INSULATION IS FITTED IN THE CONCEALED SPACED, OR A MAX OF 12" OC WHEN INSULATION IS FITTED IN THE CONCEALED SPACE, DRAPED OVER THE RESILIENT CHANNEL/GYPSUM BOARD CEILING MEMBRANE. TWO COURSES OF RESILIENT CHANNEL POSITIONED 6" OC AT WALLBOARD BUTT-JOINTS (3" FROM EACH END OF WALLBOARD), CHANNELS ORIENTED OPPOSITE AT WALLBOARD BUTT-JOINTS. CHANNEL SPLICES OVERLAPPED 4" BENEATH WOOD TRUSSES. CHANNELS SECURED TO EACH TRUSS WITH 1-1/4" LONG TYPE S SCREWS.

**GYPSUM BOARD TYPE 'C'** - ONE LAYER OF NOM 5/8" THICK BY 48" WIDE BOARDS, INSTALLED WITH LONG DIMENSION PARALLEL TO TRUSSES, ATTACHED TO THE RESILIENT CHANNELS USING 1" LONG TYPE S BUGLE-HEAD SCREWS, SCREWS SPACED A MAX OF 12" OC ALONG BUTTED END-JOINTS AND IN THE FIELD WHEN NO INSULATION IS FITTED IN THE CONCEALED SPACED, OR A MAX OF 8" OC ALONG BUTTED END-JOINTS AND IN THE FIELD WHEN INSULATION IS FITTED IN THE CONCEALED SPACE, DRAPED OVER THE RESILIENT CHANNEL/GYPSUM BOARD CEILING MEMBRANE.

**JOINT TAPE AND COMPOUND** - VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW-HEADS; PAPER TAPE, 2 IN. WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

AS ABOVE

TYPICAL CEILING/ROOF ASSEMBLY



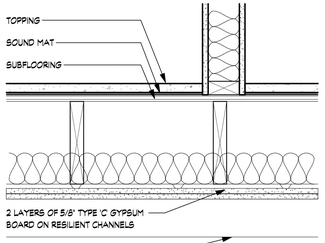

ROOF/CEILING ONE HOUR ASSEMBLY
GYPSUM ASSOCIATION #: RC 2601
FIRE TEST PER: L556 FM FC 172, 2-25-72
ITS, 8-6-98

GYPSUM WALL BOARD, WOOD JOISTS, ROOF COVERING

**BASE** LAYER 5/8" TYPE 'X' GYPSUM WALLBOARD APPLIED AT RIGHT ANGLES TO 2X10 WOOD JOISTS 24" O.C. WITH 1-1/4" TYPE 'W' OR 'S' DRYWALL SCREWS 24" O.C.
**FACE** LAYER 5/8" TYPE 'X' GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED AT RIGHT ANGLES TO JOISTS WITH 1-7/8" TYPE 'W' OR 'S' DRYWALL SCREWS 12" O.C. AT JOINTS AND INTERMEDIATE JOISTS AND 1-1/2" TYPE 'G' DRYWALL SCREWS 12" O.C. PLACED 2" BACK ON EITHER SIDE OF END JOINTS. JOINTS OFFSET 24" FROM BASE LAYER JOINTS. WOOD JOIST SUPPORTING 1/2" PLYWOOD WITH EXTERIOR GLUE APPLIED AT RIGHT ANGLES TO JOISTS WITH 8d NAILS. APPROPRIATE ROOF COVERING.
CEILING PROVIDES ONE-HOUR FIRE-RESISTANCE PROTECTION FOR FRAMING, INCLUDING TRUSSES.

AS ABOVE

ROOF/CEILING ONE HOUR RATED ASSEMBLY




## FLOOR/CEILING TWO HOUR ASSEMBLY
## FIRE TEST PER UL DESIGN #L511
## STC RATING = 43 TO 46
## IIC RATING = 38 TO 42

**FINISH FLOORING** (SYSTEM NO. 8) - FLOOR TOPPING MIXTURE - 1 IN. THICKNESS OF FLOOR TOPPING MIXTURE HAVING A MIN COMPRESSIVE STRENGTH OF 1500 PSI. REFER TO MANUFACTURER'S INSTRUCTIONS ACCOMPANYING THE MATERIAL FOR SPECIFIC MIX DESIGN.

**FLOOR SOUND MAT MATERIAL** (SYSTEM NO. 8) - 1/4 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR.

**SUBFLOORING** (SYSTEM NO.8) - MIN 3/4 IN. THICK WOOD STRUCTURAL PANELS INSTALLED PERPENDICULAR TO JOIST WITH END JOINTS STAGGERED. PLYWOOD OR PANELS SECURED TO JOISTS WITH CONSTRUCTION ADHESIVE AND NO. 6D RINGED SHANK NAILS, SPACED 12 IN. O.C. ALONG EACH JOIST. STAPLES HAVING EQUAL OR GREATER WITHDRAWAL AND LATERAL RESISTANCE STRENGTH MAY BE SUBSTITUTED FOR THE 6D NAILS.

**WOOD JOISTS** - NOM. 2X10 MIN, SPACED 16 IN. O.C. FIRESTOPPED.

**CROSS BRIDGING** - NOM. 1X3 OR 2X10

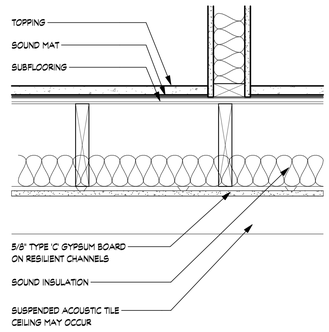
**RESILIENT CHANNELS** - FORMED OF 25 MSG GALVANIZED STEEL, SPACED 24" OC PERPENDICULAR TO JOISTS AND LOCATED 12 IN. FROM EACH SIDE EDGE OF BASE LAYER GYPSUM BOARD. CHANNELS PLACED WITH 1/4 IN. CLEARANCE AT THE ENDS AND FASTENED TO EACH JOIST WITH 1-7/8 IN LONG TYPE S BUGLE HEAD SCREWS. MIN END CLEARANCE OF CHANNELS TO WALLS: 3/8 IN. ADDITIONAL CHANNELS 60 IN. LONG, PLACED ADJACENT TO CONTINUOUS CHANNELS AT END JOINTS OF SECOND LAYERS OF GYPSUM BOARD AND SIMILARLY SECURED. CHANNEL ENDS TO EXTEND 6 IN. BEYOND EACH SIDE OF JOINT.

**GYPSUM BOARD** - TWO LAYERS OF NOM. 5/8 IN. THICK, 48 IN. WIDE GYPSUM PANELS. FIRST LAYER GYPSUM PANELS INSTALLED PERPENDICULAR TO JOISTS WITH END JOINTS LOCATED OVER BOTTOM OF JOISTS. GYPSUM BOARD ATTACHED TO JOISTS WITH 6D CEMENT COATED COOLER NAILS SPACED 1 IN., 6 IN. AND 21 IN. FROM EACH SIDE EDGE IN THE FIELD OF THE BOARD. BUTT EDGES SHALL OCCUR UNDER JOISTS, FASTENED WITH NAILS SPACED 1 IN., 6 IN., 15 IN., AND 21 IN., FROM SIDE EDGES OF BOARD AND 1/2 IN. BACK FROM BUTT EDGE. SECOND LAYER OF GYPSUM PANELS SECURED TO RESILIENT CHANNELS WITH 1 IN. LONG TYPE 'S' BUGLE HEAD SCREWS SPACED 12 IN. O.C. WITH ADDITIONAL SCREWS PLACED 9 IN AND LOCATED A MIN OF 1/2 IN. FROM SIDE JOINTS AND 3 IN. FROM EACH SIDE EDGE. END JOINTS OF SECOND LAYER OFFSET FROM END JOINTS IN FIRST LAYER AND SECURED TO BOTH RESILIENT CHANNELS AS SHOWN IN END JOINT DETAIL. SCREWS LOCATED 3/4 IN. AND 1-1/4 IN. FROM SIDE AND END JOINTS OF BOARDS.

**FINISHING SYSTEM** - VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW-HEADS. NOM 2 IN. WIDE PAPER TAPE EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

AS ABOVE

FLOOR/CEILING ONE HOUR RATED ASSEMBLY




## FLOOR/CEILING ONE HOUR ASSEMBLY
## FIRE TEST PER UL DESIGN #L593
## STC RATING = 58 TO 60
## IIC RATING = 55 TO 57

**FINISH FLOORING** (SYSTEM NO. 2) - FLOOR TOPPING MIXTURE - 1 IN. THICKNESS OF FLOOR TOPPING MIXTURE HAVING A MIN COMPRESSIVE STRENGTH OF 1500 PSI. REFER TO MANUFACTURER'S INSTRUCTIONS ACCOMPANYING THE MATERIAL FOR SPECIFIC MIX DESIGN.

**FLOOR SOUND MAT MATERIAL** (SYSTEM NO. 2) - 1/4 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR.

**SUBFLOORING** (SYSTEM NO.2) - MIN 3/4 IN. THICK WOOD STRUCTURAL PANELS INSTALLED PERPENDICULAR TO JOIST WITH END JOINTS STAGGERED. PLYWOOD OR PANELS SECURED TO JOISTS WITH CONSTRUCTION ADHESIVE AND NO. 6D RINGED SHANK NAILS, SPACED 12 IN. O.C. ALONG EACH JOIST. STAPLES HAVING EQUAL OR GREATER WITHDRAWAL AND LATERAL RESISTANCE STRENGTH MAY BE SUBSTITUTED FOR THE 6D NAILS.

**WOOD JOISTS** - NOM. 2X10 MIN, SPACED 16 IN. O.C. FIRESTOPPED.

**CROSS BRIDGING** - NOM. 1X3

**RESILIENT CHANNELS** - NOM. 1/2 IN. DEEP BY 2-3/8 IN. WIDE AT THE BASE AND 1-3/8 IN. WIDE AT THE FACE, FORMED FROM 0.022 IN. THICK GALVANIZED STEEL, INSTALLED PERPENDICULAR TO THE WOOD JOISTS, SPACED A MAX OF 24 IN. O.C. WHEN NO INSULATION IS FITTED IN THE CONCEALED SPACE. TWO COURSES OF RESILIENT CHANNEL POSITIONED 6 IN. O.C. AT GYPSUM PANEL BUTT-JOINTS (3 IN. FROM EACH END OF PANEL). CHANNELS ORIENTED OPPOSITE AT PANEL BUTT-JOINTS. CHANNEL SPLICES OVERLAPPED 4 IN. BENEATH WOOD TRUSSES. CHANNELS SERCURED TO EACH TRUSS WITH 1-1/4 IN. LONG TYPE S SCREWS.

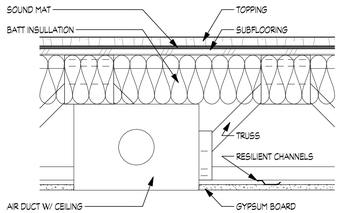
**GYPSUM BOARD** - NOM. 5/8 IN. THICK, 48 IN. WIDE GYPSUM PANELS. GYPSUM PANELS INSTALLED WITH LONG DIMENSION PERPENDICULAR TO RESILIENT CHANNELS. GYPSUM PANELS SECURED WITH 1 IN. LONG TYPE 'S' BULGE HEAD STEEL SCREWS SPACED 12 IN. O.C. AND LOCATED A MIN OF 1/2 IN. FROM SIDE JOINTS AND 3 IN. FROM END JOINTS.

**FINISHING SYSTEM** - VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW-HEADS. NOM 2 IN. WIDE PAPER TAPE EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

AS ABOVE

FLOOR/CEILING ONE HOUR RATED ASSEMBLY

**NOTE** | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.




## ONE HOUR ASSEMBLY
## FIRE TEST PER UL DESIGN #L546
## STC RATING = 58 TO 60
## IIC RATING = 55 TO 57

**FINISH FLOORING** (SYSTEM NO. 1) - MIN 1 IN. THICKNESS OF FLOOR TOPPING MIXTURE HAVING COMPRESSIVE STRENGTH OF 1500 PSI. REFER TO MANUFACTURER'S INSTRUCTIONS ACCOMPANYING THE MATERIAL FOR SPECIFIC MIX DESIGN.

**FLOOR SOUND MAT MATERIAL** (SYSTEM NO. 1) - 1/4 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR.

**SUBFLOORING** (SYSTEM NO. 1) - 3/4 IN. THICK WOOD STRUCTURAL PANELS, MIN GRADE 'C-D' OR 'SHEATHING', FACE GRAIN OF PLYWOOD OR STRENGTH AXIS OF PANEL TO BE PERPENDICULAR TO TRUSSES WITH JOINTS STAGGERED.

**TRUSSES** - PARALLEL CHORD TRUSSES SPACED A MAX OF 24 IN. O.C. FABRICATED FROM NOM. 2x4 LUMBER, WITH LUMBER ORIENTED VERTICALLY OR HORIZONTALLY. MIN TRUSS DEPTH IS 12" WHEN DAMPER ARE NOT USED AND 18 IN. WHEN DAMPERS ARE USED. TRUSS MEMBERS SECURED TOGETHER WITH MIN 0.036 IN. THICK GALV. STEEL PLATES. PLATES HAVE 5/16 IN. LONG TEETH PROJECTING PERPENDICULAR TO THE PLANE OF THE PLATE. THE TEETH ARE IN PAIRS FACING EACH OTHER (MADE BY THE SAME PUNCH), FORMING A SPLIT TOOTH TYPE PLATE. EACH TOOTH HAS A CHISEL POINT ON ITS OUTSIDE EDGE WITH THESE POINTS BEING DIAGONALLY OPPOSITE EACH OTHER FOR EACH PAIR. THE TOP HALF OF EACH TOOTH HAS A TWIST FOR STIFFNESS. THE PAIRS ARE REPEATED ON APPROXIMATELY 7/8 IN. CENTERS WITH FOUR ROWS OF TEETH PER INCH OF PLATE WIDTH.

**AIR DUCT** - ANY UK CKASS 0 OR CLASS 1 FLEXIBLE AIR DUCT INSTALLED IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED BY THE DAMPER MANUFACTURER.

**CEILING DAMPER** - FOR USE WITH MIN 18 IN. DEEP TRUSSES MAX NOM AREA SHALL BE 324 SQ. IN. MAX SQUARE SIZE SHALL BE 18 IN. BY 18 IN. RECTANGULAR SIZES NOT TO EXCEED 324 SQ. IN. WITH A MAX WIDTH OF 18 IN. MAX HEIGHT OF DAMPER SHALL BE 14 IN. AGGREGATE DAMPER OPENINGS SHALL NOT EXCEED 162 SQ. IN. PER 100 SQ. FT. OF CEILING AREA. DAMPER INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS PROVIDED WITH THE DAMPER, A STEEL GRILLE SHALL BE INSTALLED

**BATTS AND BLANKETS** - GLASS FIBER OR MINERAL WOOL INSULATION BEARING THE UL CLASSIFICATION MARKING AS TO SURFACE BURNING CHARACTERISTICS AND/OR FIRE RESISTANCE. WHEN THE RESILIENT CHANNELS ARE SPACED 16 IN. O.C., THE INSULATION SHALL BE A MAX OF 3-1/2 IN. THICK, AND SHALL BE SECURED AGAINST THE SUBFLOORING WITH STAPLES AT 12 IN. OC OR HELD SUSPENDED IN THE CONCEALED SPACE WITH 0.080 IN. DIAMETER GALVANIZED STEEL WIRES ATTACHED TO THE WOOD TRUSSES AT 12 IN. OC. WHEN THE RESILIENT CHANNELS ARE SPACED A MAX OF 12 IN. OC THERE IS NO LIMIT IN THE OVERALL THICKNESS OF INSULATION, AND THE INSULATION CAN BE SECURED AGAINST THE SUBFLOORING, HELD SUSPENDED IN THE CONCEALED SPACE OR DRAPED OVER THE RESILIENT OR FURRING CHANNELS AND GYPSUM PANEL MEMBRANE. THE FINISHED RATING HAS ONLY BEEN DETERMINED WHEN THE INSULATION IS SECURED TO THE SUBFLOORING.

**RESILIENT CHANNELS** - RESILIENT CHANNELS, FORMED OF 25 MSG THICK GALVANIZED STEEL, SPACED 16 IN. O.C. PERPENDICULAR TO TRUSSES. WHEN INSULATION IS DRAPED OVER THE RESILIENT CHANNEL / GYPSUM BOARD CEILING MEMBRANE, THE SPACING SHALL BE REDUCED TO 12 IN. O.C. CHANNELS SECURED TO EACH TRUSS WITH 1-1/4 IN. LONG TYPE S BUGLE HEAD STEEL SCREWS. CHANNELS OVERLAPPED 4 IN. AT SPLICES. TWO CHANNELS, SPACED 6 IN. O.C., ORIENTED OPPOSITE EACH GYPSUM BOARD END JOINT AS SHOWN IN THE ABOVE ILLUSTRATION. ADDITIONAL CHANNELS SHALL EXTEND 6 IN. BEYOND EACH SIDE EDGE OF BOARD.

**GYPSUM BOARD** - NOMINAL 5/8 IN. THICK, 48 IN. WIDE GYPSUM BOARD. WHEN RESILIENT CHANNELS ARE USED, GYPSUM BOARD SECURED WITH LONG DIMENSION PERPENDICULAR TO RESILIENT CHANNELS. GYPSUM BOARD SECURED WITH 1 IN. LONG TYPE S BUGLE HEAD SCREWS SPACED 12 IN. O.C. AND LOCATED A MIN OF 1/2 IN. FROM SIDE JOINTS AND 3 IN. FROM END JOINTS. WHEN BATT INSULATION IS DRAPED OVER THE RESILIENT CHANNEL / GYPSUM BOARD CEILING MEMBRANE, SCREWS SPACING SHALL BE 8 IN. O.C.

AS ABOVE

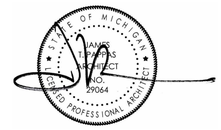
TYPICAL FLOOR/CEILING ASSEMBLY

FSP FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

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# AFFORDABLE SENIOR LIVING
# GREYSTONE APARTMENTS
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 09.18.25 | ADDENDUM #3 |
| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

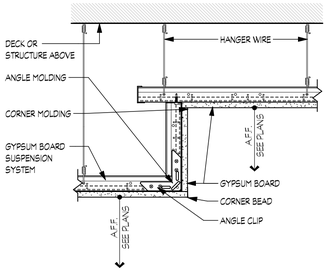
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

FLOOR / ROOF TYPES

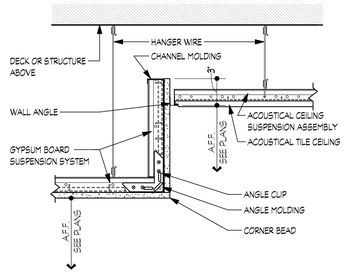
DRAWING NUMBER

A.722




## 3 A.801 CEILING SECTION

SCALE: 1 1/2" = 1'-0"

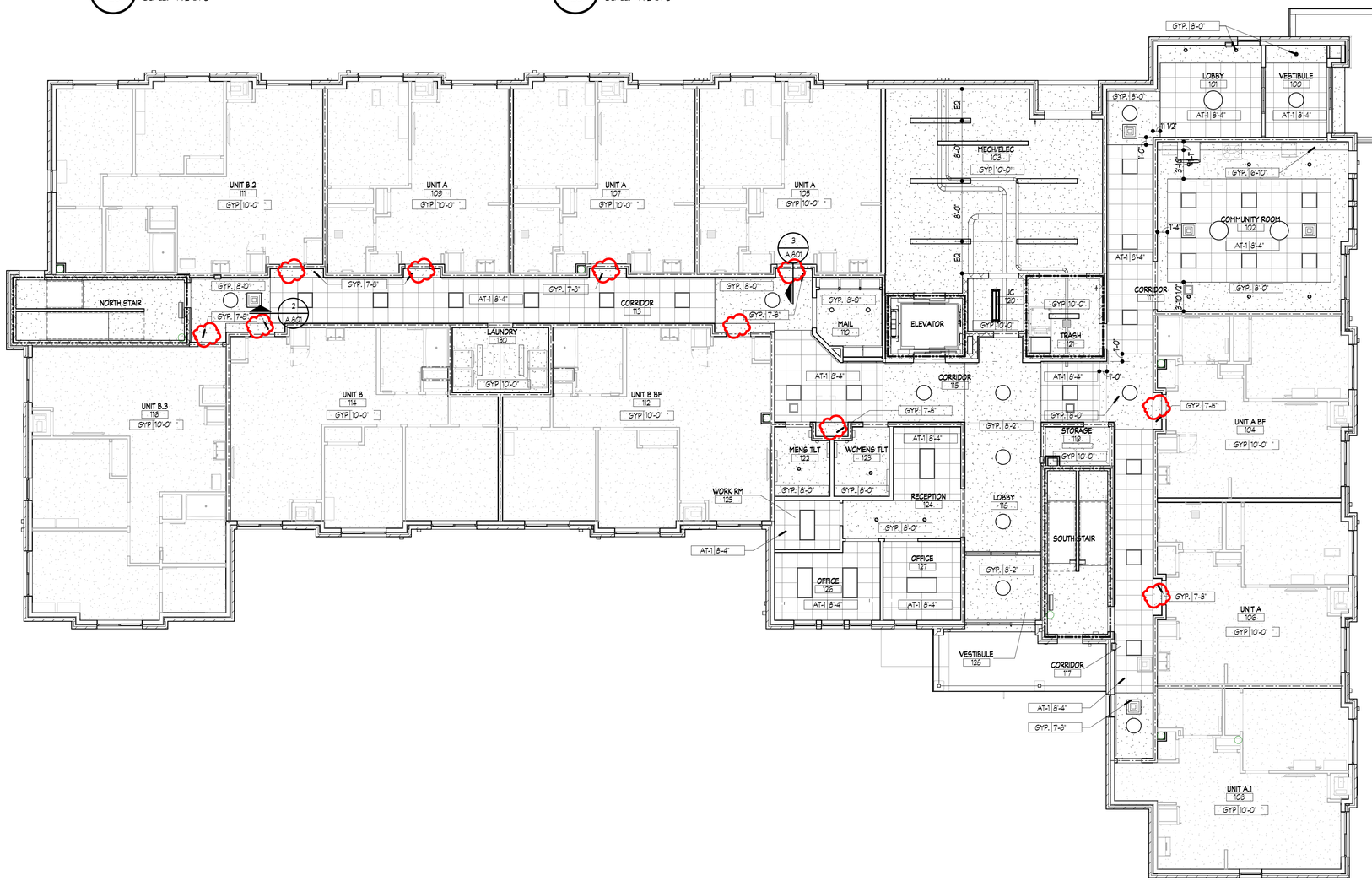



## 2 A.801 CEILING SECTION

SCALE: 1 1/2" = 1'-0"

## CEILING SCHEDULE

| MARK | DESCRIPTION | REMARKS |
|---|---|---|
| AT-1 | 2' X 2' CIRRUS TEGULAR EDGE ACOUSTIC SUSPENDED CEILING | STANDARD GRID |
| GYP | GYPSUM BOARD | |




## 1 A.801 FIRST FLOOR CEILING PLAN

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

NORTH

**NOTE** | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

## REFLECTED CEILING PLAN SYMBOLS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | 2X2 LAY-IN LIGHT FIXTURE |
| | 2X4' LAY-IN LIGHT FIXTURE |
| | 1X4' LIGHT FIXTURE |
| | 2X4' SURFACE MOUNTED LIGHT FIXTURE |
| | RECESSED LIGHT FIXTURE |
| | RECESSED WALL-WASH LIGHT FIXTURE |
| | SURFACE MOUNTED LIGHT FIXTURE |
| | EXIT SIGN |
| | PENDANT LIGHT FIXTURE |
| | SUPPLY AIR DIFFUSER |
| | WALL LIGHT FIXTURE |
| SD | SMOKE DETECTOR |
| | WALL MOUNTED LIGHT FIXTURE |
| | UNDER CABINET LIGHT FIXTURE |
| | 1 HOUR FIRE PARTITION |
| | 2 HOUR FIRE PARTITION |
| | 1 HOUR FIRE BARRIER |
| | 2 HOUR FIRE BARRIER |

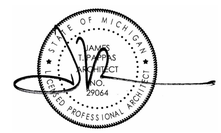
## REFLECTED CEILING PLAN NOTES:

1. THIS PLAN IS INTENDED TO SHOW GENERAL COORDINATION OF OVERHEAD WORK. REFER TO STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2. ALL CEILING HEIGHTS ARE FINISH DIMENSIONS.
3. ALL CEILING TILES MUST BE CENTERED IN ROOM. (UNLESS NOTED OTHERWISE)
4. ALL CEILING PENETRATIONS OF FIRE PROTECTION HEADS, FIRE ALARM DEVICES, LIGHT FIXTURES, SPEAKERS, ETC. MUST BE CENTERED IN THE CEILING TILE.
5. PROVIDE AND INSTALL A FIRE RATED ENCLOSURE ABOVE ALL RECESSED LIGHT FIXTURES WHICH PENETRATE A RATED CEILING MEMBRANE.
6. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
7. COORDINATE CEILING SUSPENSION SYSTEM WITH OTHER CEILING SPACE EQUIPMENT SUPPORTING DEVICES.
8. PROVIDE AND INSTALL FIRE DAMPERS AT DUCT PENETRATIONS OF ALL FIRE RATED ASSEMBLIES. CEILING RADIATION DAMPERS ARE REQUIRED AT ALL DUCT/FAN PENETRATIONS OF THE FIRE RATED CEILINGS.
9. CEILINGS WITHOUT DESIGNATED HEIGHTS ARE TO THE UNDERSIDE OF CEILING/FLOOR ASSEMBLY.

FSP FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS
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# GREYSTONE APARTMENTS

DETROIT MICHIGAN

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| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

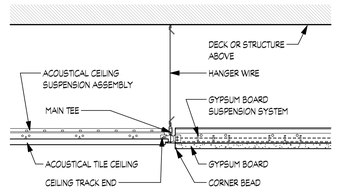
FSP PROJECT NO.
CCD18.002

DRAWING TITLE

FIRST FLOOR REFLECTED CEILING PLAN

DRAWING NUMBER

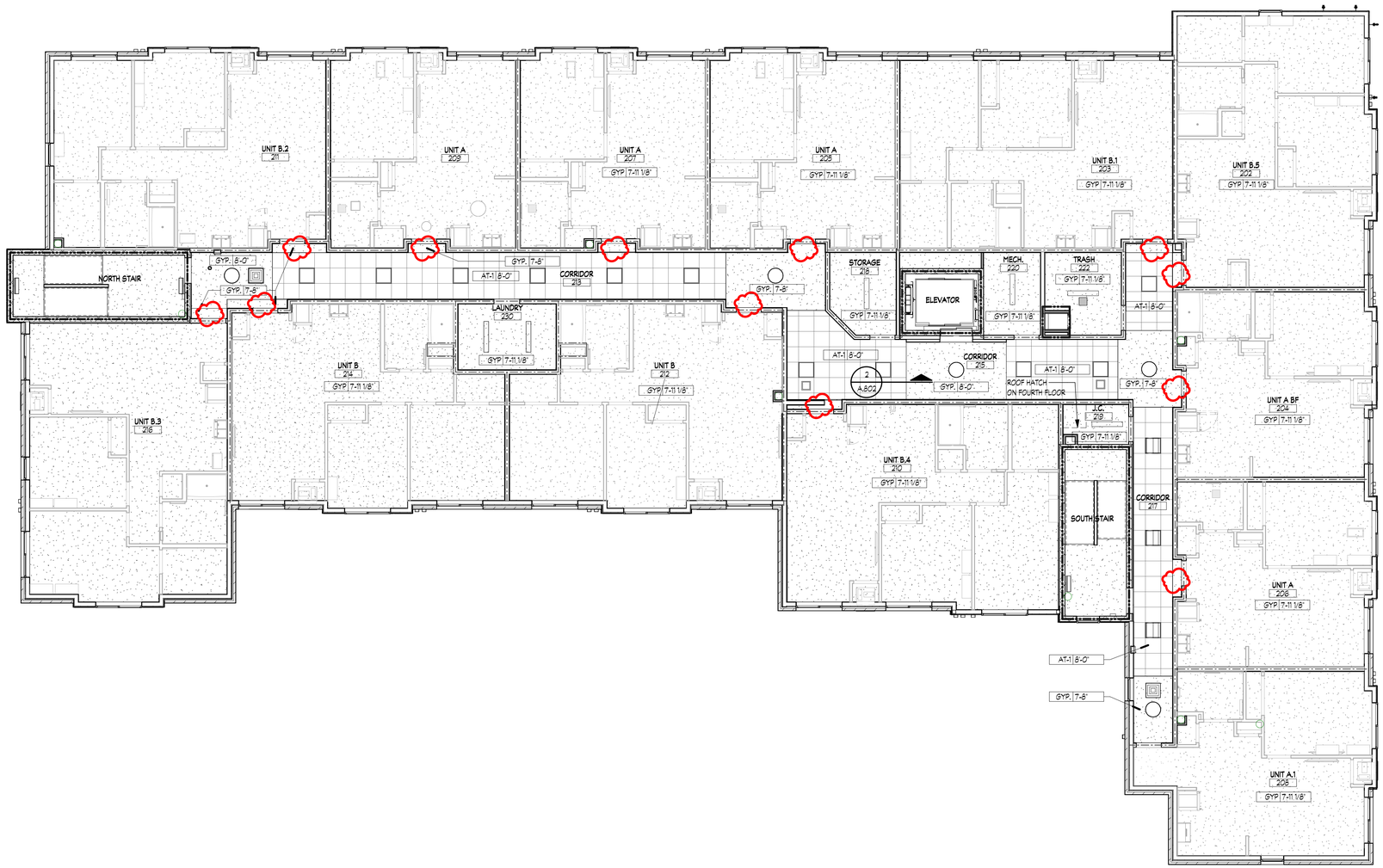
A.801




2 A.802 **CEILING TRANSITION DETAIL**

SCALE: 1 1/2" = 1'-0"

| CEILING SCHEDULE | | |
|---|---|---|
| MARK | DESCRIPTION | REMARKS |
| AT-1 | 2' X 2' CIRRUS TEGULAR EDGE ACOUSTIC SUSPENDED CEILING | STANDARD GRID |
| GYP | GYPSUM BOARD | |




1 A.802 **SECOND FLOOR CEILING PLAN**

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

NORTH

NOTE | IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO EXAMINE THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS AND TO PROVIDE LABOR AND MATERIAL FOR THEIR RESPECTIVE AREA OF WORK FOR A COMPLETE AND FINISHED INSTALLATION IN COMPLIANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS. SUBMITTAL OF PROPOSAL IMPLIES THAT THE CONTRACTOR/SUBCONTRACTOR HAS REVIEWED ALL CONTRACT DOCUMENTS AND IS FULLY CONVERSANT WITH AND AWARE OF ALL REQUIREMENTS OF ALL DIVISIONS.

| REFLECTED CEILING PLAN SYMBOLS LEGEND | |
|---|---|
| SYMBOL | DESCRIPTION |
| | 2X2 LAY-IN LIGHT FIXTURE |
| | 2X4' LAY-IN LIGHT FIXTURE |
| | 1X4' LIGHT FIXTURE |
| | 2X4' SURFACE MOUNTED LIGHT FIXTURE |
| | RECESSED LIGHT FIXTURE |
| | RECESSED WALL-WASH LIGHT FIXTURE |
| | SURFACE MOUNTED LIGHT FIXTURE |
| | EXIT SIGN |
| | PENDANT LIGHT FIXTURE |
| | SUPPLY AIR DIFFUSER |
| | WALL LIGHT FIXTURE |
| SD | SMOKE DETECTOR |
| | WALL MOUNTED LIGHT FIXTURE |
| | UNDER CABINET LIGHT FIXTURE |
| | 1 HOUR FIRE PARTITION |
| | 2 HOUR FIRE PARTITION |
| | 1 HOUR FIRE BARRIER |
| | 2 HOUR FIRE BARRIER |

**REFLECTED CEILING PLAN NOTES:**

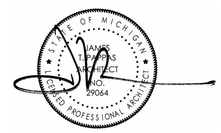
1. THIS PLAN IS INTENDED TO SHOW GENERAL COORDINATION OF OVERHEAD WORK. REFER TO STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2. ALL CEILING HEIGHTS ARE FINISH DIMENSIONS.
3. ALL CEILING TILES MUST BE CENTERED IN ROOM. (UNLESS NOTED OTHERWISE)
4. ALL CEILING PENETRATIONS OF FIRE PROTECTION HEADS, FIRE ALARM DEVICES, LIGHT FIXTURES, SPEAKERS, ETC. MUST BE CENTERED IN THE CEILING TILE.
5. PROVIDE AND INSTALL A FIRE RATED ENCLOSURE ABOVE ALL RECESSED LIGHT FIXTURES WHICH PENETRATE A RATED CEILING MEMBRANE.
6. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
7. COORDINATE CEILING SUSPENSION SYSTEM WITH OTHER CEILING SPACE EQUIPMENT SUPPORTING DEVICES.
8. PROVIDE AND INSTALL FIRE DAMPERS AT DUCT PENETRATIONS OF ALL FIRE RATED ASSEMBLIES. CEILING RADIATION DAMPERS ARE REQUIRED AT ALL DUCT/FAN PENETRATIONS OF THE FIRE RATED CEILINGS.
9. CEILINGS WITHOUT DESIGNATED HEIGHTS ARE TO THE UNDERSIDE OF CEILING/FLOOR ASSEMBLY.

FSP FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

550 E. NINE MILE ROAD
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# GREYSTONE APARTMENTS

DETROIT MICHIGAN

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| 09.12.25 | ADDENDUM #2 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

TYPICAL FLOOR REFLECTED CEILING PLAN

DRAWING NUMBER

A.802

RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226
www.resurget.engineering
RE Project No.: 0

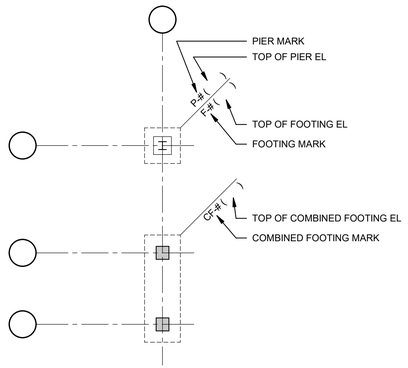
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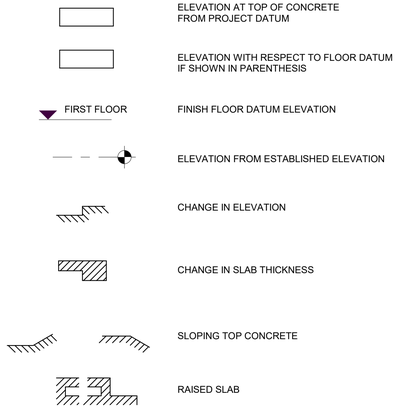
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## FOUNDATION PLAN SYMBOLS AND DESIGNATIONS




## ELEVATION SYMBOLS



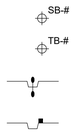

## FOUNDATION WALL DESIGNATIONS

| | |
|---|---|
| GB-# ( ) | GRADE BEAM MARK (TOP OF GRADE BEAM EL) |
| RW-# | RETAINING WALL MARK |
| WF-# | WALL FOOTING MARK |

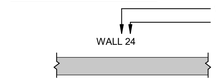
## SLAB ON GRADE SYMBOLS AND DESIGNATIONS



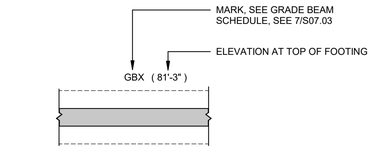

## MISCELLANEOUS SYMBOLS



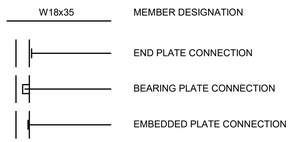

## CONCRETE WALL/CURB



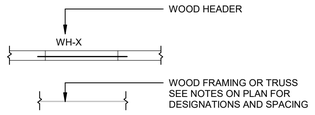

## GRADE BEAM/CONT FOOTING




## BEAM DESIGNATIONS

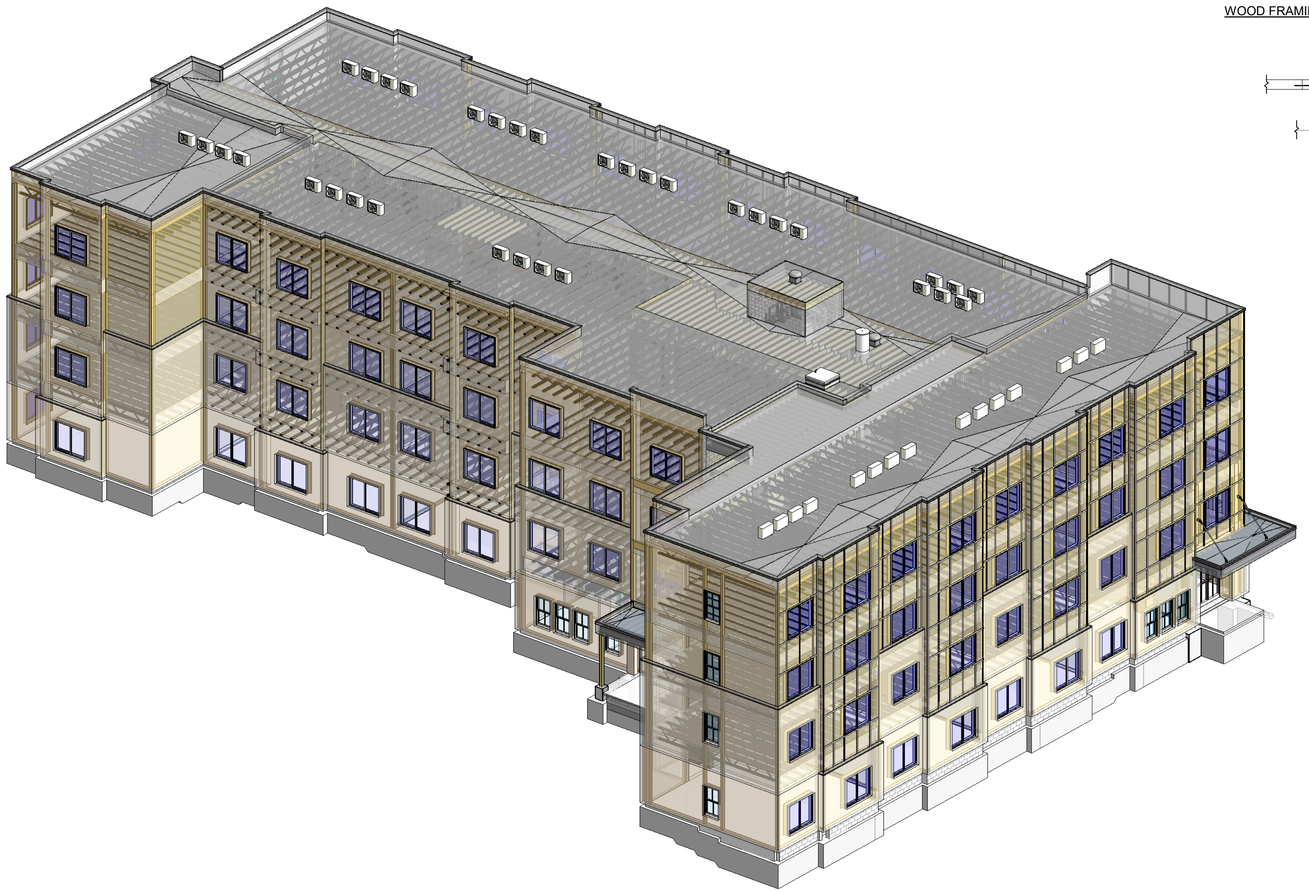



## WOOD FRAMING




## ABBREVIATIONS

| | |
|---|---|
| ADD | ADDITIONAL |
| APPROX | APPROXIMATE |
| ARCH | ARCHITECTURAL |
| BF | BRACED FRAME |
| BOF | BOTTOM OF FOOTING |
| BOS | BOTTOM OF STEEL |
| BP | BEARING PLATE |
| BRG | BEARING |
| CANT | CANTILEVERED |
| CFMF | COLD FORMED METAL FRAMING |
| CIP | CAST IN PLACE |
| CJ | CONTROL OR CONSTRUCTION JOINT |
| CMU | CONCRETE MASONRY UNIT |
| COL | COLUMN |
| CONC | CONCRETE |
| CONN | CONNECTION |
| CONT | CONTINUOUS OR CONTINUATION |
| CONTR | CONTRACTOR |
| COORD | COORDINATE |
| DIA | DIAMETER |
| DIAG | DIAGONAL |
| DIM | DIMENSIONS |
| DWG | DRAWING |
| EF | EACH FACE |
| EL | ELEVATION |
| EQ | EQUAL |
| EW | EACH WAY |
| EX | EXISTING |
| EXP | EXPANSION |
| EXT | EXTERIOR |
| FF | FINISH FLOOR |
| FOUND | FOUNDATION |
| FTG | FOOTING |
| GALV | GALVANIZED |
| GB | GRADE BEAM |
| HORIZ | HORIZONTAL |
| INT | INTERIOR |
| JT | JOINT |
| LLBB | LONG LEGS BACK TO BACK |
| LSH | LONG SIDE HORIZONTAL |
| LSV | LONG SIDE VERTICAL |
| MAX | MAXIMUM |
| MECH | MECHANICAL |
| MIN | MINIMUM |
| MP | MASONRY PIER |
| NIC | NOT IN CONTRACT |
| OC | ON CENTER |
| OD | OVERFLOW ROOF DRAIN |
| OH | OPPOSITE HAND |
| OPNG | OPENING |
| PC | PRECAST |
| PERIM | PERIMETER |
| PL | PLATE |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| RD | ROOF DECK |
| REF | REFERENCE |
| REINF | REINFORCING |
| REQD | REQUIRED |
| RTU | ROOF TOP UNIT |
| SIM | SIMILAR |
| SLBB | SHORT LEG BACK TO BACK |
| SOG | SLAB ON GRADE |
| SP | SPACING |
| TOC | TOP OF CONCRETE |
| TOF | TOP OF FOOTING |
| TOSLAB | TOP OF SLAB |
| TOS | TOP OF STEEL |
| TYP | TYPICAL |
| UON | UNLESS OTHERWISE NOTED |
| VERT | VERTICAL |
| VIF | VERIFY IN FIELD |
| W/O | WITHOUT |
| WWF | WELDED WIRE FABRIC |



## DRAWING LIST

| SHEET # | SHEET TITLE |
|---|---|
| S.001 | ABBREVIATIONS AND SYMBOLS |
| S.002 | GENERAL NOTES |
| S.003 | SPECIAL INSPECTIONS |
| S.101 | FOUNDATION PLAN |
| S.102 | SECOND FLOOR FRAMING PLAN |
| S.103 | THIRD FLOOR FRAMING PLAN |
| S.104 | FOURTH FLOOR FRAMING PLAN |
| S.105 | ROOF FRAMING PLAN |
| S.301 | FOUNDATION DETAILS |
| S.302 | FOUNDATION DETAILS |
| S.303 | FOUNDATION DETAILS |
| S.401 | MASONRY DETAILS |
| S.402 | MASONRY DETAILS |
| S.601 | WOOD SECTIONS AND DETAILS |
| S.602 | WOOD SECTIONS AND DETAILS |
| S.603 | WOOD SECTIONS AND DETAILS |
| S.604 | WOOD SECTIONS AND DETAILS |
| S.605 | WOOD SECTIONS AND DETAILS |
| S.610 | WOOD SHEAR WALL DETAILS |
| S.611 | WOOD SHEAR WALL DETAILS |
| S.701 | WOOD FRAMING SCHEDULES |

**440 Martin Luther King Jr Blvd, Detroit Michigan**

# Greystone
## SENIOR LIVING

MICHIGAN

DETROIT

| DATE | ISSUE |
|---|---|
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM 1 |
| 09.23.24 | PERMITS |
| 08.20.24 | BID UPDATE |

KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

ABBREVIATIONS AND SYMBOLS

DRAWING NUMBER

S.001

RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226
www.resurget.engineering
RE Project No.: 0

## STRUCTURAL OBSERVATIONS

1. Resurget Engineering shall provide Structural Observation of the structural systems for general conformance to the drawings and specifications at significant stages of construction and at completion of the primary structural system as defined in Code.
2. Structural Observation does not include or waive any of the responsibilities of the Special Inspector as required per the Section "Special Inspections".
3. At the conclusion of work included in permit, the structural observer will submit to the building official a written statement that the structural observations have been completed and that to the best of their knowledge the work is in conformation with the construction documents.
4. Structural Observation on this project shall be conducted on the following structural elements:
   A. Spread Footings
   B. Stick Built Wood Construction

## SHOP DRAWINGS:

1. Verify all existing dimension before submitting shop drawings for review.
2. Review all shop drawings for accuracy and compliance with shop drawing before submitting for review. Review of shop drawings does not relieve the Contractor of any responsibility or errors and omissions.
3. Use of 2D Drawing or 3D REVIT model does not relieve the Contractor of any responsibility specified in the contract documents.
4. Allow a minimum of 10 working days for review by Structural Engineer of each set of submitted contract drawing. Submit shop drawings in reasonable quantities with at least 10 working days between submittals. Review time stated is for Structural Engineer only, add additional time to schedule as required for review by other disciplines.
5. Contractor shall coordinate work between multiple trades before submitting shop drawings. Dimensions and elevations specific to equipment installation shall be provided and coordinated prior to submittal for review. Failure to provide these dimensions shall result in return of shop drawings without review.
6. Structural Engineer is not responsible for coordination of work marked as "by others" on shop drawings.

## DESIGN-BUILD COMPONENTS

1. Building components that have been defined as design-build components per the drawings and/or project specification include but are not limited to the following:
   A. Exterior glazing and cladding
   B. Interior glazing walls
   C. Stairs handrail and stair cladding attachment
   D. Handrails and balustrades
   E. Elevators (cabs, rails brackets, hoist system, etc.)
   F. Support and bracing of ducts, pipes, conduit, cable tray, etc.
2. The Contractor is required to submit drawings and calculations (stamped and signed by a licensed engineer) for all such components to the Building Official for approval. These components shall not be installed until the component design has been approved by the Building Official.
3. The component designer shall be responsible for that component's conformance to the Code and all design criteria indicated in the construction documents and all necessary connections not specifically show in the structural and architectural drawings.
4. Prior to submittal of component design to the Building Official, component design shall be submitted to the design team for review of general conformance with design criteria. Submittals to the design team shall be stamped and signed by a licensed Professional Engineer and shall include the following:
   A. Drawing which indicate the magnitude, direction, and location of all loads imposed on the primary structure.
   B. Connection details that show how the component is connected to the primary structure.
   C. Design calculation demonstrating conformance with code requirements and design criteria. Calculations shall clearly indicate a complete load path for both the vertical and lateral loads to the primary structure.
5. All Design-Build components shall be designed to accommodate the movements shown in the Movement and Tolerance Report.

## DEFERRED STRUCTURAL SUBMITTALS

1. Structural systems which have been designated as vender-designed or design-build components per the drawings and/or project specification are deferred submittal components which have not been permitted under the base building application. The Contractor is required to submit document (stamped and signed by a licensed engineer) for all such components to the Building Official for approval. Deferred submittals items shall not be installed until the submittal items have been approved by the Building Official.
2. The component designer shall be responsible for that component's conformance to the Code and all design criteria indicated in the construction documents and all necessary connections not specifically show in the structural and architectural drawings.
3. Prior to submittal to the Building Official, all deferred submittal items shall be submitted to the design team for review of general conformance with design criteria. Submittals to design team shall be stamped and signed by a licensed engineer and shall include the following:
   A. Drawing which indicate the magnitude, direction, and location of all loads imposed on the primary structure.
   B. Connection details that show how the component is connected to the primary structure.
   C. Design calculation demonstrating conformance with code requirements and design criteria. Calculations shall clearly indicated a complete load path for both the vertical and lateral loads to the primary structure.
4. Deferred Structural Submittal Components include, but are not limited to the following:
   A. Elevators

## ELEVATORS

1. Elevator machine beams, hoist beams, rails, sills, door supports and connections to the primary structure and design-build components to be designed by the Elevator Manufacturer. Refer to the Section "Deferred Structural Submittals" for Deferred Submittal requirements. In addition, the following shall apply:
   A. The Contractor shall be shall be responsible for providing additional framing necessary for any penetrations through the machine room floor not shown on the structural drawings.
   B. Submitted documents shall include the location, direction, and magnitude of all loads imposed by the elevator system to the primary structure.

## SUBMITTALS FOR STRUCTURAL REVIEW

| SPECIFICATION | SUBMITTAL | CALCULATIONS REQUIRED | SUMBITTAL REQUIRED |
|---|---|---|---|
| 03 30 00 | CONCRETE MIX DESIGNS | X | X |
| 05 50 00 | METAL FABRICATIONS (LINTELS) | | X |
| 05 51 10 | METAL PAN STAIRS | X | X |
| 06 17 53 | SHOP-FABRICATED WOOD TRUSSES | X | X |

## WOOD

1. Framing Lumber: Spruce Pine Fir No. 2 or better or as noted otherwise.
2. Laminated Veneer Lumber (LVL): All LVL members shall have the following minimum properties: Fb = 2600 psi, Fv = 285 psi, E = 1900 ksi.
3. TimberStrand (LSL): All LSL members shall have the following minimum properties: Fb = 1700 psi, Fc* = 635 psi, E = 1300 ksi.
4. Parallam (PSL): All PSL posts shall have the following minimum properties: Fb = 2400 psi, Fc parallel to grain = 2500 psi, E = 1800 ksi
5. Wolmanized Parallam (WPSL): All exterior exposed posts shall be WPSL posts shall have the following minimum properties: Fb = 1728 psi, Fc parallel to grain = 1450 psi, E = 1566 ksi.
6. Wood Structural Panel Sheathing: All panels shall be and rated by the American Plywood Association (APA).
7. Nails: Standard Common with the following minimum penetrations into support member:
   - 6d (diameter 0.113") with 1.25" penetration
   - 8d (diameter 0.131") with 1.50" penetration
   - 10d (diameter 0.148") with 1.63" penetration
   - 16d (diameter 0.162") with 1.75" penetration
8. Bolts for connections: ASTM A307 with ASTM A563 heavy hex nuts and hardened washers, Grade A, unless noted otherwise.
9. Special Treatments (American Wood Preservers Institute Standards): All wood in contact with concrete, masonry or soil: Pressure treated with Wolman CCA preservative or equal.
10. Minimum Nailing Requirements (See drawings for areas with greater requirements):
    A. Roof: Nail all sheathing panels with 8d common nails at 6" o.c. at all supported edges and at 12" o.c. at all intermediate supports. Use two plyclips between each support for spans of 48" o.c. and one plyclip between each support for leeward spans at all unsupported panel edges.
    B. Floor: Nail all sheathing panels with 8d common nails at 6" o.c. at all supported edges and 8d at 10" o.c. at all intermediate supports.
    C. Walls: Nail all sheathing panels with 8d common nails at 6" o.c. at all edges and at 12" o.c. at all intermediate supports (3/8" or 7/16" panels on studs spaced at 24" o.c. requires 6" spacing at all intermediate supports). Solid block all panel edges.
11. General Framing and Carpentry: Connect all items as per NDS "Fastening Schedule", unless noted otherwise.
12. Framing Connections:
    A. All Framing connections not shown or otherwise indicated on the drawings shall be connected in a manner similar to the connections shown in the drawings or with approved Simpson Strong-Tie Connectors or Equal. The following notations refer to Simpson Strong-Tie Connectors:
       - Joist and Rafters: "U" or "F" hangers as required.
       - Beams: "EG" Hangers and "HGLB" Beam Seats.
       - Hinge connectors: "HCCT."
       - Columns: "CC" Caps and "CB" Column Bases.
       - Hold Down Anchors: "HDA" and "FTA."
13. Blocking, Bridging, and Bracing: Provide solid shaped blocking at least 2" (nominal) thick and full depth of joist at ends and at each support of joist. Provide approved bridging not 8'-0" o.c. maximum between joist end supports. Solid blocking between joists shall be nailed to the wood plate at the top of the wall with one Simpson "A35" framing anchor per each piece of blocking. Fill all holes in the framing anchors with 8-d short nails.
14. Laminated built-up beams of 2X member 12 in. or less in depth shall be spiked together with not less than 16-d spikes at twelve-inch (12 in.) centers, staggered. Unless so spiked, or if the depth of beam is more than twelve inches (12 in.), the laminations shall be connected together with 1/2" diameter bolts at 24 in. o.c. staggered. Bolts shall be placed 1/4 the depth of the member from the top and bottom of the member.
15. Where gypsum wallboard sheathed shear walls are used, as indicated on the framing plans, they shall be nailed with 6d cooler nails at 4" o.c. to all studs, plates, and blocking. All edges, horizontal and vertical, shall be blocked.
16. Pre-fabricated Steel Plate Wood Trusses:
    A. Design Loading: The truss manufacturer is responsible for design and fabrication of the trusses. They shall be designed to support the concentrated and other distributed loads as shown on the framing plans in addition to the following uniform loads:
       - Floor Trusses:
         - Dead Load (Top Chord) = 20 psf
         - Dead Load (Bottom Chord) = 10 psf
         - Live Load (Top Chord) = 40 psf
         - Total load deflection limit = span/360
         - Live load deflection limit = span/480
       - Roof Trusses:
         - Dead Load (Top Chord) = 10 psf
         - Dead Load (Bottom Chord) = 15 psf
         - Live Load (Top Chord) = 25 psf
         - Wind loading per load maps
         - Total load deflection limit = span/240
         - Live load deflection limit = span/360
    B. Correlate the design with mechanical equipment, fire sprinkling systems and hanging walls supported by the trusses. Provide extra trusses where required.
    C. Submittals: Complete calculations and shop drawings indicating all member forces, stresses, lumber grades, dimensions, steel truss plate sizes and locations shall be submitted and reviewed by the engineer before fabrication. Each connector shall be dimensioned on the shop drawings as to its exact location at the joint. Shop drawings and calculations shall bear the seal of a professional engineer licensed in the State of Florida. After truss installation, the fabricator shall certify in writing that the trusses have been installed according to his specifications.
    D. Steel Connector Plates: Use only galvanized steel connector plates that comply with the Truss Plate Institute publication, TPI 1-1995. All steel connector plates must be approved by the International Conference of Building Officials Evaluation Services. Submit a copy of the ICBO Report for the connector plate used. Values established by this committee must be indicated on the shop drawings.
       - The minimum size for any connector shall be 15 square inches.
       - All steel gusset plates shall be located on the joint as the stresses require and shall provide a minimum bite of 2.5" length on all tension members.
       - Plates shall be pressed or rolled into member to obtain full penetration without crushing the outer surfaces of wood.
       - Steel plates at compression web members shall be designed to resist 100% of the compression force without considering wood to wood bearing.
       - All steel plate dimensions shall be increased by 10% above that required by analysis. Stress increases for steel connector plate values for duration of load are not allowed.
    E. Wood Members: All wood members of the truss shall be constructed of kiln dried lumber. The trusses shall be handled and stored in a manner to prevent moisture from being absorbed by the wood. Grade stamps shall be visible on framing members. Splices in chords shall occur at 1/4 of the panel span from a joint.
    F. The trusses shall be designed by the truss supplier according to the following criteria:
       - Bending moments in the top and bottom chords shall be based on the following moment coefficients:
         - 1/8 for one and two continuous span conditions.
         - 1/10 for three or more continuous span conditions.
       - Web members shall be designed using an effective length factor: K = 1.0
    G. Lateral Bracing: Lateral bracing and bridging may be required by the design of the pre-fabricated wood roof truss to reduce the buckling length of individual truss members and provide stability during erection. This bracing or bridging may be in the form of 2 x 4 horizontal bracing or bridging with 2 x 4 cross-bracing spaced at 24'-0" o.c. maximum and at each end of the bracing or bridging. The 2 x 4 cross bridging shall be connected to the truss top chord and the horizontal bridging with Simpson A35 each end. Locations of the lateral bracing and truss bridging is to be supplied and installed at the location specified on the pre-fabricated wood roof truss design drawings by the General Contractor.
    H. Other requirements for truss stability and erection shall comply with the Truss Plate Institute publications entitled "Commentary and Recommendations for Bracing Wood Trusses" and "Commentary and Recommendations for Handling and Erecting Wood Trusses." The contractor shall have copies of these publications on site and shall be familiar with their contents.
    I. Prior to the fabrication of the pre-fabricated wood trusses, the contractor shall submit, in writing, proof of compliance of in-plant inspection by an ICBO approved independent inspection agency. The in-plant inspections shall comply with section 1704.2 of the International Building Code.
    J. The truss manufacturer's identification stamp shall be clearly visible.

## FOUNDATIONS & BASEMENT WALLS

1. Foundations have been designed using the findings, recommendations, and criteria provided in the geotechnical reference documents listed in the "DESIGN CRITERIA". Refer to these documents, and subsequent addenda, for information on generalized subsurface profiles, soil properties, existing site features, and conditions affecting foundation installation.
2. See the geotechnical report for site preparation and elevation of suitable in-situ soils to obtain minimum allowable bearing capacity used for design. In addition to the removal of unsuitable soils and replacement with Engineered fill is an option in lieu of extending the bottom of foundation elevations to bearing elevation.
3. See the geotechnical report for over excavation requirements below structural foundations. All excavations shall be inspected and approved by the geotechnical engineer before placing concrete.
4. Geotechnical Engineer or testing agency under their review shall inspect and test all subgrades, fills and backfills to meet requirements of Contract Documents.
5. Foundation bearing elevations shown on drawings are minimums. Foundation bearing elevation shall be below minimum local frost depth requirements, bearing on undisturbed natural soils or engineered fill having a minimum allowable bearing as indicated.
6. Any temporary shoring needed for excavation shall be designed by licensed engineer working for the contractor. Temporary shoring designs shall be submitted to Architect for record only (not for review or approval).
7. Earth forms: Side forms for foundations may be omitted and concrete placed against soil if soil conditions shown that the excavations are suitable for such use and will not cave prior to or during the concrete pour. If the vertical excavated soil surfaces are deemed to be unsatisfactory for use as a foundation side form, then the contractor shall provide standard concrete side forms at no extra cost to the owner. Exterior sides of elevation shall be smooth and vertical from grade elevation to minimum frost depth.
8. Extend all footing and grade beam reinforcing continuous through intersecting footings and grade beams. The contractor shall adjust the concrete cover at reinforcing bars to avoid interference.
9. Pad foundation area are centered on columns unless noted otherwise.
10. Do not place concrete on or adjacent to saturated sub-grade, sub-grade with standing water, sub-grade with organic content, frost or ice.
11. Contractor responsible for de-watering of site and excavations as required.
12. Do not undermine existing foundation without approved underpinning design.
13. Thoroughly clean and roughen construction joints between foundations and walls and columns per "CONCRETE FORMWORK AND JOINTS".
14. Side forms shall be used for all basement walls. Remove forms prior to backfill.
15. Basement walls retaining have been designed to span vertically between structural slabs. Therefore, contractor shall not backfill behind basement walls until the following has occurred:
    A. All perimeter basement walls are in-place and have attained full compressive strength
    B. Slab on grade and suspended slabs are in-place and have attained full compressive strength
16. In lieu the requirements in note above, the contractor can design a temporary bracing system for the basement walls so that backfill can proceed once wall has attained full compressive strength. Wall bracing system shall be designed by a licensed professional engineer working for the Contractor. Temporary wall bracing design shall be submitted to Architect for record only (not for review or approval).
17. Balance backfill adjacent to foundation walls to eliminate excessive lateral load pressures.
18. Backfill and engineered fill shall consist of clean, well graded soils, free of organic material, silt or clay or meet the requirements of the project specification manual.
19. Backfill shall be compacted to 95% of maximum density, as determined by the Modified Proctor Method (ASTM D1557), in maximum lifts of 6".

## CONCRETE

1. Mixing, batching, transporting, and placing of all concrete and selection of concrete materials shall conform to ACI 301 specification for structural concrete for buildings, UNO
2. Each mix design listed below shall be submitted, with current supporting data, and be approved by architect/structural engineer and the testing laboratory prior to use. Concrete mix designs shall be stamped and signed by a civil or structural engineer licensed in the state of Michigan. Submittal shall include the following:
   A. Cement type and source.
   B. Cement cube strength.
   C. Course and fine aggregate source and grading.
   D. Admixture data sheets.
3. Use of calcium chloride, chloride ions or other salts in concrete mix is prohibited.
4. The schedule below indicates the minimum concrete design mix requirements. Some design mix properties may need to exceed minimum requirements in order to make other properties meet minimum requirements.
   A. Type A – Foundation: Footings, Grade Beams, Pile Caps, Drilled Piers, and Walls
      - Normal weight concrete (150 pcf)
      - Strength - f'c = 4000 psi (at 28 days)
      - Flyash / cement ratio = 50 percent
   B. Type B – Walls, Columns, Beams, Suspended Slabs
      - Normal weight concrete (150 pcf)
      - Strength - f'c = 5000 psi (at 28 days)
      - Flyash / cement ratio = 15 percent
      - Shrinkage limit = 0.040%
   C. Type C - Slab-on-grade (including curbs and pads)
      - Normal weight concrete (150 pcf)
      - Strength - f'c = 4000 psi (at 28 days)
      - Max w/c ratio = 0.40
      - Flyash / cement ratio = 50 percent
      - Shrinkage limit = 0.040%
   D. Type D – Topping Slabs
      - Normal weight concrete (150 pcf)
      - Strength - f'c = 4000 psi (at 28 days)
      - Max w/c ratio = 0.40
      - Flyash / cement ratio = 50 percent
      - Shrinkage limit = 0.040%
   E. Type E – Lean Concrete Fill (beneath footings and conduit encasement)
      - Normal weight concrete (150 pcf)
      - Strength - f'c = 500 psi (at 28 days)
5. Concrete exposed to freeze/thaw cycles including foundation walls shall be air-entrained 6% +/- 1%.
6. Minimum concrete cover over reinforcing steel shall be as follows (UNO):
   A. Concrete on Steel Deck – 1" clear from top of slab
   B. Slabs and Walls
      - Interior Faces – ¾" (#11 and smaller)
      - Exposed to Weather – 1.5" (#5 and smaller) & 2" (#6 & larger)
      - Exposed to earth – 2"
   C. Column / Pilasters
      - Interior Faces – 1.5"
      - Exposed to Weather – 1.5" (#5 and smaller) & 2" (#6 & larger)
      - Exposed to earth – 2"
   D. Footings or Grade Beams
      - Not exposed to Earth – 2"
      - Exposed to Earth – 2"
      - Cast Against Earth – 3"
   E. Slab on Grade – 2" from bottom
7. The contractor shall provide minimum 4" reinforced concrete cover around all steel members or components (WF, TS, plates, bolts, etc.) adjacent to and exposed to soil.
8. Do not place conduits or other elements exceeding 25% of the depth of the concrete slab or wall. No conduit is allowed in columns or beams unless reviewed and approved by Structural Engineer.
9. Anchor rods, leveling plates, bearing plates and other structural steel embeds shall be secured in place within a 1/8" tolerance in any direction prior to placing concrete.
10. Aluminum products are prohibited embed or directly attached to concrete.

## REINFORCING STEEL

1. Steel reinforcement shall be as follows:
   A. ASTM A615 grade 60 UNO
   B. ASTM A706 Gr 60 for bars to be welded, coupled and where noted on drawings.
2. Reinforcing bars shall be lap spliced per the lap splice schedule. Lap splices are to be securely tied at all side and end laps. Splice reinforcing where indicated on the drawings.
3. Mechanical splices, if used at contractor's option, shall be ICC approved and be capable of developing 125% of specified minimum yield strength of bar in tension or compression.
4. Welded wire fabric shall conform to ASTM A185.
5. Welded wire fabric shall be lap spliced 8" or one full mesh spacing plus 2", whichever is greater.
6. Welding of reinforcing steel shall be in accordance with AWS D1.4. Weld reinforcing bars only where noted on the drawings. Tack welding or welding of bars to plates, templates, etc, is prohibited, unless specifically shown on the drawings.
7. Submit rebar shop drawings in accordance with ACI 315 for review and acceptance by architect/engineer prior to fabrication. The shop drawings shall include:
   A. Reinforcing size, lengths and bends.
   B. Location, spacing and number of bars.
   C. Methods and details of support to maintain specified cover.
   D. Locations of construction joints.
   E. Location and length of all splices.
8. Contractor shall investigate and coordinate reinforcing steel placement in congested areas and provide templates, reinforcing bar coupling, or bar welding where necessary to maintain bar placement.
9. Bars shall not be bent or twisted in the field, unless specifically detailed on the structural drawings.
10. Securely tie all reinforcing in-place with iron wire. Support all reinforcing in place with acceptable chairs.

## SHORING AND BRACING

1. Contractor shall provide temporary shoring and bracing of existing construction, new construction and underground utilities as follows:
   A. Where shown or noted on the Drawings.
   B. Where existing construction is to be altered or disturbed until permanent support is in place.
   C. Where existing construction is not undergoing alteration and is to remain undisturbed but is disturbed as a result of the work of this contract.
   D. As required for safe erection, installation of new construction, equipment, etc.
   E. When needed for Contractor's "means and methods" of construction, and other safety related issues.
2. Shoring and bracing shown on the Drawings is conceptual. Contractor shall be responsible for verifying existing conditions, shoring and bracing calculations, methods of installation, transfer of loads through to final load support, and work sequence phasing with new construction.
3. Shoring and bracing shall be performed by a Contractor with minimum 5 years demonstrated experience in similar size and scope of shoring and bracing projects.
4. Shoring and bracing shall be designed by a Professional Engineer registered in the State of the Project with minimum 5 years demonstrated experience in similar size and scope of shoring and bracing projects. Design loads and methods shall conform to applicable codes. Soil and material strengths shall be verified by tests, unless conservative estimates that do not affect deflections and deformations are approved by the Architect/Structural Engineer.
5. Contractor shall submit drawings and calculations sealed and signed by the Contractor's Professional Engineer showing complete design including temporary conditions, final conditions and sequence of work.
6. Before starting work, Contractor shall perform condition survey of the existing building structure, exterior façade and interior finishes, including photographic documentation and submit survey to the Owner for record.
7. During the shoring and bracing operations, Contractor shall:
   A. Keep the existing and new construction in a safe condition.
   B. Monitor existing and new construction to detect any signs of distress or deformation.
   C. Take immediate steps to prevent distress, deformation or damage.
8. Contractor shall continuously monitor the shoring and bracing system. Contractor shall review and ascertain that all field connections are completed according to the Contractor's design and issue approval for inspection of the work by the Testing Agency.
9. After completion of shoring and bracing and completion of work requiring shoring and bracing, Contractor shall repair any damage to the existing and new construction, without any cost to the Owner, and to the satisfaction of the Owner and Architect/Structural Engineer.

## ERECTION NOTES

1. The drawings indicate the structure in its final condition. The contractor is fully responsible for all temporary measures necessary for erection prior to the structure's final condition.
2. The contractor is responsible for means and methods, scheduling, sequencing of construction or compliance with OSHA provisions.
3. The contractor shall coordinate with other trades in determining the erection sequence so that the erection sequence and associated site conditions will not adversely impact or damage work by other trades or previously erected structure.
4. Deflection and movement of structure
   A. Floor beams, trusses, transfer girders, and cantilevers will continue to deflect as additional loads are applied during construction. Although camber may be shown to account for the theoretical dead load deflection, this may not occur until all dead load is on the member.
   B. The contractor shall coordinate the attachment of any items to the structure so that typical lateral movements of adjacent floors in any direction are accommodated by the attachments. The lateral movement of adjacent floors is 1/180 the floor height.

## CONCRETE FORMWORK AND JOINTS

1. Design and construction of formwork is the responsibility of the contractor and shall be in conformance with ACI 301.
2. The contractor shall determine the need for shoring and re-shoring. Design and construction of shoring / reshoring, including analysis of the structure, is the responsibility of the contractor. Submit proposed shoring and reshoring plans, conforming to ACI 301, to the engineer for record only.
3. All construction joints shall be constructed in accordance with the typical construction joint details shown on the structural drawings. All construction joints shall be coordinated and constructed in accordance with architectural finishes and treatments.
4. The maximum length of pours shall be as follows:
   A. Slab-on-grade and topping slabs: 120 feet
   B. Suspended concrete slab: 120 feet
   C. Concrete fill in metal deck: 120 feet
   D. Architectural Topping Slabs: 120 feet
   E. Walls: 80 feet
5. The contractor shall submit the proposed locations of construction joints to the architect/engineer and receive approval prior to fabrication of formwork.
6. Clean and roughen to ¼" amplitude, all horizontal construction joint surfaces against which concrete is to be placed. All construction joints shall be wetted and standing water removed immediately before new concrete is placed.
7. For existing concrete, mechanically roughen to ¼" amplitude, clean and de-grease existing concrete before placing concrete adjacent to existing concrete. Apply bonding agent prior to placing concrete. Bonding agent shall be cementitious or epoxy-based bonding agent approved by Structural Engineer.
8. Chamfer exposed concrete corners per the architectural drawings.
9. Provide water-stops in all construction joints in elements exposed to weather, soil or liquid on one side. Refer to architectural drawings and specifications for waterproofing and damp-proofing requirements.
10. Joints shall be prepared and sealed with joint sealant.
11. Provide pockets in concrete as required for structural steel columns, beams. Coordinate size and locations with steel shop drawings. Fill pockets with concrete after steel erection.

## GENERAL NOTES

1. Governing Design Code: 2015 Michigan Building Code with local jurisdiction amendments (hereafter referred to as "CODE")
2. All construction shall be in accordance with the following:
   A. CODE
   B. Drawings and Specifications
3. The structural drawing notes are intended to work together and be complementary with the project specifications. Consult the specifications for additional requirements in each section. Information provided on structural drawings shall take precedence over the specifications. Information shown on specific details shall take precedence over typical details and structural notes.
4. Typical details and general notes shall apply, UNO.
5. The structural drawings shall be used in conjunction with the architectural drawings. See architectural drawings for information not shown, including but not limited to the following:
   A. Setting out dimensions and angles of all grid lines
   B. Setting out dimensions of concrete walls and wall openings that are not shown on the structural drawings.
   C. Slab geometry that includes the following:
      - Edge of slab locations at building perimeter
      - Edge of slab location at interior openings
      - Location and geometry of slab depressions and slopes (depressions and slopes in structural slabs that are not shown diagrammatically on the structural drawings shall be reviewed by SEOR)
      - Concrete curb locations, height and width
   D. Interior partitions and ceilings including
      - Interior metal stud partitions (size, location and detailing)
      - Interior glazed walls (location and detailing)
      - Interior GMU partition (locations and openings)
   E. Exterior non-bearing wall construction. This includes:
      - Exterior metal studs (size, location, and detailing)
      - Curtain wall and louver details
      - Aluminum trellises (sizes and detailing)
   F. Anchorage and bracing of building contents
   G. Concrete chamfers, grooves, inserts, embedments, etc.
   H. Architectural (non-structural) topping slabs – location and detailing
   I. Concrete finishes
   J. Dimensions not shown on the structural drawings
   K. All fireproofing requirements including fireproofing requirements for structural steel elements
   L. Misc steel required for support of architectural elements
   M. Waterproofing system and details
6. See the mechanical, electrical and plumbing drawings for information not shown, including but not limited to:
   A. Wall and slab openings for services, pipe sleeves, hangers, trenches, except as shown
   B. Electrical conduit runs, boxes, outlets in walls and slabs
   C. Concrete inserts for electrical, mechanical, or plumbing
   D. Size and location of equipment pads and equipment anchor bolts (typical concrete pad detail are provided on the Structural Drawings)
   E. Locations for beam penetrations for pipes and ducts, except as shown (typical steel penetrations are provided on the Structural Drawings)
7. Contractor is responsible for the coordinating all equipment pad sizes and locations with the actual layout provided in the shop drawings.
8. Drawing scales noted on structural drawings are for reference only. Do NOT scale drawings. The contractor shall verify dimensions not provided with the architect prior to proceeding with work.

## POST-INSTALLED ANCHORS IN CONCRETE

1. Expansion anchors
   A. Expansion Anchors shall be per CODE requirements
   B. Expansion Anchors shall be: Kwik-Bolt TZ (ESR-1917) by Hilti, Power-Stud+ SD2 (ESR-2502) by Power Fasteners, Strong Bolt (ESR-1771) by Simpson, TruBolt+ (ESR-2427) by ITW Red Head or approved equal.
   C. For interior condition use carbon steel anchors and for exterior condition use stainless steel anchors
   D. Tension test 50% of all expansion anchors to test load provided by manufacturer
2. Adhesive anchors
   A. Comply with CODE requirements.
   B. Adhesive anchors shall be: HIT-HY 200 (ESR-3187) by Hilti, HIT-RE 500 SD (ESR-2732) by Hilti, Set-XP (ESR-2508) by Simpson, or approved equal.
   C. For interior condition use carbon steel anchors and for exterior condition use stainless steel anchors
   D. Tension test 50% of all expansion anchors to test load provided by manufacturer.

## CONCRETE BLOCK MASONRY

1. Masonry construction shall be in accordance with ACI 530.
2. Compressive strength of grouted CMU construction f'm shall be 2000 psi.
3. All hollow concrete masonry units shall conform to ASTM C90, moisture controlled block; lightweight classification, compression strength of block shall be 2150 psi to achieve f'm of 2000 psi; 13% maximum absorption for exposed to weather units. Use open ended bond beam units where possible.
4. Compressive strength of the grout shall be 2000 psi. Maximum size of aggregate in grout shall be per CODE.
5. Mortar shall conform to CODE with strength of 2500 psi.
6. F'm shall be justified by preconstruction prism tests and prism tests during construction as specified in CODE.
7. In addition to prism testing, mason unit testing shall be conducted on the block, grout, and mortar to check for compliance with minimum specified strength.
8. All cells shall be filled solid with concrete grout.
9. Lay all units in running bond with fully mortared head joints
10. Horizontal joint reinforcing shall be "ladder type" with W1.7 diameter longitudinal bars. Provide 3/16 diameter longitudinal bars at walls be brick veneer.
11. Provide minimum #5 vertical bars at 48" o.c. and horizontal joint reinforcing at 16" o.c. unless indicated otherwise on drawings.
12. Provided minimum (2) #5 vertical bars additional at each side of openings or control joint unless noted otherwise.
13. Bond beam reinforcing shall be continuous unless noted otherwise.
14. Provide minimum lap and splice lengths per ACI 530.
15. Reinforcing shall be held in place with approved spacing system embed in mortar joints.
16. Provide control joints in wall at a maximum spacing of 25' feet on center per detail provided on the drawings. See architectural drawings for control joint locations.
17. Pipes and conduits shall not be embedded in any masonry unless approved by architect & structural engineer.
18. Grouting of cores shall be in accordance with "low lift grouting" per ACI530.
19. Grout lifts shall be keyed 4" into lower masonry course.
20. High lift grouting shall be in conformance with the CODE. Contractor shall submit a high lift grout procedure for review and approval by the architect/engineer and Testing Lab.
21. Grout masonry below grade solid.

## SHEATHING

1. All sheathing shall be plywood or OSB unless otherwise noted. All plywood sheathing including floor/roof diaphragms and shear wall panels shall conform to US product standards PS-1-07 with exterior glue. All SB sheathing including floor/roof diaphragms and shear wall panels shall conform to US product standards PS-2-04.
2. Sheathing sheets shall be placed with long dimension perpendicular to the support framing.
3. For shear wall sheathing fastening requirements refer to shear wall schedule.
4. Wall sheathing shall be 7/16" exterior grade (span rating 24/16) unless otherwise noted in shear wall schedule. All sheathing other than at shear walls shall be fastened with 8d nails at 6" on center at all edges and 8d nails at 12" on center in panel field. Provide 2x4 blocking at all panel edges in shear walls. Shear wall nailing patterns shall be as indicated on shear wall schedule.
5. Wood roof sheathing shall be 3/4" exterior grade (span rating 40/20) and shall be fastened with 8d nails at 6" on center at all edges and 8d nails at 12" on center in panel field. Provide 2x4 blocking or clips at mid span and at all panel edges.
6. Plywood floor sheathing shall be 3/4" exposure 1 tongue and groove (span rating 48/24) and shall be glued and fastened with #10 x 2-1/2" SD screws at 6" on center at all edges and #10 x 2-1/2" SD screws at 12" on center in panel field.
7. Prepare sheathing per gypcrete manufacturer's requirements before casting gypcrete.
8. Where fire rating is required comply with fire retarded treated (such as pyro-guard) plywood.

## DESIGN CRITERIA

| Design is in accordance with CODE | | CODE REFERENCE |
|---|---|---|
| Risk Category | II | IBC Table 1604.5<br>ASCE Table 1.5-1 |
| **FLOOR LIVE LOADS** | | CODE REFERENCE |
| RESIDENTIAL | 40 PSF + PARTITIONS | ASCE Table 4-1 |
| BALCONY | 60 PSF | ASCE Table 4-1 |
| STAIRS | 60 PSF | ASCE Table 4-1 |
| ROOF | 25 PSF | ASCE Table 4-1 |
| PARTITIONS | 15 PSF | ASCE Table 4-1 |
| **SNOW LOADS** | | CODE REFERENCE |
| Ground Snow Load | Pg = 20 PSF | ASCE Figure 7-1 |
| Flat Roof Snow... | Pf = 20 PSF (minimum) | ASCE Section 7.3 |
| Exposure Factor | Ce = 1.0 | ASCE Table 7-2 |
| Importance Factor | I = 1.0 | ASCE Table 1.5-2 |
| Thermal Factor | Ct = 1.0 | ASCE Table 7-3 |
| Snow loads adjacent to vertical projections, on lower roofs adjacent to high roofs, or sloped roofs are increased for the effects of drifting. | | |
| **WIND LOADS** | | CODE REFERENCE |
| Ultimate Design... | V(ULTIMATE)= 115 MPH | ASCE Figure... |
| Nominal Design Wind Speed | V(SERVICE) = 89 MPH | IBC Section 1609.3.1 |
| Exposure Category | B | ASCE Section 26.7.3 |
| Internal Pressure... | ± 0.18 (Enclosed) | ASCE Section... |

COMPONENTS AND CLADDING ROOF

| | Zone 1 | Zone 2 | Zone 3 | CODE REFERENCE |
|---|---|---|---|---|
| Support Beams (A > 100 SF) | -25 PSF | -30 PSF | -30 PSF | ASCE Table 30.7-2 |
| Roof Sheathing (A = 50 SF) | -26 PSF | -34 PSF | -41 PSF | ASCE Table 30.7-2 |
| Deck Fasteners (A < 10 SF) | -27 PSF | -46 PSF | -68 PSF | ASCE Table 30.7-2 |

COMPONENTS AND CLADDING WALLS

| | Zone 4 | Zone 5 | | CODE REFERENCE |
|---|---|---|---|---|
| A = 100 SF | 21/-23 PSF | 21/-26 PSF | | ASCE Table 30.7-2 |
| A = 50 SF | 22/-24 PSF | 22/-28 PSF | | ASCE Table 30.7-2 |
| A = 10 SF | 25/-27 PSF | 25/-33 PSF | | ASCE Table 30.7-2 |
| Building design displacements | Wind drift at 10 year Design Wind Speed = h/400 | | | |
| **SEISMIC LOADS** | | | | CODE REFERENCE |
| Seismic Importance Factor | Ie = 1.0 | | | ASCE Table 1.5-2 |
| Short Period Spectral Response Acceleration | SS = 0.096 g | | | ASCE Section 11.4.1 |
| 1.0 sec. Period Spectral Response Acceleration | S1 = 0.047 g | | | ASCE Section 11.4.1 |
| Site Class | D | | | ASCE Section 11.4.2 |
| Design Short Spectral Response Acceleration | SDS = 0.102 g | | | ASCE Section 11.4.4 |
| Design Short Period Spectral... | SD1 = 0.075 g | | | ASCE Section 11.4.4 |
| Seismic Design Category | B | | | ASCE Section 11.6 |
| Seismic Force Resisting System... | Ordinary Reinforced Masonry Shear Walls | | | ASCE Table 12.2-1 |
| Seismic Response Coefficient... | CS = 0.051 | | | ASCE Section 12.8.1.1 |
| Response Modification Factor | R = 2.0 | | | ASCE Table 12.2-1 |
| Seismic Force Resisting System (Parking Deck) | Light-Frame Wood Walls Sheathed With Wood Strucutral Panels | | | ASCE Table 12.2-1 |
| Seismic Response Coefficient (Parking Deck) | CS = 0.0146 | | | ASCE Section 12.8.1.1 |
| Response Modification Factor | R = 7 | | | ASCE Table 12.2-1 |
| Analysis Procedure | Equivalent Lateral Force | | | ASCE Section 12.8 |
| Building design displacements | Seismic Inelastic Story Drift (Delta m) = 2.0% | | | |

## FOUNDATION DESIGN

| | |
|---|---|
| Lateral Equivalent Earth Pressure | 40 PCF (Walls Unbraced at Top) |
| | 55 PCF (Walls Braced at Top) |
| Allowable Soil Bearing Capacity | 4,000 PSF (at varying depths)<br>See Report |
| Typical Floors and Roof | 5 PSF (MEP) |

1. Refer to Geotechnical Report by McDowell & Associates dated Decemeber 5, 2022 for additional Information.
2. Lateral earth pressure is based upon drained soil. Refer to drawings for foundation drainage.
3. Refer to the letter from Mc Dowell & Associates dated October 10, 2025 for suggestion to reduce the design bearing pressure.

## ARCHITECTURAL SLAB PLANS

1. See Architectural Slab Plans that show the following information:
   A. Locations of the edge of slab at perimeter and interior openings
   B. Slab elevations
   C. Slab depressions (elevations and locations of depression)
   D. Slab slopes
   E. Concrete curbs (width, height, location)

## SPECIAL INSPECTIONS

1. Special inspections shall be provided by the Owner's Testing Lab in according to the code and the project specifications. The special inspector shall observe the work for conformance with the construction documents. The special inspector shall send reports to the inspector of record, architect, engineer, contractor and Owner. All discrepancies shall be brought to the attention of the contractor for correction. When work is done to the satisfaction of the inspector, then the special inspector shall submit a final signed report stating that, to the best of their knowledge, the work was competed in conformance with the plans, specifications, and the applicable workm

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SEAL

## STATEMENT OF SPECIAL INSPECTIONS - CONCRETE CONSTRUCTION

| TASK | INSPECTION FREQUENCY | | REFERENCED STANDARD | MBC REFERENCE | RESPONSIBLE AGENT |
|---|---|---|---|---|---|
| | CONTINUOUS | PERIODIC | | | |
| 1. INSPECT REINFORCEMENT, INCLUDING POST-TENSIONED CABLES, AND VERIFY PLACEMENT. | - | X | ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3 | 1908.4 | SI |
| 3. INSPECT ANCHORS CAST IN CONCRETE. | - | X | ACI 318: 17.8.2 | - | SI / TA |
| 4. INSPECT ANCHORS POST-INSTALLED IN HARDENED MEMBERS. | | | | | SI / TA |
| A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. | X | | ACI 318: 17.8.2.4 | | |
| B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A. | | X | ACI318: 17.8.2 | | |
| 5. VERIFY USE OF REQUIRED DESIGN MIX. | - | X | ACI 318: Ch. 19, 26.4.3, 26.4.4 | 1904.1, 1904.2, 1908.2, 1908.3 | SI / TA |
| 6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. | X | - | ASTM C172<br>ASTM C31<br>ACI 318: 26.4, 26.12 | 1908.10 | SI / TA |
| 7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. | X | - | ACI 318: 26.5 | 1908.6, 1908.7, 1908.8 | SI |
| 8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES. | - | X | ACI 318: 26.5.3-26.5.5 | 1908.9 | SI |

## STATEMENT OF SPECIAL INSPECTIONS - WOOD CONSTRUCTION

| TASK | INSPECTION FREQUENCY | | REFERENCED STANDARD | MBC REFERENCE | RESPONSIBLE AGENT |
|---|---|---|---|---|---|
| | CONTINUOUS | PERIODIC | | | |
| 1. PRE-FABRICATED WOOD | | | | | |
| A. INSPECTION OF FABRICATION PROCESS OF PRE-FABRICATED WOOD STRUCTURAL ELEMENTS. | - | X | MANUFACTURER'S FABRICATION AND QUALITY CONTROL PROCEDURES | 1704.2.5, 1705.5 | SI |
| 2. TIMBER FRAMING | | | | | |
| A. INSPECTION OF FIELD GLUING OPERATIONS. | X | - | MANUFACTURER'S SPECIFICATIONS | 1705.5 | SI |
| B. INSPECTION OF NAILING, BOLTING, ANCHORING, AND OTHER FASTENING OF COMPONENTS WITHIN THE LATERAL-FORCE-RESISTING SYSTEM INCLUDING DRAG STRUTS, BRACES, AND TIE-DOWNS. | X | - | MANUFACTURER'S SPECIFICATIONS | 1705.5 | SI |
| C. INSPECTION FOR WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS THAT ARE INVLUDED IN THE LATERAL-FORCE-RESISTING SYSTEM AND FOR WHICH THE PROVISIONS REQUIRE THE SPACING OF NAILS, SCREWS, OR FASTENERS FOR WOOD SHEATHING TO BE 6 INCHES OR LESS ON CENTER. | X | - | MANUFACTURER'S SPECIFICATIONS | 1705.5 | SI |
| 3. HIGH LOAD DIAPHRAGMS | | | | | |
| A. INSPECTION OF DIAPHRAGMS. | X | - | - | SECTION 2306.2, 1705.5.1 | SI |

## STATEMENT OF SPECIAL INSPECTIONS - SOILS AND FOUNDATIONS

| TASK | INSPECTION FREQUENCY | | REFERENCED STANDARD | MBC REFERENCE | RESPONSIBLE AGENT |
|---|---|---|---|---|---|
| | CONTINUOUS | PERIODIC | | | |
| 1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY. | - | X | GEOTECHNICAL REPORT | 1705.6 | SI/GE |
| 2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL. | - | X | GEOTECHNICAL REPORT | 1705.6 | SI/GE |
| 3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS. | - | X | GEOTECHNICAL REPORT | 1705.6 | SI/GE/TA |
| 4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL. | X | - | GEOTECHNICAL REPORT | 1705.6 | SI/GE/TA |
| 5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY. | - | X | GEOTECHNICAL REPORT | 1705.6 | SI/GE/TA |

## SPECIAL INSPECTION REQUIREMENTS - MASONRY: LEVEL B QUALITY ASSURANCE

MINIMUM TESTS

VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.5 B.1.b.3 FOR SELF-CONSOLIDATING GROUT.

VERIFICATION OF f'm IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.4 B PRIOR TO CONSTRUCTION.

MINIMUM SPECIAL INSPECTION

| TASK | INSPECTION FREQUENCY | | REFERENCE CRITERIA | | | RESPONSIBLE AGENT |
|---|---|---|---|---|---|---|
| | CONTINUOUS | PERIODIC | MBC SECTION | TMS 402 | TMS 602 | |
| 1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS. | - | X | - | - | ART. 1.5 | SI |
| 2. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE: | | | | | | |
| A. PROPORTIONS OF SITE-PREPARED MORTAR. | - | X | - | - | ART. 2.1, 2.6A | SI |
| B. CONSTRUCTION OF MORTAR JOINTS. | - | X | - | - | ART. 3.3B | |
| C. LOCATION OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES. | - | X | - | - | ART. 3.4, 3.6A | |
| 3. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE: | | | | | | |
| A. GROUT SPACE. | - | X | - | - | ART. 3.2D, 3.2F | SI/TA |
| B. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR RODS, AND ANCHORS. | - | X | - | SEC. 6.1 | ART. 2.4, 3.4 | |
| C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHORS. | - | X | - | SEC. 6.1, 6.2.1, 6.2.6, 6.2.7 | ART. 3.2E, 3.4, 3.6A | |
| D. PROPORTIONS OF SITE-PREPARED GROUT | - | X | - | - | ART. 2.6 B, 2.4 B.1.b | |
| E. CONSTRUCTION OF MORTAR JOINTS. | - | X | - | - | ART. 3.3B | |
| 4. VERIFY DURING CONSTRUCTION: | | | | | | |
| A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS. | - | X | - | - | ART. 3.3F | SI/TA |
| B. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION. | - | X | - | SEC. 1.2.1(e), 6.1.4.3, 6.2.1 | - | |
| C. WELDING OF REINFORCEMENT. | X | - | - | SEC. 8.1.6.7.2, 9.3.3.4(c),11.3.3.4(b) | - | |
| D. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F). | - | X | - | - | ART. 1.8C, 1.8D | |
| E. PLACEMENT OF GROUT | X | - | - | - | ART. 3.5, 3.6 C | |
| 5. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS. | - | X | - | - | ART. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4 | SI/TA |
| MBC REFERENCE SECTION 1705.1 AND TABLE 3.1.2 TMS 402/ACI 530/ASCE 5 | | | | | | |

## STATEMENT OF SPECIAL INSPECTIONS - FIRE RESISTANT MATERIALS

| TASK | INSPECTION FREQUENCY | | REFERENCED STANDARD | IBC REFERENCE | RESPONSIBLE AGENT |
|---|---|---|---|---|---|
| | CONTINUOUS | PERIODIC | | | |
| 1. SPRAYED FIRE RESISTANT MATERIALS: | | | | | |
| A. SURFACE CONDITIONS | X | - | MANUFACTURER'S REQUIREMENTS | 1705.13.2 | SI/TA |
| B. APPLICATION | - | X | MANUFACTURER'S REQUIREMENTS | 1705.13.3 | |
| C. THICKNESS | X | - | ASTM E605 | 1705.13.4 | |
| D. DENSITY | - | X | ASTM E605 | 1705.13.5 | |
| E. BOND STRENGTH | - | X | ASTM E736 | 1705.13.6 | |
| 2. MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS. | - | X | AWCI 12-B | 1705.14 | SI/TA |

## SPECIAL INSPECTION NOTES

1. PERFORM SPECIAL INSPECTIONS IN ACCORDANCE WITH THE 2015 MICHIGAN (INTERNATIONAL) BUILDING CODE CHAPTER 17 AND AS MODIFIED IN THE MATERIAL SPECIFIC STATEMENTS OF SPECIAL INSPECTION.
2. DESIGNATION OF RESPONSIBLE AGENT AND THEIR QUALIFICATIONS

   SI SPECIAL INSPECTOR QUALIFIED WITH DEMONSTRATED COMPETENCE DOCUMENTED BY CERTIFICATIONS FROM RECOGNIZED AGENCIES SUCH AS AWS, ACI, MASONRY INSTITUTE OF MICHIGAN (MIM), ETC., AS SUBMITTED AND APPROVED BY THE BUILDING OFFICIAL. SPECIAL INSPECTOR MAY BE A FIRM WITH MULTIPLE SPECIALISTS AND A PROJECT MANAGER PROVIDING REPORTS.

   TA TESTING AGENCY QUALIFIED TO TEST AND INSPECT MATERIALS AND ASSEMBLIES. TESTING AGENCY SHALL BE UNDER THE SUPERVISION OF THE SPECIAL INSPECTOR.

   GE GEOTECHNICAL ENGINEER WHO PROVIDED THE ORIGINAL PROJECT GEOTECHNICAL SOILS INVESTIGATION REPORT.

   SE SPECIALTY ENGINEER RESPONSIBLE FOR DESIGNING ASSEMBLIES SUCH AS PRECAST CONCRETE, STEEL JOISTS, COLD FORMED FRAMING ASSEMBLIES, ETC. SPECIALTY ENGINEER SHALL PROVIDE OBSERVATION OF FABRICATED AND INSTALLED ITEMS OF THEIR DESIGN IN ADDITION TO THE SPECIAL INSPECTION.
3. TA, GE AND SE SHALL SUBMIT RECORDS OF THE INSPECTION RESULTS TO THE SI. THE SI SHALL COMPILE AND SUBMIT INSPECTION RECORDS TO THE ARCHITECT/ENGINEER AND BUILDING OFFICIAL. RECORDS SHALL INCLUDE STATEMENTS OF TESTS, WHETHER INSTALLED/FABRICATED ITEM COMPLIES WITH CONTRACT DOCUMENTS, REMEDIAL WORK PERFORMED, RETESTS.
4. SI SHALL PROVIDE A DAILY REPORT OF ANY DISCREPANCIES FROM THE CONTRACT DOCUMENTS FOUND ON THE SAME DAY OF THE INSPECTION TO THE ENGINEER OF RECORD. FORMAL REPORTS OF COMPLIANCE CAN FOLLOW BY A MAXIMUM OF 2 WEEKS. SI SHALL PROVIDE AND SIGN FINAL REPORT WITH A SUMMARY OF ALL TESTS PERFORMED AND RESULTS TO THE ENGINEER OF RECORD AND BUILDING OFFICIAL, IN ACCORDANCE WITH SECTION 1704.2.4.
5. SI, TA & GE SHALL BE PAID BY THE OWNER IN COMPLIANCE WITH THE MICHIGAN (INTERNATIONAL) BUILDING CODE.
6. WHERE FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES IS BEING CONDUCTED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTIONS OF THE FABRICATED ITEMS SHALL BE PERFORMED DURING FABRICATION. SPECIAL INSPECTIONS DURING FABRICATION ARE NOT REQUIRED WHERE THE FABRICATOR MAINTAINS APPROVED DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND THE GOVERNING BUILDING CODE. APPROVAL SHALL BE BASED UPON REVIEW OF FABRICATION AND QUALITY CONTROL PROCEDURES AND PERIODIC INSPECTION OF FABRICATION PRACTICES BY THE BUILDING OFFICIAL. SPECIAL INSPECTIONS ARE NOT REQUIRED WHERE THE FABRICATOR IS REGISTERED AND APPROVED IN ACCORDANCE WITH SECTION 1704.2.5.1.
7. REFER TO MATERIAL SPECIFIC STATEMENTS OF SPECIAL INSPECTION AND GENERAL STRUCTURAL NOTES FOR ADDITIONAL QUALITY CONTROL TESTING AND INSPECTIONS.

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KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

SPECIAL INSPECTIONS

DRAWING NUMBER

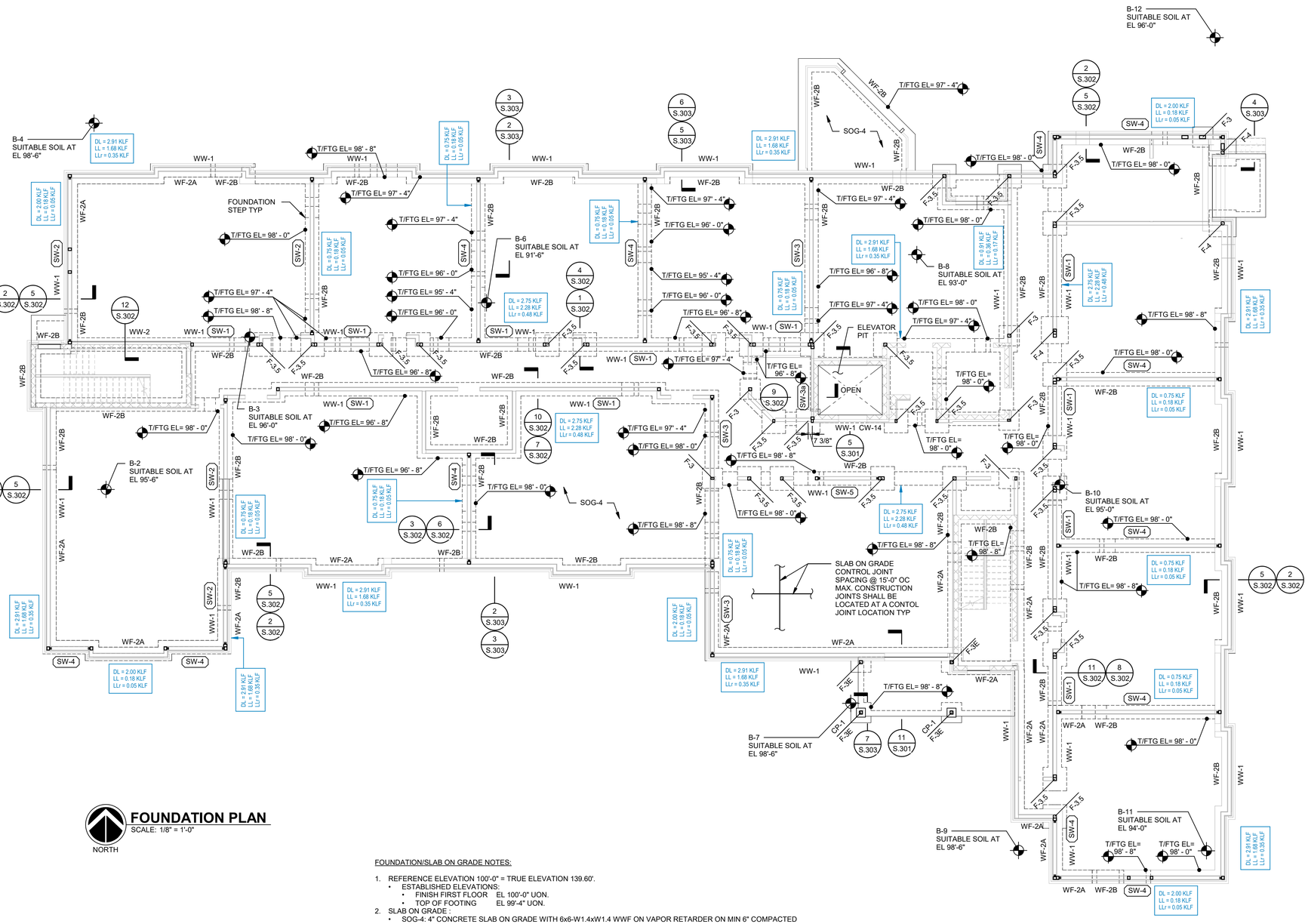
S.003

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## FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

NORTH

SPREAD FOOTING MAXIMUM LOADS

F-3 LOADS:
DL = 8 K
LL = 6 K
LLr = 2 K

F-3.5 LOADS:
DL = 24 K
LL = 19 K
LLr = 5 K

F-4 LOADS:
DL = 28 K
LL = 20 K
LLr = 6 K

FOUNDATION/SLAB ON GRADE NOTES:

1. REFERENCE ELEVATION 100'-0" = TRUE ELEVATION 139.60'.
   - ESTABLISHED ELEVATIONS:
     - FINISH FIRST FLOOR EL 100'-0" UON.
     - TOP OF FOOTING EL 99'-4" UON.
2. SLAB ON GRADE :
   - SOG-4: 4" CONCRETE SLAB ON GRADE WITH 6x6-W1.4xW1.4 WWF ON VAPOR RETARDER ON MIN 6" COMPACTED GRANULAR FILL.
3. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
4. ONLY WALLS SHOWN ON THIS DRAWING AS BEARING WALLS ARE TO BE USED FOR THE SUPPORT OF TRUSSES. DEVIATION FROM THIS WILL AFFECT THE WALLS, HEADERS, POSTS AND FOOTING SIZES.
5. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S.002 FOR GENERAL NOTES
   - S.003 FOR SPECIAL INSPECTIONS
   - S.301 THRU S.303 FOR FOUNDATION SCHEDULE AND TYPES
   - S.401 THRU S.402 FOR MASONRY WALL ELEVATIONS AND SCHEDULES
   - S.601 THRU S.604 FOR WOOD SECTIONS AND DETAILS
   - S.605 THRU S.606 FOR WOOD SHEAR WALL DETAILS
   - S.701 FOR WOOD FRAMING SCHEDULES
6. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED W/APPROVED MANUFACTURERS EQUIPMENT SHOP DRAWINGS PRIOR TO FABRICATION.
7. DIMENSIONS INDICATED THUS (V) SHALL BE VERIFIED W/APPROVED MANUFACTURERS EQUIPMENT SHOP DRAWINGS PRIOR TO FABRICATION.
8. REFER TO ARCHITECTURAL PLANS FOR BEARING WALL LOCATIONS.
9. FIELD LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
10. WOOD POSTS SUPPORTING FLOOR FRAMING SHALL BE CARRIED DOWN TO THE FOUNDATION. COORDINATE WITH FLOOR FRAMING ABOVE FOR SIZES AND LOCATION.
11. IF BUILDING IS TO BE CONSTRUCTED DURING WINTER MONTHS OR IF FOOTINGS WILL LIKELY BE SUBJECTED TO FREEZING TEMPERATURES AFTER FOUNDATION CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR LOWERING THE BOTTOM OF FOOTING TO FROST DEPTH EQUAL TO 3'-6" BELOW FINISH GRADE. AS AN ALTERNATE, OTHER MEANS OF PROTECTION FROM FREEZING MUST BE PROVIDED.
12. ALL CMU WALLS ARE 8" THICK (NOMINAL)
    - PROVIDE VERTICAL REINFORCEMENT #4 @ 48" OC FULL HEIGHT
    - PROVIDE HORIZONTAL REINFORCEMENT @ 16" OC
    - PROVIDE CONT BOND BEAM AT EACH FLOOR LINE W/ (2) #5 CONT
    - PROVIDE (2) #5 VERTICAL REINFORCING ON EACH SIDE OF OPENINGS
    - PROVIDE DOWELS INTO FOOTING TO MATCH VERTICAL REINFORCEMENT AND EXTEND 24" ABOVE TOP OF FOUNDATION WALLS TYP UON.

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KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

FOUNDATION PLAN

DRAWING NUMBER

S.101

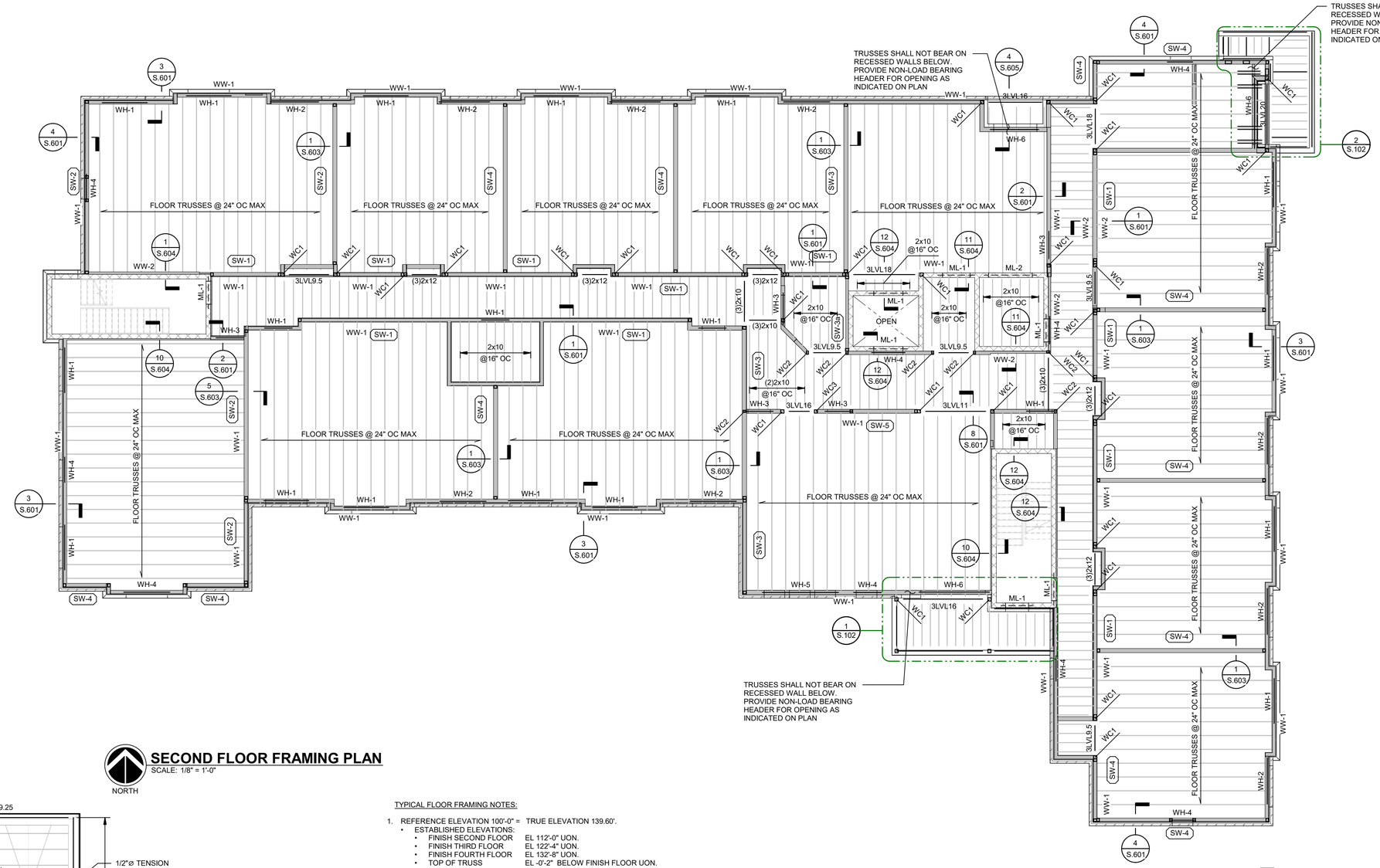
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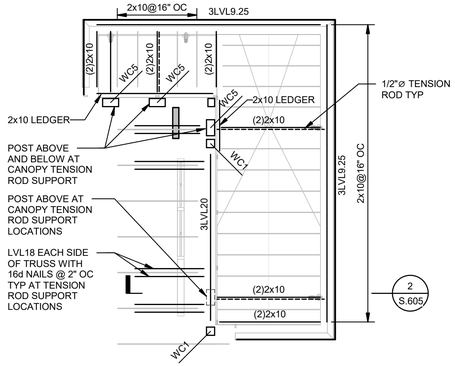
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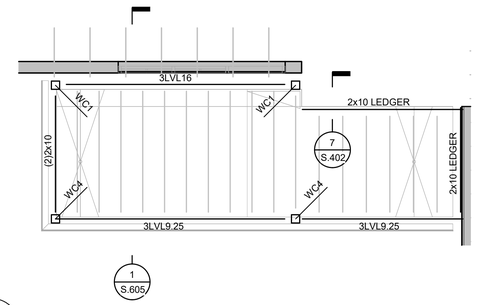

## SECOND FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"




## 2 S.102 MLK BLVD ENTRANCE CANOPY
SCALE: 1/4" = 1'-0"

TYPICAL FLOOR FRAMING NOTES:

1. REFERENCE ELEVATION 100'-0" = TRUE ELEVATION 139.60'.
   - ESTABLISHED ELEVATIONS:
     - FINISH SECOND FLOOR EL 112'-0" UON.
     - FINISH THIRD FLOOR EL 122'-4" UON.
     - FINISH FOURTH FLOOR EL 132'-8" UON.
     - TOP OF TRUSS EL -0'-2" BELOW FINISH FLOOR UON.
2. FLOOR TOPPING ON WOOD FRAMING:
   - 1-1/4" GYPCRETE ON 3/4" TONGUE AND GROOVE PLYWOOD GLUED AND SCREWED TO SUPPORT FRAMING
3. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
4. ONLY WALLS SHOWN ON THIS DRAWING AS BEARING WALLS ARE TO BE USED FOR THE SUPPORT OF TRUSSES. DEVIATION FROM THIS WILL AFFECT THE WALLS, HEADERS, POSTS AND FOOTING SIZES.
5. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S.002 FOR GENERAL NOTES
   - S.003 FOR SPECIAL INSPECTIONS
   - S.301 THRU S.303 FOR FOUNDATION SCHEDULE AND TYPES
   - S.401 THRU S.402 FOR MASONRY WALL ELEVATIONS AND SCHEDULES
   - S.601 THRU S.604 FOR WOOD SECTIONS AND DETAILS
   - S.605 THRU S.606 FOR WOOD SHEAR WALL DETAILS
   - S.701 FOR WOOD FRAMING SCHEDULES
6. COORDINATE THE PLACEMENT OF TRUSSES WITH LOCATIONS OF MECHANICAL DUCTWORK, PIPING AND FLUE LOCATIONS.
7. REFER TO ARCHITECTURAL PLANS FOR ALL BEARING WALL LOCATIONS.
8. ALL FLOOR TRUSSES TO BE 24" DEEP AND SPACED @ 2'-0" MAX OC (DELEGATED DESIGNER) UON.
9. ALL CORRIDOR AND BALCONY FRAMING TO BE 2x10 @ 16" OC UON.
10. REFER TO ARCHITECTURAL DRAWINGS FOR ALL WALL LAYOUT AND DIMENSIONS.
11. WOOD POSTS SUPPORTING FLOOR FRAMING SHALL BE CARRIED DOWN TO THE FOUNDATION. COORDINATE WITH FLOOR FRAMING ABOVE FOR SIZES AND LOCATION.
    1. ALL CMU WALLS ARE 8" THICK (NOMINAL)
       - PROVIDE VERTICAL REINFORCEMENT #4@4 8" OC FULL HEIGHT
       - PROVIDE HORIZONTAL REINFORCEMENT @ 16" OC
       - PROVIDE CONT BOND BEAM AT EACH FLOOR LINE WITH (2)#5 CONT
       - PROVIDE (2) #5 VERTICAL REINFORCING ON EACH SIDE OF OPENINGS
       - PROVIDE DOWELS INTO FOOTING TO MATCH VERTICAL REINFORCEMENT AND EXTEND 24" ABOVE TOP OF FOUNDATION WALLS TYP UON.
       - PROVIDE CMU LINTELS AT OPENINGS PER DETAIL 7/ S.401 AND SCHEDULE




## 1 S.102 PARKING LOT ENTRANCE CANOPY
SCALE: 1/4" = 1'-0"

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KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

SECOND FLOOR FRAMING PLAN

DRAWING NUMBER

S.102

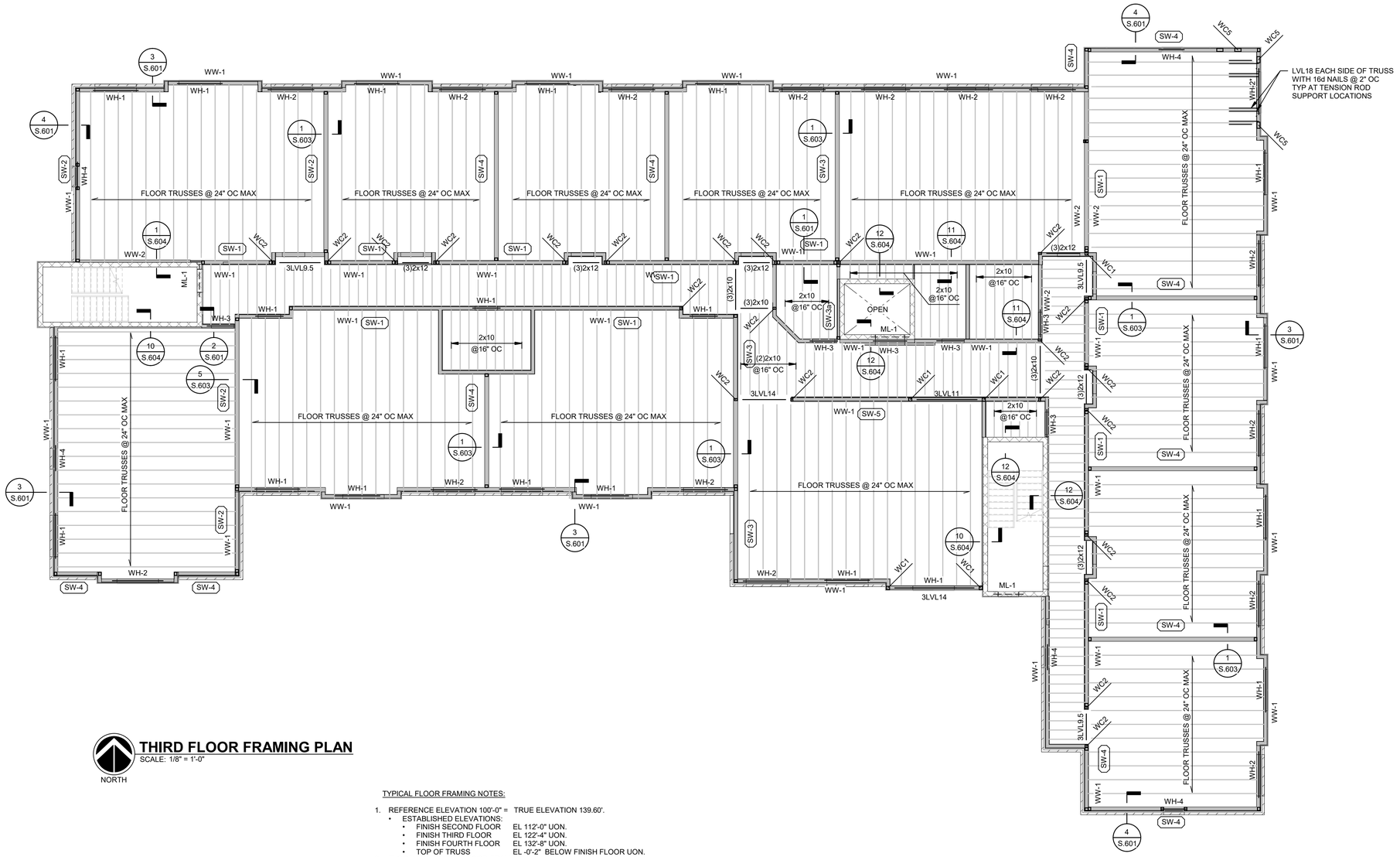
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## THIRD FLOOR FRAMING PLAN

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

NORTH

TYPICAL FLOOR FRAMING NOTES:

1. REFERENCE ELEVATION 100'-0" = TRUE ELEVATION 139.60'.
   - ESTABLISHED ELEVATIONS:
     - FINISH SECOND FLOOR EL 112'-0" UON.
     - FINISH THIRD FLOOR EL 122'-4" UON.
     - FINISH FOURTH FLOOR EL 132'-8" UON.
     - TOP OF TRUSS EL -0'-2" BELOW FINISH FLOOR UON.
2. FLOOR TOPPING ON WOOD FRAMING:
   - 1-1/4" GYPCRETE ON 3/4" TONGUE AND GROOVE PLYWOOD GLUED AND SCREWED TO SUPPORT FRAMING
3. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
4. ONLY WALLS SHOWN ON THIS DRAWING AS BEARING WALLS ARE TO BE USED FOR THE SUPPORT OF TRUSSES. DEVIATION FROM THIS WILL AFFECT THE WALLS, HEADERS, POSTS AND FOOTING SIZES.
5. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S.002 FOR GENERAL NOTES
   - S.003 FOR SPECIAL INSPECTIONS
   - S.301 THRU S.303 FOR FOUNDATION SCHEDULE AND TYPES
   - S.401 THRU S.402 FOR MASONRY WALL ELEVATIONS AND SCHEDULES
   - S.601 THRU S.604 FOR WOOD SECTIONS AND DETAILS
   - S.605 THRU S.606 FOR WOOD SHEAR WALL DETAILS
   - S.701 FOR WOOD FRAMING SCHEDULES
6. COORDINATE THE PLACEMENT OF TRUSSES WITH LOCATIONS OF MECHANICAL DUCTWORK, PIPING AND FLUE LOCATIONS.
7. REFER TO ARCHITECTURAL PLANS FOR ALL BEARING WALL LOCATIONS.
8. ALL FLOOR TRUSSES TO BE 24" DEEP AND SPACED @ 2'-0" MAX OC (DELEGATED DESIGNER) UON.
9. ALL CORRIDOR AND BALCONY FRAMING TO BE 2x10 @ 16" OC UON.
10. REFER TO ARCHITECTURAL DRAWINGS FOR ALL WALL LAYOUT AND DIMENSIONS.
11. WOOD POSTS SUPPORTING FLOOR FRAMING SHALL BE CARRIED DOWN TO THE FOUNDATION. COORDINATE WITH FLOOR FRAMING ABOVE FOR SIZES AND LOCATION.
    1. ALL CMU WALLS ARE 8" THICK (NOMINAL)
       - PROVIDE VERTICAL REINFORCEMENT #4@4 8" OC FULL HEIGHT
       - PROVIDE HORIZONTAL REINFORCEMENT @ 16" OC
       - PROVIDE CONT BOND BEAM AT EACH FLOOR LINE WITH (2)#5 CONT
       - PROVIDE (2) #5 VERTICAL REINFORCING ON EACH SIDE OF OPENINGS
       - PROVIDE DOWELS INTO FOOTING TO MATCH VERTICAL REINFORCEMENT AND EXTEND 24" ABOVE TOP OF FOUNDATION WALLS TYP UON.
       - PROVIDE CMU LINTELS AT OPENINGS PER DETAIL 7/ S.401 AND SCHEDULE

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KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

THIRD FLOOR FRAMING PLAN

DRAWING NUMBER

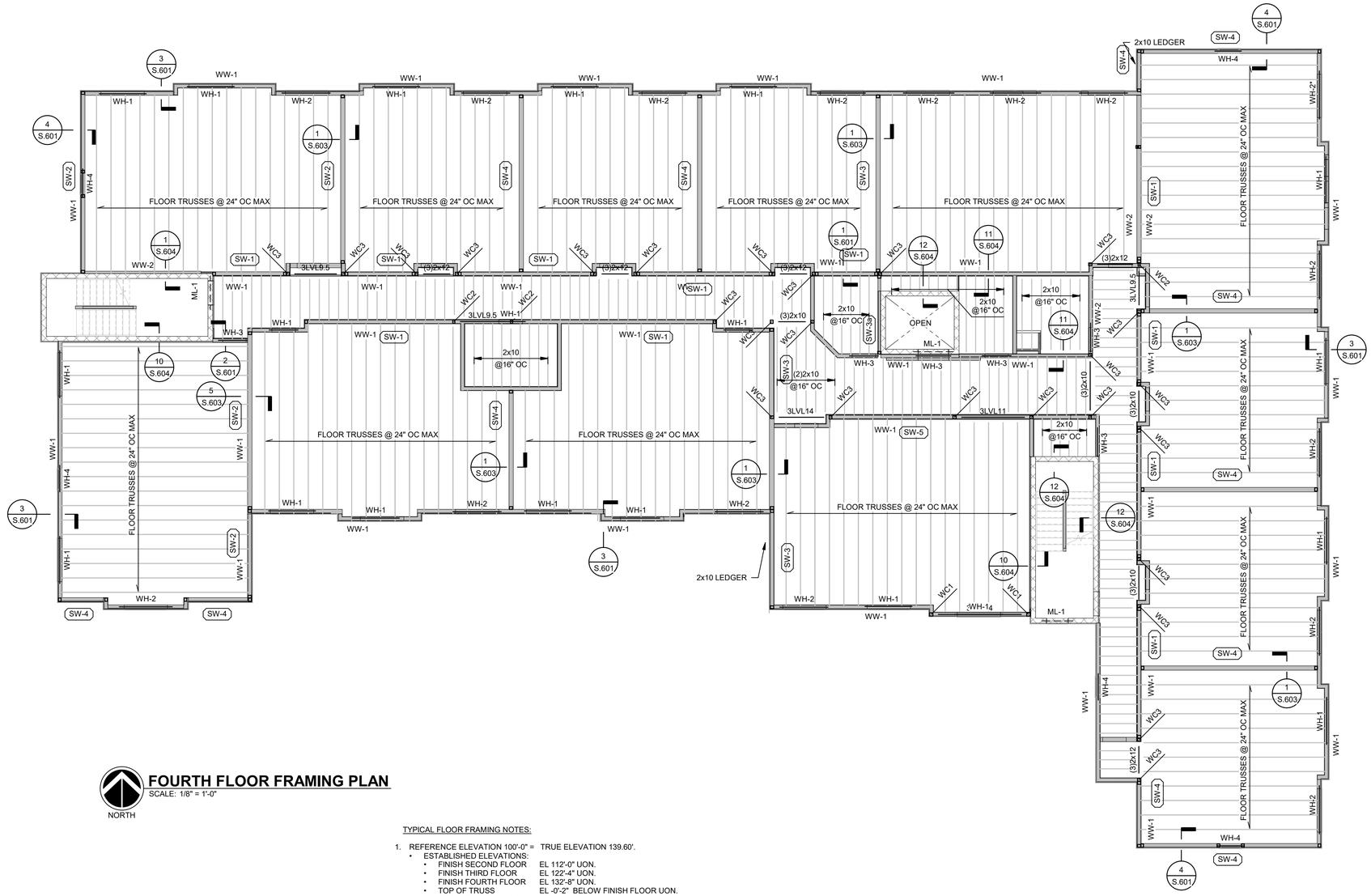
S.103

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## FOURTH FLOOR FRAMING PLAN

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

NORTH

TYPICAL FLOOR FRAMING NOTES:

1. REFERENCE ELEVATION 100'-0" = TRUE ELEVATION 139.60'.
   - ESTABLISHED ELEVATIONS:
     - FINISH SECOND FLOOR EL 112'-0" UON.
     - FINISH THIRD FLOOR EL 122'-4" UON.
     - FINISH FOURTH FLOOR EL 132'-8" UON.
     - TOP OF TRUSS EL -0'-2" BELOW FINISH FLOOR UON.
2. FLOOR TOPPING ON WOOD FRAMING:
   - 1-1/4" GYPCRETE ON 3/4" TONGUE AND GROOVE PLYWOOD GLUED AND SCREWED TO SUPPORT FRAMING
3. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
4. ONLY WALLS SHOWN ON THIS DRAWING AS BEARING WALLS ARE TO BE USED FOR THE SUPPORT OF TRUSSES. DEVIATION FROM THIS WILL AFFECT THE WALLS, HEADERS, POSTS AND FOOTING SIZES.
5. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S.002 FOR GENERAL NOTES
   - S.003 FOR SPECIAL INSPECTIONS
   - S.301 THRU S.303 FOR FOUNDATION SCHEDULE AND TYPES
   - S.401 THRU S.402 FOR MASONRY WALL ELEVATIONS AND SCHEDULES
   - S.601 THRU S.604 FOR WOOD SECTIONS AND DETAILS
   - S.605 THRU S.606 FOR WOOD SHEAR WALL DETAILS
   - S.701 FOR WOOD FRAMING SCHEDULES
6. COORDINATE THE PLACEMENT OF TRUSSES WITH LOCATIONS OF MECHANICAL DUCTWORK, PIPING AND FLUE LOCATIONS.
7. REFER TO ARCHITECTURAL PLANS FOR ALL BEARING WALL LOCATIONS.
8. ALL FLOOR TRUSSES TO BE 24" DEEP AND SPACED @ 2'-0" MAX OC (DELEGATED DESIGNER) UON.
9. ALL CORRIDOR AND BALCONY FRAMING TO BE 2x10 @ 16" OC UON.
10. REFER TO ARCHITECTURAL DRAWINGS FOR ALL WALL LAYOUT AND DIMENSIONS.
11. WOOD POSTS SUPPORTING FLOOR FRAMING SHALL BE CARRIED DOWN TO THE FOUNDATION. COORDINATE WITH FLOOR FRAMING ABOVE FOR SIZES AND LOCATION.
    1. ALL CMU WALLS ARE 8" THICK (NOMINAL)
       - PROVIDE VERTICAL REINFORCEMENT #4@4 8" OC FULL HEIGHT
       - PROVIDE HORIZONTAL REINFORCEMENT @ 16" OC
       - PROVIDE CONT BOND BEAM AT EACH FLOOR LINE WITH (2)#5 CONT
       - PROVIDE (2) #5 VERTICAL REINFORCING ON EACH SIDE OF OPENINGS
       - PROVIDE DOWELS INTO FOOTING TO MATCH VERTICAL REINFORCEMENT AND EXTEND 24" ABOVE TOP OF FOUNDATION WALLS TYP UON.
       - PROVIDE CMU LINTELS AT OPENINGS PER DETAIL 7/ S.401 AND SCHEDULE

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22136

DRAWING TITLE

FOURTH FLOOR FRAMING PLAN

DRAWING NUMBER

S.104

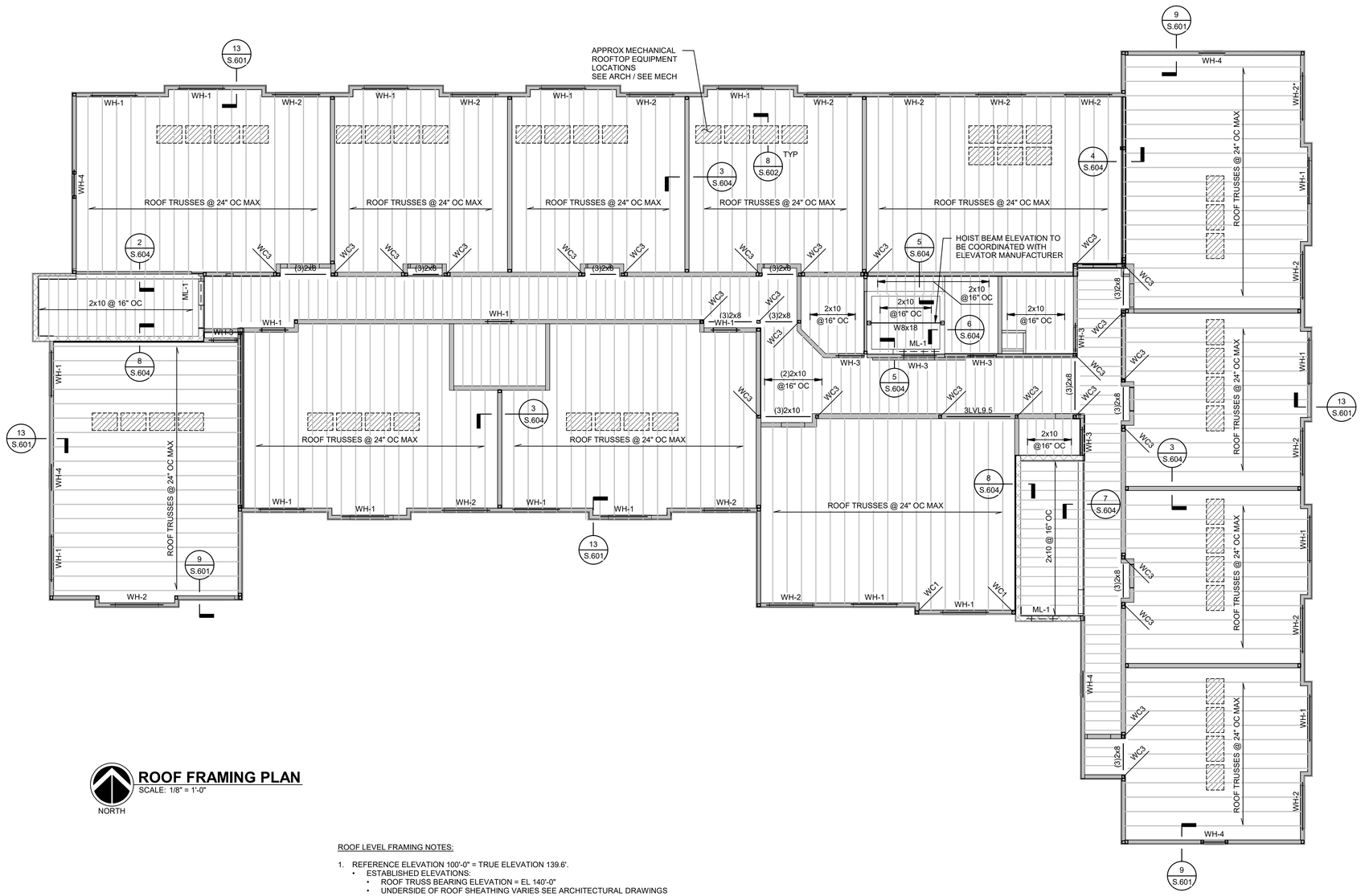
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## ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

NORTH

ROOF LEVEL FRAMING NOTES:

1. REFERENCE ELEVATION 100'-0" = TRUE ELEVATION 139.6'.
   - ESTABLISHED ELEVATIONS:
     - ROOF TRUSS BEARING ELEVATION = EL 140'-0"
     - UNDERSIDE OF ROOF SHEATHING VARIES SEE ARCHITECTURAL DRAWINGS
2. ROOF SHEATHING: 3/4" TONGUE AND GROOVE PLYWOOD ON TRUSSES.
3. ALL ROOF TRUSSES TO BE MIN 24" DEEP TAPERED ROOF TRUSS SPACED 24" MAX OC (DELEGATED DESIGNER) UON.
4. ALL CORRIDOR AND BALCONY FRAMING TO BE 2x10 @ 16" OC UON.
5. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
6. ONLY WALLS SHOWN ON THIS DRAWING AS BEARING WALLS ARE TO BE USED FOR THE SUPPORT OF TRUSSES. DEVIATION FROM THIS WILL AFFECT THE WALLS, HEADERS, POSTS AND FOOTING SIZES.
7. PREFABRICATED ROOF TRUSSES TO BE DESIGNED FOR ROOF LOADS AS INDICATED IN GENERAL NOTES.
8. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S.002 FOR GENERAL NOTES
   - S.003 FOR SPECIAL INSPECTIONS
   - S.301 THRU S.303 FOR FOUNDATION SCHEDULE AND TYPES
   - S.401 THRU S.402 FOR MASONRY WALL ELEVATIONS AND SCHEDULES
   - S.601 THRU S.604 FOR WOOD SECTIONS AND DETAILS
   - S.605 THRU S.606 FOR WOOD SHEAR WALL DETAILS
   - S.701 FOR WOOD FRAMING SCHEDULES
9. COORDINATE THE PLACEMENT OF TRUSSES WITH LOCATIONS OF MECHANICAL DUCTWORK, PIPING AND FLUE LOCATIONS.
10. REFER TO ARCHITECTURAL PLANS FOR ALL BEARING WALL LOCATIONS.
11. ROOF TRUSSES SHALL BE ANCHORED TO WALLS (INTERIOR AND EXTERIOR) WITH UPLIFT ANCHORS. SEE DETAIL 12/ S.603
12. ROOF TRUSSES SHALL BE DESIGNED TO CARRY ALL MECHANICAL EQUIPMENT LOADING. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND LOADING INFORMATION.
    1. ALL CMU WALLS ARE 8" THICK (NOMINAL)
       - PROVIDE VERTICAL REINFORCEMENT #4 @ 48" OC FULL HEIGHT
       - PROVIDE HORIZONTAL REINFORCEMENT @ 16" OC
       - PROVIDE CONT BOND BEAM AT EACH FLOOR LINE W/ (2) #5 CONT
       - PROVIDE (2) #5 VERTICAL REINFORCING ON EACH SIDE OF OPENINGS
       - PROVIDE DOWELS INTO FOOTING TO MATCH VERTICAL REINFORCEMENT AND EXTEND 24" ABOVE TOP OF FOUNDATION WALLS TYP UON.

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KEY PLAN

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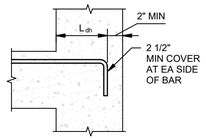
DRAWING TITLE

ROOF FRAMING PLAN

DRAWING NUMBER

S.105

| HOOKED BAR DEVELOPMENT LENGTH, $L_{dh}$ (IN) | | |
|---|---|---|
| BAR SIZE DESIGNATION | | $f'_c$ = 4000 PSI |
| | METRIC | |
| #3 | (#10) | 6 |
| #4 | (#13) | 8 |
| #5 | (#16) | 10 |
| #6 | (#19) | 11 |
| #7 | (#22) | 13 |
| #8 | (#25) | 15 |
| #9 | (#29) | 17 |
| #10 | (#32) | 19 |
| #11 | (#36) | 21 |



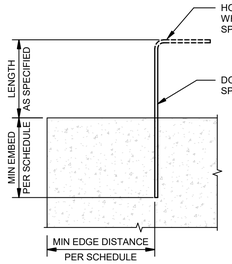

HOOKED BAR DEVELOPMENT NOTES:

1. THE HOOKED BAR DEVELOPMENT LENGTHS APPLY TO NORMAL WEIGHT CONCRETE. FOR LIGHTWEIGHT CONCRETE $L_{dh}$ SHALL NOT BE LESS THAN 10 $d_b$, 7 1/2", AND 1.3 TIMES THE SPECIFIED LENGTH.
2. HOOKED BAR DEVELOPMENT LENGTHS APPLY TO MEMBERS WITH:
   A. SIDE COVER >= 2 1/2 INCHES
   B. END CONCRETE COVER (90° HOOKS) >= 2 INCHES
3. FOR 180° HOOKS AT RIGHT ANGLES TO EXPOSED SURFACE, PROVIDE 2 INCHES MINIMUM COVER TO TAIL.
4. THE TABLE APPLIES FOR 60 KSI REBAR. FOR 80 KSI REBAR MULTIPLY ALL LENGTHS BY 1.33.
5. FOR EPOXY-COATED REBAR, MULTIPLY ALL LENGTHS BY 1.2.

## 17 HOOKED BAR DEVELOPMENT LENGTH (Ldh) SCHEDULE

SCALE: 1" = 1'-0"

| EPOXY REBAR DOWEL SCHEDULE | | | |
|---|---|---|---|
| REBAR SIZE | EMBEDMENT DEPTH (INCH) UON | | TEST LOAD (KIPS) |
| | HILTI HIT RE 500 (ICC ESR-6010) | SIMPSON SET-XP (ICC ESR-2508) | |
| #3 | 3 1/4 | 4 | 5.9 |
| #4 | 4 1/2 | 6 | 10.8 |
| #5 | 5 3/4 | 9 | 16.7 |
| #6 | 6 1/4 | 10 | 23.8 |
| #7 | 7 1/4 | 12 | 32.4 |
| #8 | 9 1/4 | 14 | 42.7 |
| #9 | 11 1/4 | 16 | 54.0 |
| #10 | 14 | 18 | 68.6 |
| #11 | 16 1/2 | 20 | 84.2 |




NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND ICC REPORT
2. MINIMUM EDGE DISTANCE SHALL BE 1.5 x EMBEDMENT
3. DETAIL TO BE USED ONLY WHERE APPROVED BY SEOR

## 16 EPOXY DOWEL OPTION

SCALE: 1" = 1'-0"

| TENSION DEVELOPMENT LENGTHS, $L_d$ (IN) | | | | | |
|---|---|---|---|---|---|
| BAR SIZE DESIGNATION | | $f'_c$ = 4000 PSI | | | |
| | | CASE 1 | | CASE 2 | |
| | METRIC | TOP BARS | OTHER BARS | TOP BARS | OTHER BARS |
| #3 | (#10) | 20 | 15 | 29 | 22 |
| #4 | (#13) | 26 | 20 | 38 | 29 |
| #5 | (#16) | 33 | 25 | 47 | 36 |
| #6 | (#19) | 38 | 29 | 56 | 43 |
| #7 | (#22) | 55 | 42 | 82 | 63 |
| #8 | (#25) | 62 | 48 | 94 | 72 |
| #9 | (#29) | 70 | 54 | 105 | 81 |
| #10 | (#32) | 79 | 61 | 118 | 91 |
| #11 | (#36) | 87 | 67 | 131 | 101 |
| #14 | (#43) | 105 | 81 | 157 | 121 |
| #18 | (#57) | 140 | 108 | 209 | 161 |

| TENSION LAP SPLICE LENGTHS, $L_s$ (IN) | | | | | | |
|---|---|---|---|---|---|---|
| BAR SIZE DESIGNATION | | LAP CLASS | $f'_c$ = 4000 PSI | | | |
| | | | CASE 1 | | CASE 2 | |
| | METRIC | | TOP BARS | OTHER BARS | TOP BARS | OTHER BARS |
| #3 | (#10) | B | 26 | 20 | 38 | 29 |
| #4 | (#13) | B | 34 | 26 | 50 | 38 |
| #5 | (#16) | B | 43 | 33 | 61 | 47 |
| #6 | (#19) | B | 50 | 38 | 73 | 56 |
| #7 | (#22) | B | 71 | 55 | 107 | 82 |
| #8 | (#25) | B | 82 | 63 | 122 | 94 |
| #9 | (#29) | B | 92 | 71 | 137 | 106 |
| #10 | (#32) | B | 104 | 80 | 154 | 119 |
| #11 | (#36) | B | 114 | 88 | 171 | 132 |

NOTES:

1. DETERMINE DEVELOPMENT LENGTH ($L_d$) OR LAP SPLICE LENGTH ($L_s$) BASED ON BAR POSITION AS DEFINED:

   CASE 1:
   BEAMS AND COLUMNS:
   - CONCRETE COVER >= $d_b$
   - CENTER TO CENTER BAR SPACING >= 2 $d_b$
   - STIRRUPS OR TIES THROUGHOUT Ld NOT LESS THAN CODE MINIMUM

   OTHER MEMBERS:
   - CONCRETE COVER >= $d_b$
   - CENTER TO CENTER BAR SPACING >= 3 db

   CASE 2:
   BEAMS AND COLUMNS:
   - CONCRETE COVER < $d_b$
   - CENTER TO CENTER BAR SPACING < 2 $d_b$

   OTHER MEMBERS:
   - CONCRETE COVER < $d_b$
   - CENTER TO CENTER BAR SPACING < 3 $d_b$

2. "TOP BARS" ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
3. ALL DETAILING SHALL COMPLY WITH THIS SCHEDULE UNLESS SPECIFICALLY DETAILED OTHERWISE ON THE DRAWINGS.
4. THE BAR DEVELOPMENT LENGTHS AND LAP LENGTHS SHOWN ARE FOR CLASS "B" LAP SPLICES. FOR CLASS "A" SPLICE, DIVIDE THE SPECIFIED CLASS "B" LAP LENGTH BY 1.3.
5. THE BAR DEVELOPMENT LENGTHS AND LAP SPLICE LENGTHS APPLY TO NORMAL WEIGHT CONCRETE. MULTIPLY THE SPECIFIED LAP LENGTHS BY 1.3 FOR LIGHTWEIGHT CONCRETE.
6. THE BAR DEVELOPMENT LENGTHS AND LAP SPLICE LENGTHS APPLY TO UNCOATED REINFORCEMENT. FOR EPOXY-COATED REBAR:
   A. CONCRETE COVER < 3$d_b$ OR CLEAR SPACING < 6$d_b$, MULTIPLY ALL LENGTHS BY 1.5.
   B. CONCRETE COVER >= 3$d_b$ AND CLEAR SPACING >= 6$d_b$, MULTIPLY ALL LENGTHS BY 1.2.
7. A STANDARD HOOK SHALL BE PROVIDED WHERE Ld IS UNATTAINABLE DUE TO SPACE RESTRICTIONS (REFER TO SCHEDULE FOR HOOKED BAR DEVELOPMENT LENGTH $L_{dh}$)
8. SEE DRAWINGS FOR LAP SPLICE CLASSIFICATION. IF NO LAP SPLICE CLASSIFICATION IS SHOWN PROVIDE CLASS "B" SPLICE.
9. STAGGER ALL SPLICES WHEREVER POSSIBLE. WHERE CLASS "A" SPLICE IS CALLED FOR ON DRAWING, STAGGER AT LEAST 50% OF THE BARS. ELSE PROVIDE CLASS "B" SPLICE.
10. WHEN SPLICING BARS OF DIFFERENT SIZE, THE LAP LENGTH SHALL BE BASED ON THE LARGER OF:
    A. THE SPLICE LENGTH OF THE SMALLER BAR.
    B. THE DEVELOPMENT LENGTH OF THE LARGER BAR
11. LAP SPLICES FOR #14 AND #18 BARS ARE NOT PERMITTED. PROVIDE TYPE 2 MECHANICAL SPLICE UON.
12. CONCRETE WALLS:
    A. LAP SPLICES IN HORIZONTAL REINFORCEMENT SHALL BE STAGGERED 12" MIN
    B. WITH TWO CURTAINS OF REINFORCEMENT, SPLICES SHALL BE STAGGERED 12" MIN APART AT ALTERNATING BARS, 50% AT THE HIGHER LOCATION AND 50% AT THE LOWER LOCATION.
13. BUNDLED BAR SPLICES:
    A. ENTIRE BUNDLED BARS SHALL NOT BE LAP SPLICED. STAGGER INDIVIDUAL BAR SPLICES.
    B. INDIVIDUAL BAR SPLICES WITHIN THE BUNDLE SHALL NOT OVERLAP EACH OTHER.
    C. MULTIPLY LAP LENGTH BY 1.2 AT THREE BAR BUNDLES
    D. MULTIPLY LAP LENGTH BY 1.33 AT FOUR BAR BUNDLES
14. THE TABLE APPLIES FOR 60 KSI REBAR. FOR 80 KSI REBAR MULTIPLY ALL LENGTHS BY 1.33.

## 15 BAR DEVELOPMENT (Ld) AND LAP SPLICE (Ls) LENGTH

SCALE: 12" = 1'-0"

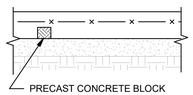
| WALL FOOTING SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| | | | REINFORCMENT | | | |
| MARK | WIDTH | MIN DEPTH | LONGITUDINAL TOP & BOTTOM | TRANSVERSE TOP & BOTTOM | VERTICAL WALL REINFORCMENT | HORIZONTAL WALL REINFORCMENT |
| WF-2A | 2'-0" | 3'-4" | (3) #5 | #5@12" OC | | |
| WF-2B | 2'-0" | 4'-0" | (3) #5 | #5@12" OC | | |

| FOOTING SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| MARK | LENGTH | WIDTH | MIN DEPTH | REINFORCEMENT EA WAY | | COMMENTS |
| | | | | TOP | BOTTOM | |
| F-3 | 3'-0" | 3'-0" | 3'-4" | | (4) #5 EW | DEPTH TO MATCH ADJACENT WALL FOOTING |
| F-3E | 3'-0" | 3'-0" | 3'-4" | | (4) #5 EW | |
| F-3.5 | 3'-6" | 3'-6" | 3'-4" | | (5) #5 EW | DEPTH TO MATCH ADJACENT WALL FOOTING |
| F-4 | 4'-0" | 4'-0" | 3'-4" | | (5) #5 EW | DEPTH TO MATCH ADJACENT WALL FOOTING |

| ASTM STANDARD REINFORCING BARS | | | | |
|---|---|---|---|---|
| BAR SIZE DESIGNATION | | NOMINAL DIMENSIONS | | |
| | | AREA | WEIGHT | DIAMETER |
| | METRIC | $IN^2$ | LB/FT | IN |
| #3 | (#10) | 0.11 | 0.376 | 0.375 |
| #4 | (#13) | 0.20 | 0.668 | 0.500 |
| #5 | (#16) | 0.31 | 1.043 | 0.625 |
| #6 | (#19) | 0.44 | 1.502 | 0.750 |
| #7 | (#22) | 0.60 | 2.044 | 0.875 |
| #8 | (#25) | 0.79 | 2.670 | 1.000 |
| #9 | (#29) | 1.00 | 3.400 | 1.128 |
| #10 | (#32) | 1.27 | 4.303 | 1.270 |
| #11 | (#36) | 1.56 | 5.313 | 1.410 |
| #14 | (#43) | 2.25 | 7.650 | 1.693 |
| #18 | (#57) | 4.00 | 13.600 | 2.257 |

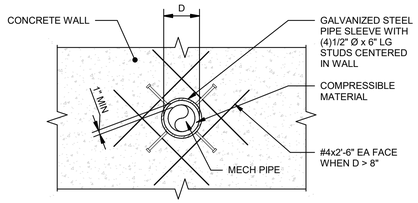
## 14 ASTM STANDARD REINFORCING BARS

SCALE: 12" = 1'-0"



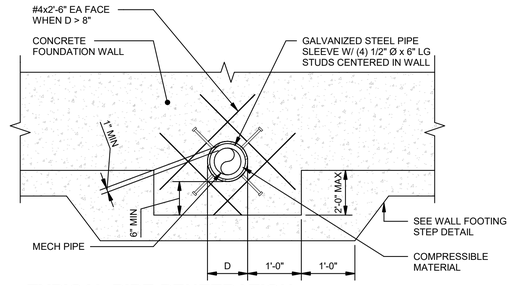

## 10 TYPICAL WWF MESH SUPPORT FOR SLAB ON GRADE

SCALE: 1 1/2" = 1'-0"



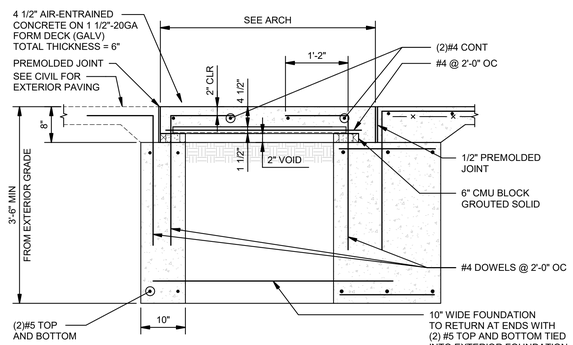

## 13 TYPICAL PIPE PENETRATION THROUGH WALL

SCALE: 3/4" = 1'-0"



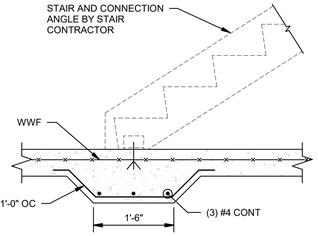

## 12 TYPICAL PIPE PENETRATION THROUGH LOWERED WALL FTG

SCALE: 3/4" = 1'-0"



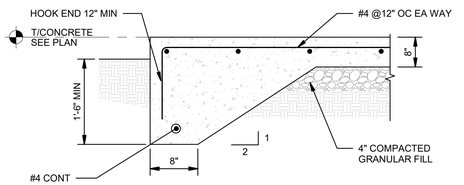

## 11 S.101 TYPICAL ENTRY SLAB

SCALE: 3/4" = 1'-0"



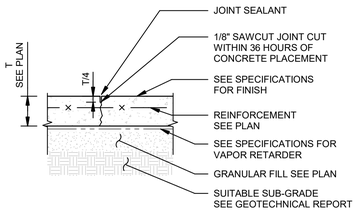

## 9 TYPICAL THICKENED SLAB AT STAIRWAY BASE

SCALE: 3/4" = 1'-0"



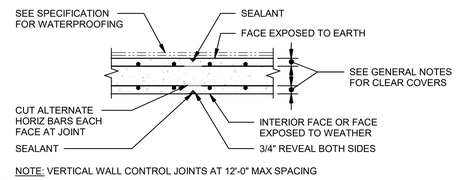

## 4 TYPICAL EXTERIOR EQUIPMENT PAD DETAIL

SCALE: 1" = 1'-0"




## 8 TYPICAL SLAB CONTROL JOINT

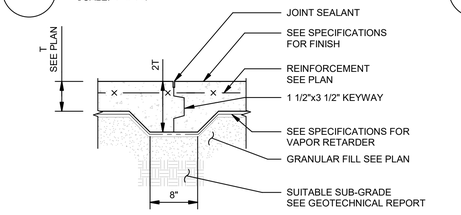
SCALE: 1" = 1'-0"




NOTE: VERTICAL WALL CONTROL JOINTS AT 12'-0" MAX SPACING

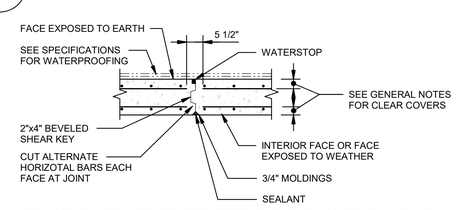
## 3 TYPICAL WALL CONTROL JOINT

SCALE: 1/2" = 1'-0"




## 7 TYPICAL SLAB CONSTRUCTION JOINT

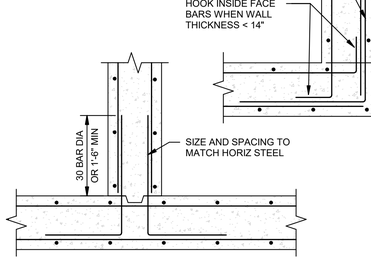
SCALE: 1" = 1'-0"




NOTE: PROVIDE A WALL CONSTRUCTION JOINT @ 36'-0" OC MAX OR AS SHOWN ON PLAN

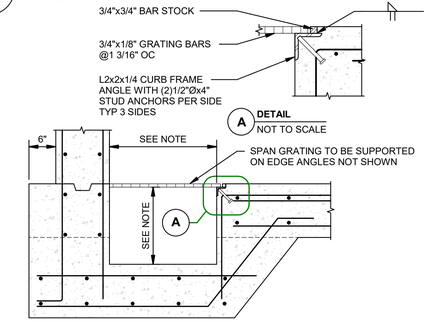
## 2 TYPICAL WALL CONSTRUCTION JOINT

SCALE: 1/2" = 1'-0"




## 6 TYPICAL WALL REINFORCING DETAIL

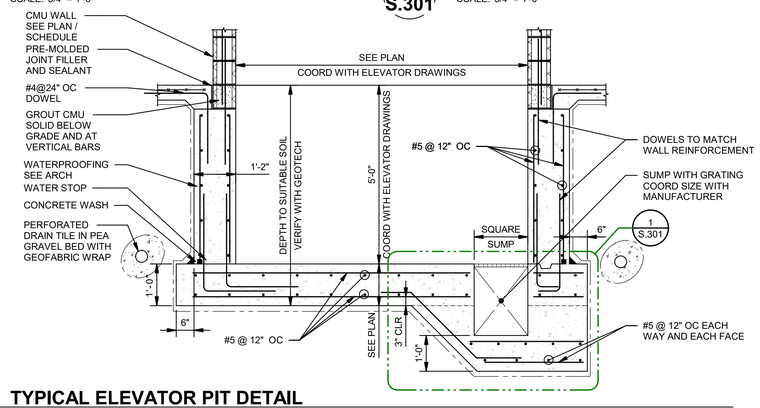
SCALE: 3/4" = 1'-0"




NOTE: COORDINATE SUMP SIZE WITH MANUFACTURER AND PLUMBING DRAWINGS

## 1 S.301 TYPICAL ELEVATOR SUMP DETAIL

SCALE: 3/4" = 1'-0"




## 5 S.101 TYPICAL ELEVATOR PIT DETAIL

SCALE: 1/2" = 1'-0"


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|---|---|
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM 1 |
| 09.23.24 | PERMITS |
| 08.20.24 | BID UPDATE |
| 08.31.23 | 50% PRICING |

KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

FOUNDATION DETAILS

DRAWING NUMBER

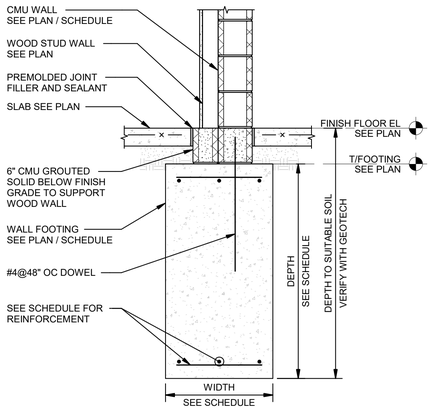
S.301

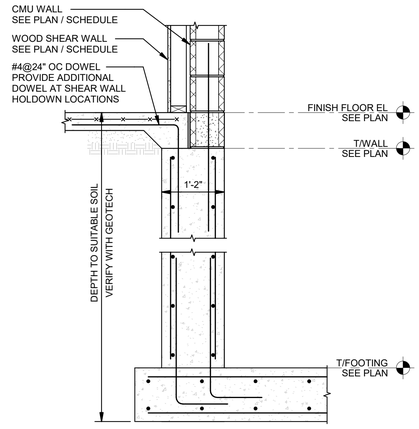
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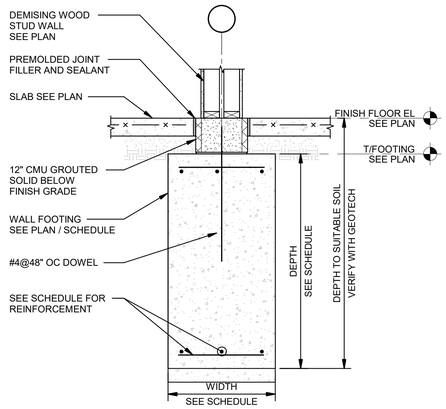
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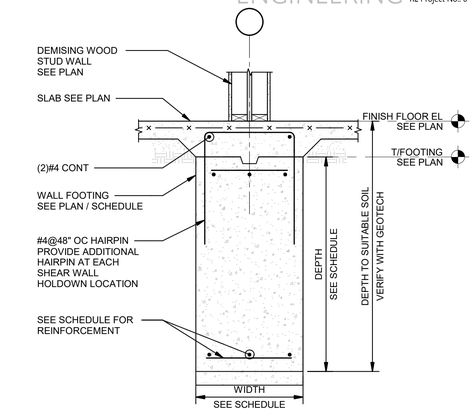
SEAL



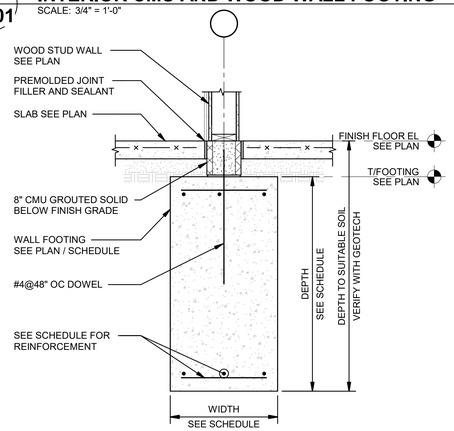

NOTE: SEE DETAIL 5/ S.301 FOR INFORMATION NOT SHOWN



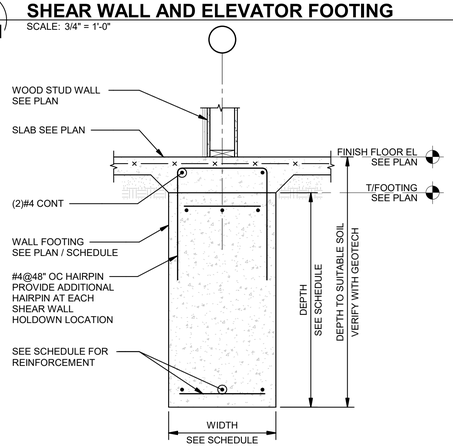

## 12 S.101 INTERIOR CMU AND WOOD WALL FOOTING

SCALE: 3/4" = 1'-0"



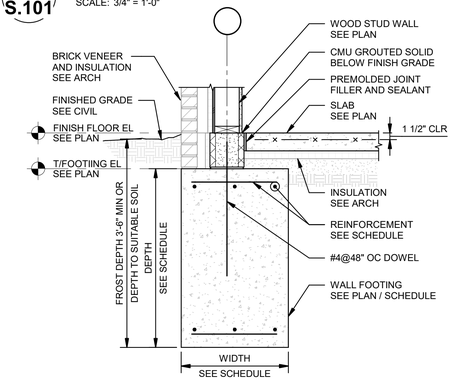

## 9 S.101 SHEAR WALL AND ELEVATOR FOOTING

SCALE: 3/4" = 1'-0"




## 6 S.101 INTERIOR DEMISING WALL FOOTING - OPTION 1

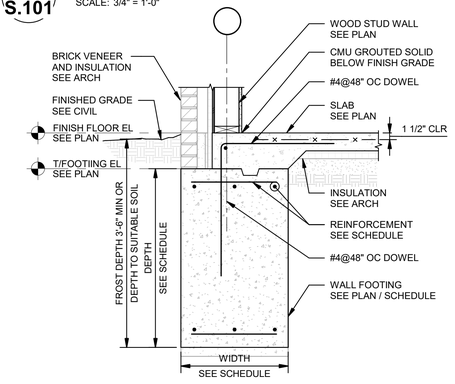
SCALE: 3/4" = 1'-0"




NOTE: DEPTH TO SUITABLE SOIL TO BE VERIFIED BY GEOTECH

## 3 S.101 INTERIOR DEMISING WALL FOOTING - OPTION 2

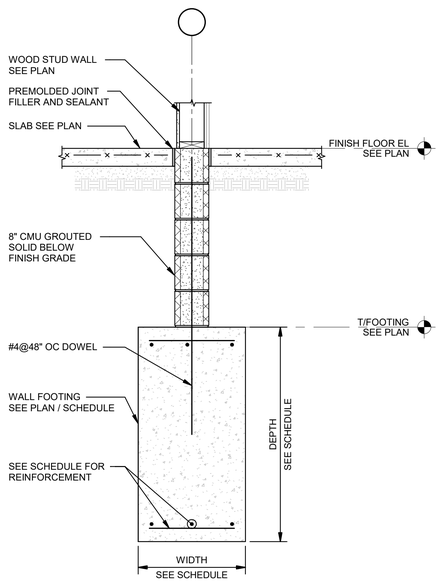
SCALE: 3/4" = 1'-0"




NOTE: DEPTH TO SUITABLE SOIL TO BE VERIFIED BY GEOTECH

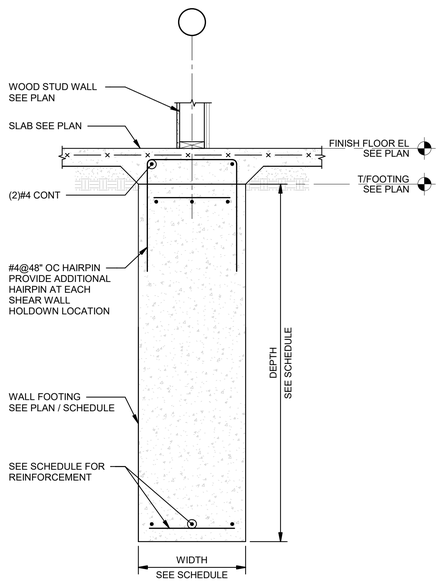
## 11 S.101 INTERIOR SHALLOW WALL FOOTING - OPTION 1

SCALE: 3/4" = 1'-0"



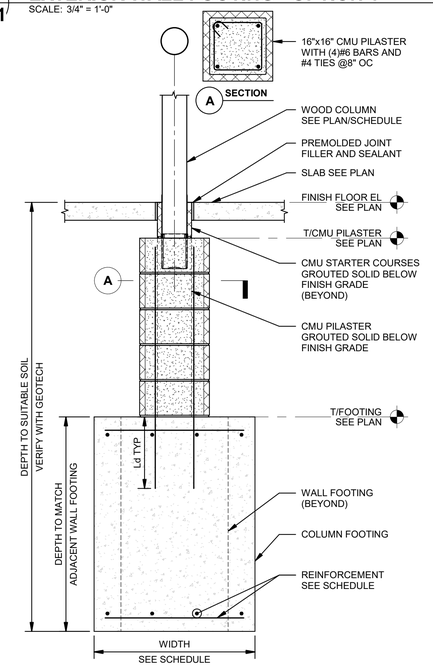

## 8 S.101 INTERIOR SHALLOW WALL FOOTING - OPTION 2

SCALE: 3/4" = 1'-0"



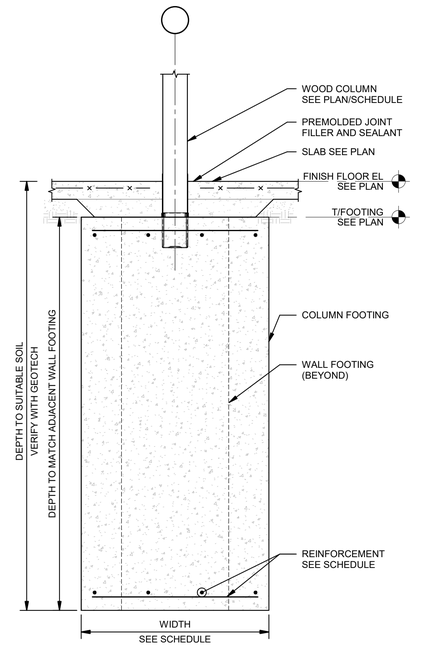

## 5 S.101 EXTERIOR WALL FOOTING - OPTION 1

SCALE: 3/4" = 1'-0"




## 2 S.101 EXTERIOR WALL FOOTING - OPTION 2

SCALE: 3/4" = 1'-0"




## 10 S.101 INTERIOR DEEP WALL FOOTING - OPTION 1

SCALE: 3/4" = 1'-0"




## 7 S.101 INTERIOR DEEP WALL FOOTING - OPTION 2

SCALE: 3/4" = 1'-0"




## 4 S.101 TYPICAL COLUMN FOOTING - OPTION 1

SCALE: 3/4" = 1'-0"

## 1 S.101 TYPICAL COLUMN FOOTING - OPTION 2

SCALE: 3/4" = 1'-0"

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440 Martin Luther King Jr Blvd, Detroit Michigan

# Greystone
## SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM 1 |
| 09.23.24 | PERMITS |
| 08.20.24 | BID UPDATE |
| 08.31.23 | 50% PRICING |

KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

FOUNDATION DETAILS

DRAWING NUMBER

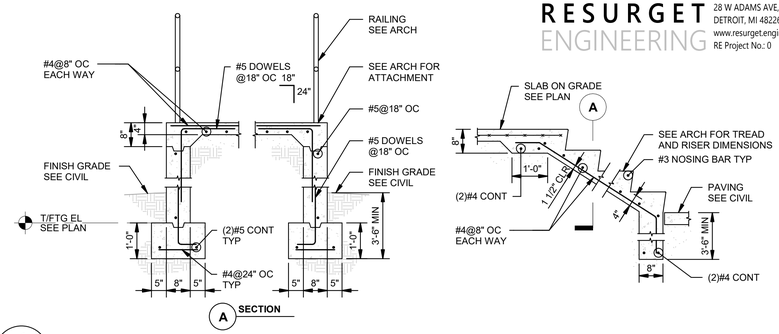
S.302

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28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226
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RE Project No.: 0

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ARCHITECTS AND PLANNERS
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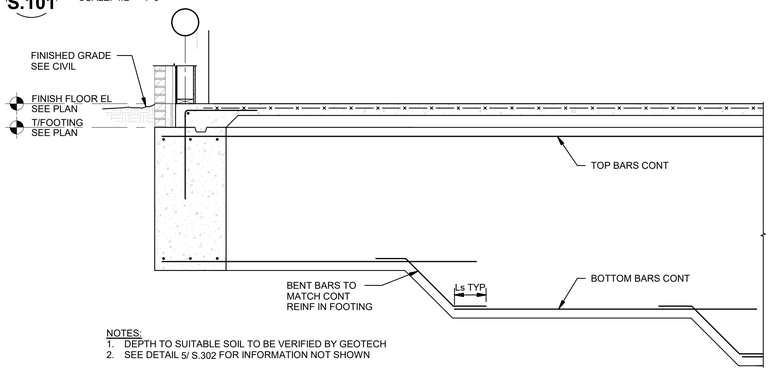
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SEAL




## 4 S.101 EXTERIOR STEPS ON GRADE W/ CONCRETE WALLS

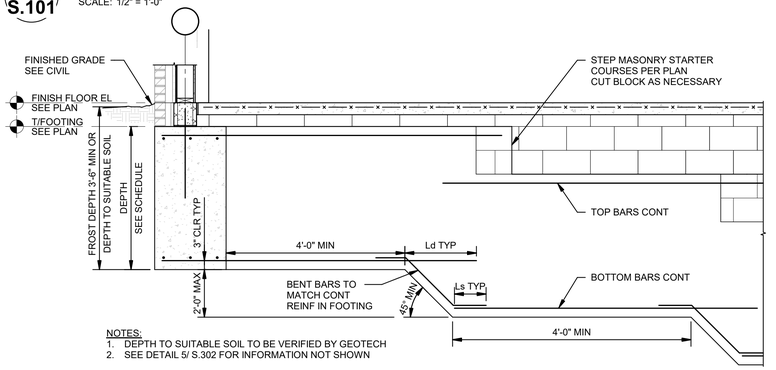
SCALE: 1/2" = 1'-0"




NOTES:
1. DEPTH TO SUITABLE SOIL TO BE VERIFIED BY GEOTECH
2. SEE DETAIL 5/ S.302 FOR INFORMATION NOT SHOWN

## 3 S.101 TYPICAL EXTERIOR WALL TO STEPPED INTERIOR WALL FOOTING - OPTION 2

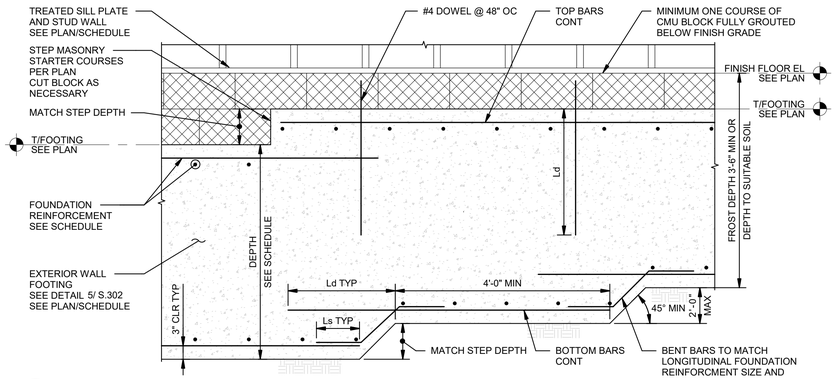
SCALE: 1/2" = 1'-0"




NOTES:
1. DEPTH TO SUITABLE SOIL TO BE VERIFIED BY GEOTECH
2. SEE DETAIL 5/ S.302 FOR INFORMATION NOT SHOWN

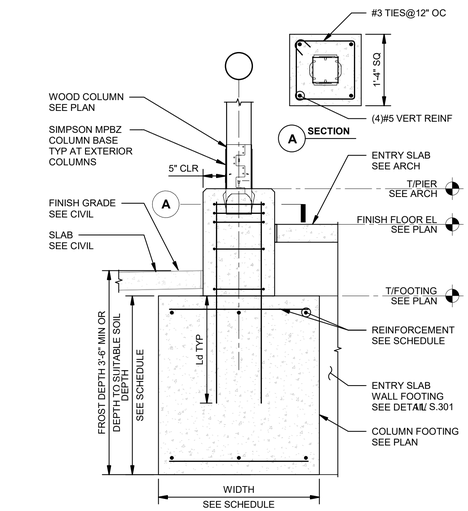
## 2 S.101 TYPICAL EXTERIOR WALL TO STEPPED INTERIOR WALL FOOTING - OPTION 1

SCALE: 1/2" = 1'-0"




## 1 TYPICAL STEPPED EXTERIOR WALL FOOTING

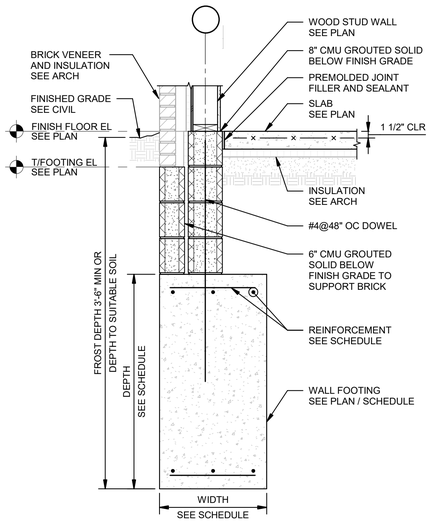
SCALE: 3/4" = 1'-0"




NOTE: PROVIDE ADDITIONAL (3)#3 TIES WITHIN 5" OF TOP OF PIER

## 7 S.101 COLUMN FOOTING AT ENTRY PATIO

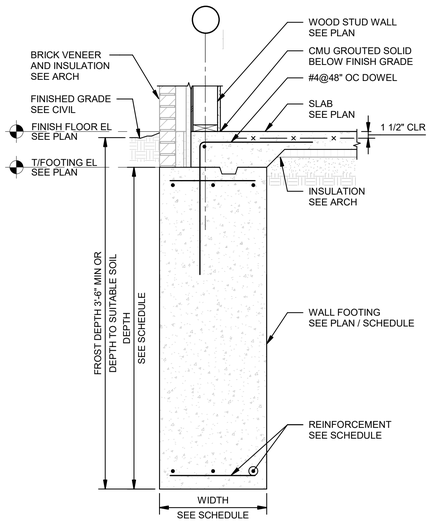
SCALE: 3/4" = 1'-0"




NOTE: DEPTH TO SUITABLE SOIL TO BE VERIFIED BY GEOTECH

## 6 S.101 EXTERIOR DEEP WALL FOOTING - OPTION 2

SCALE: 3/4" = 1'-0"




NOTE: DEPTH TO SUITABLE SOIL TO BE VERIFIED BY GEOTECH

## 5 S.101 EXTERIOR DEEP WALL FOOTING - OPTION 1

SCALE: 3/4" = 1'-0"

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22136

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DRAWING NUMBER

S.303

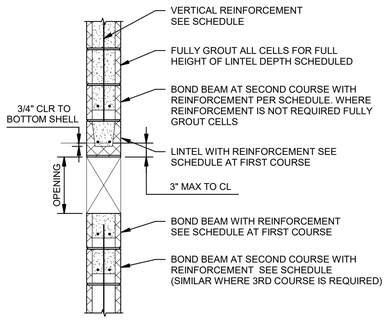
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| CMU SILL AND LINTEL SCHEDULE | | | | | |
|---|---|---|---|---|---|
| | WALL TYPE | MAX CLEAR MASONRY OPENING "L" | 8" CMU WALL | | |
| | | | LINTEL OR SILL DEPTH | 1ST COURSE REINFORCING | 2nd COURSE REINFORCING |
| LINTEL SCHEDULE | INTERIOR | 4'-0" | 8" | (2) #5 | - |
| | | 7'-0" | 16" | (2) #5 | - |
| | | 12'-0" | 24" | (2) #6 | (2) #5 |
| | EXTERIOR | 4'-0" | 8" | (2) #5 | - |
| | | 7'-0" | 16" | (2) #6 | - |
| | | 12'-0" | 40" | (2) #6 | (2) #6 |
| SILL SCHEDULE | INTERIOR | 12'-0" | 8" | (2) #5 | - |
| | EXTERIOR | 7'-0" | 8" | (2) #5 | - |
| | | 12'-0" | 16" | (2) #6 | (2) #6 |



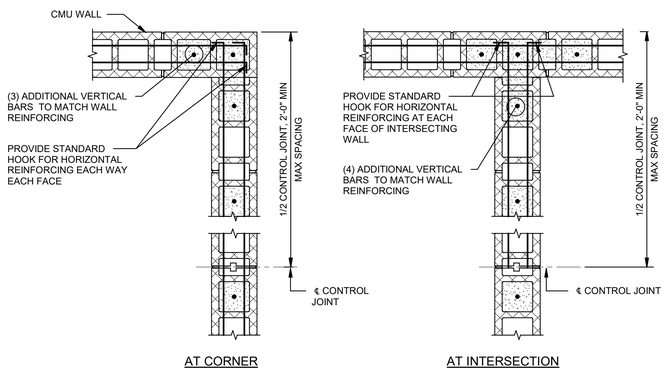

TYPICAL MASONRY SECTION AT OPENING

NOTES:

1. DETERMINE WALL TYPE BASED ON EXTERIOR OR INTERIOR CONDITION.
2. MASONRY LINTELS SHALL BE SHORED DURING CONSTRUCTION AND SHALL REMAIN SHORED UNTIL MASONRY HAS GAINED 100% OF FULL SPECIFIED STRENGTH (f'm).
3. SEE TYPICAL CMU NON-BEARING WALL ELEVATIONS FOR ADDITIONAL INFORMATION.

## 7 TYPICAL CMU SILL AND LINTEL SCHEDULE (NON-BEARING WALL)

SCALE: 3/4" = 1'-0"




## 6 BOND BEAM REINFORCING AT CORNERS AND TEES

SCALE: 1" = 1'-0"

| NON-LOAD BEARING WALL JAMB AND PIER ZONE SCHEDULE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NOMINAL WALL SIZE "t" | MAXIMUM WALL HEIGHT "H" | MAX CLEAR MASONRY OPENING (NOTE 4) | INTERIOR WALLS | | | EXTERIOR WALLS | | |
| | | | JAMB ZONE WIDTH | PIER ZONE WIDTH | WALL REINFORCING EACH CELL | JAMB ZONE WIDTH | PIER ZONE WIDTH | WALL REINFORCING EACH CELL |
| 8" | 12'-0" | 4'-0" | 8" | 16" | #4 | 16" | 16" | #4 |
| | | 7'-0" | 8" | 16" | #4 | 16" | 24" | #4 |
| | | 12'-0" | 8" | 16" | #4 | 24" | 40" | #4 |
| | 14'-6" | 4'-0" | 8" | 16" | #4 | 16" | 24" | #4 |
| | | 7'-0" | 8" | 16" | #4 | 24" | 40" | #4 |
| | | 12'-0" | 16" | 16" / 24" | #4 | 32" | 56" | #4 |

NOTES:

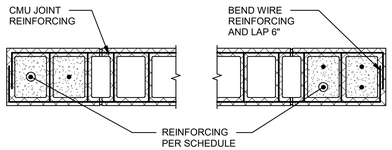
1. SEE NOTE 1 OF DETAIL 2/ S.402 FOR DESIGN PRESSURE TO BE USED. FOR SEISMIC DESIGN CATEGORY D, E, AND F UP TO Sds VALUE SCHEDULED, USE 30 PSF DESIGN PRESSURE.
2. REFER TO DETAILS 3/ S.401 FOR PIER AND JAMB DESGNATIONS.
3. SINGLE NUMBER FOR PIER REFERS TO PIER ZONE LENGTH. WHEN PIER WIDTH IS DENOTED AS ##/##, PROVIDE PIER AS FOLLOWS:

   EX. 16"/24"
   - 16" = MINIMUM TOTAL PIER WIDTH, PW, INCLUDING ANY NON-CONTINUOUS CELLS INTERRUPTED BY LINTELS
   - 24" = MINIMUM PIER ZONE WIDTH WITH CONTINUOUS VERTICAL BARS FULL HEIGHT OF WALL

4. PROVIDE FULLY GROUTED JAMB AND PIER WITH VERTICAL BARS(S) IN EACH CELL OVER FULL WIDTH AS SCHEDULED. SEE TYPICAL CMU NON-BEARING WALL REINFORCEMENT SCHEDULE FOR REINFORCEMENT LAYOUT.
5. FOR PIER ZONE SCHEDULE USE MAXIMUM CLEAR MASONRY OPENING AT LEAST EQUAL TO AVERAGE WIDTH OF ADJACENT OPENINGS.
6. NOTIFY ENGINEER OF RECORD IF JAMB AND/OR PIER WIDTH NOTED CANNOT BE SATISFIED.
7. AT PIERS WIDER THAN REQUIRED PER SCHEDULE, IT IS ACCEPTABLE TO REINFORCE EDGES AS JAMB ZONES

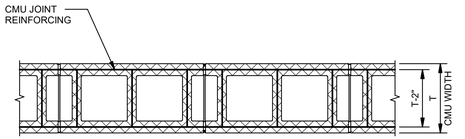
## 5 TYPICAL CMU NON-BEARING WALL JAMB AND PIER ZONE SCHEDULE

SCALE: 3/4" = 1'-0"




## 4 CMU END REINFORCEMENT

SCALE: 1" = 1'-0"

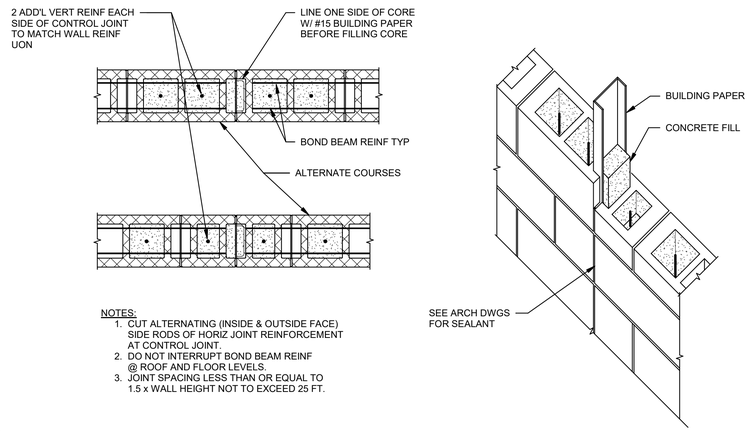



NOTES:

1. LAP SIDE RODS AT MIN 6" AT SPLICES.
2. PLACE REINFORCING DIRECTLY ON MASONRY AND PLACE MORTAR OVER WIRES TO FORM BED
3. RUN REINFORCING CONTINUOUS IN HORIZONTAL JOINTS AND SPACE 16" OC VERTICAL
4. PROVIDE CORNERS AND TEES AT INTERSECTIONS, SEE DETAIL FOR CORNERS AND TEES.
5. CUT BOTH HORIZONTAL RAILS AT CONTROL AND EXPANSION JOINTS

## 2 CMU JOINT REINFORCING

SCALE: 1" = 1'-0"

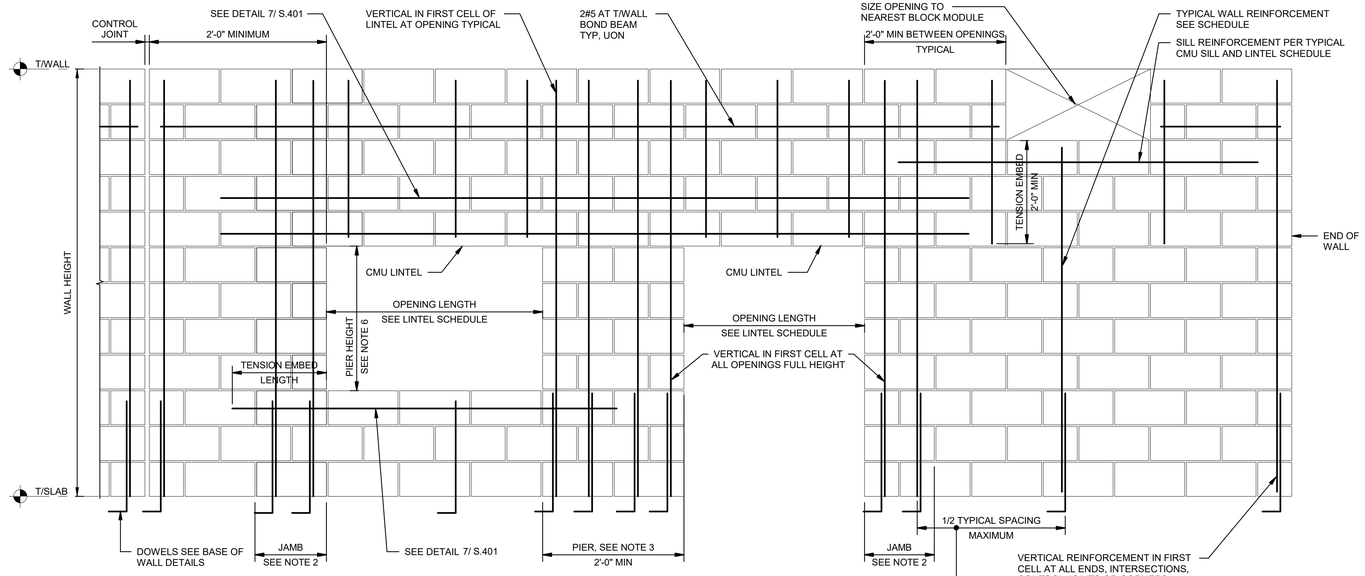



NOTES:

1. CUT ALTERNATING (INSIDE & OUTSIDE FACE) SIDE RODS OF HORIZ JOINT REINFORCEMENT AT CONTROL JOINT.
2. DO NOT INTERRUPT BOND BEAM REINF @ ROOF AND FLOOR LEVELS.
3. JOINT SPACING LESS THAN OR EQUAL TO 1.5 x WALL HEIGHT NOT TO EXCEED 25 FT.

## 1 TYPICAL CMU CONTROL JOINT DETAIL

SCALE: 3/4" = 1'-0"




NOTES:

1. FOR CMU LINTELS SEE 7/ S.401
2. JAMB REINFORCEMENT:
   (1)-#5 FOR OPENING UP TO 8'-0"
   (2)-#5 FOR OPENING UP TO 12'-0"
3. PIER REINFORCEMENT:
   (1)-#5 @ 8"OC FOR MAX OPENING UP TO 8'-0"
   (2)-#5 @ 8"OC FOR MAX OPENING UP TO 12'-0"
4. FOR EXTERIOR WALLS, DOUBLE JAMB AND PIER REINFORCEMENT.
5. PROVIDE FULLY GROUTED JAMB AND PIER WITH VERTICAL BARS OVER FULL WIDTH AS SCHEDULED.
6. MAXIMUM PIER HEIGHT SHALL NOT EXCEED 5 TIMES PIER NOTIFY ENGINEER OF RECORD FOR PIER HEIGHTS EXCEEDING THIS CRITERIA

## 3 TYPICAL CMU NON-BEARING WALL ELEVATION WITH CMU LINTELS

SCALE: 3/4" = 1'-0"

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22136

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MASONRY DETAILS

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S.401

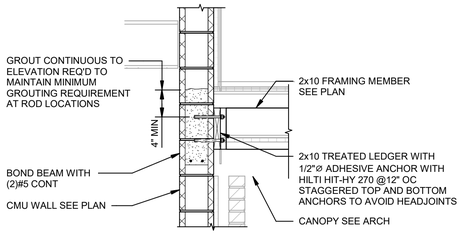
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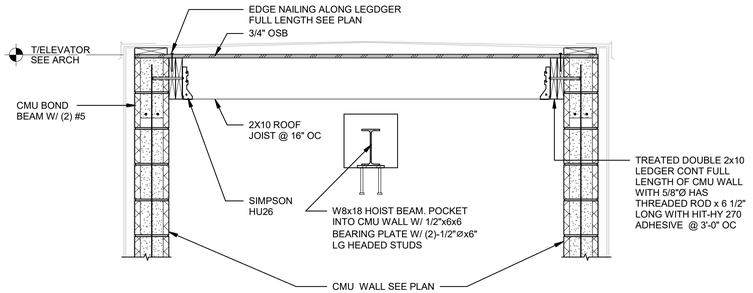
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## 7 S.102 LEDGER TO CMU DETAIL

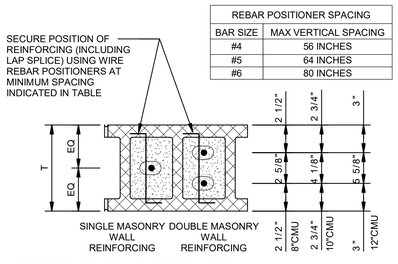
SCALE: 3/4" = 1'-0"




## 3 TYPICAL ELEVATOR CORE AT ROOF DETAIL

SCALE: 3/4" = 1'-0"

| REBAR POSITIONER SPACING | |
|---|---|
| BAR SIZE | MAX VERTICAL SPACING |
| #4 | 56 INCHES |
| #5 | 64 INCHES |
| #6 | 80 INCHES |




## 6 TYPICAL MASONRY WALL REINFORCING POSITIONING

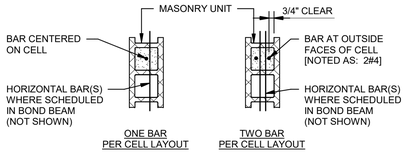
SCALE: 1 1/2" = 1'-0"

| INTERIOR NON-LOAD BEARING CMU WALL REINFORCEMENT | | | | | |
|---|---|---|---|---|---|
| LATERAL LOAD = 10 PSF | | | | f 'm = 1500 PSI | |
| CLEAR WALL HEIGHT | 4" CMU | 6" CMU | 8" CMU | 10" CMU | 12" CMU |
| H ≤ 8' | UR | UR | UR | UR | UR |
| 8' < H ≤ 10' | UR | #4@48" | #4@48" | UR | UR" |
| 10' < H ≤ 16' | NA | #4@32" | #4@48" | #4@48" | #4@48" |
| 16' < H ≤ 20' | NA | NA | #4@32" | #4@48" | #4@48" |
| 20' < H ≤ 24' | NA | NA | #5@32" | #5@48" | #5@48" |
| 24' < H ≤ 28' | NA | NA | NA | #5@32" | #5@40" |
| 28' < H ≤ 32' | NA | NA | NA | #5@24" | #5@32" |

| EXTERIOR NON-LOAD BEARING CMU WALL REINFORCEMENT | | | | | |
|---|---|---|---|---|---|
| LATERAL LOAD = 30 PSF | | | | f 'm = 1500 PSI | |
| CLEAR WALL HEIGHT | 4" CMU | 6" CMU | 8" CMU | 10" CMU | 12" CMU |
| H ≤ 8' | NA | --- | UR | UR | UR |
| 8' < H ≤ 10' | NA | ---- | #5@48" | UR | UR |
| 10' < H ≤ 16' | NA | NA | #5@32" | #5@48" | #5@48" |
| 16' < H ≤ 20' | NA | NA | NA | #5@40" | #5@48" |
| 20' < H ≤ 24' | NA | NA | NA | #5@32" | #5@40" |
| 24' < H ≤ 28' | NA | NA | NA | #5@24" | #5@32" |
| 28' < H ≤ 32' | NA | NA | NA | NA | #5@24" |

NOTES:

1. PROVIDE TYPICAL MINIMUM VERTICAL REINFORCEMENT AS SHOWN IN THE VERTICAL REINFORCEMENT SCHEDULE FOR INTERIOR OR EXTERIOR WALLS.
2. PROVIDE THE FOLLOWING TYPICAL MINIMUM HORIZONTAL REINFORCEMENT:
   - INTERIOR WALLS: W1.1 LADDERS AT EVERY OTHER COURSE
   - EXTERIOR WALLS: W2.8 LADDERS AT EVERY OTHER COURSE
3. FOR LOCATION AND THICKNESS OF MASONRY WALLS SEE ARCHITECTURAL DRAWINGS.
4. LEGEND:
   - UR = UNREINFORCED
   - NA = NOT APPLICABLE, THICKER WALL REQUIRED
5. 'H' INDICATES HEIGHT OF WALL BETWEEN LATERAL SUPPORT POINTS.
6. DESIGN OF MASONRY WALL IS BASED ON PARTIALLY GROUTED WALLS WITH REINFORCEMENT AS SCHEDULED.
7. VERTICAL REINFORCEMENT SHALL BE SECURED WITH WIRE POSITIONERS ETC.,AT INTERVALS NOT TO EXCEED 48" AND BE LOCATED AT THE CENTER OF THE WALL UON.
8. SEE ELEVATIONS AND DETAILS FOR ADDITIONAL REINFORCEMENT AT OPENINGS AND JOINTS.




TYPICAL REINFORCEMENT LAYOUT

## 2 TYPICAL CMU NON-BEARING WALL REINFORCEMENT SCHEDULE

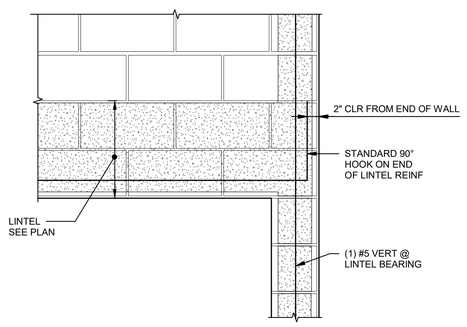
SCALE: 3/4" = 1'-0"




NOTE:
PENETRATION DO NOT REQUIRE REINFORCEMENT IF OPENING OR GROUP OF OPENINGS ARE LESS THAN 24" WIDE. DO NOT INTERRUPT SCHEDULED VERTICAL REINFORCEMENT, AND ARE SPACED AT LEAST 8" CLEAR FROM AN ADJACENT OPENING. OPENINGS SPACED CLOSER THAN 8" MUST BE CONSIDERED AS ONE OPENING

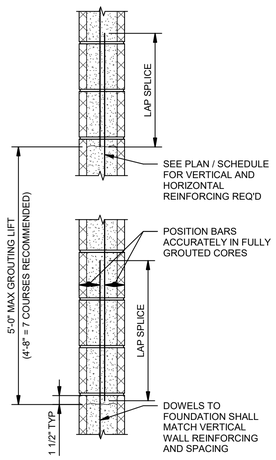
## 5 TYPICAL NON-LOAD BEARING CMU WALL PENETRATIONS (<24")

SCALE: 1/2" = 1'-0"




## 4 TYPICAL LINTEL @ END-SUPPORT (NON-CONT WALL)

SCALE: 1" = 1'-0"




| LAP SPLICE LENGTH | | | | | |
|---|---|---|---|---|---|
| NOMINAL WALL SIZE | VERTICAL BAR SIZE | f'm = 1500 PSI | | f'm = 2000 PSI | |
| | | SINGLE CENTERED BAR | OFF CENTER-DOUBLE BARS | SINGLE CENTERED BAR | OFF CENTER-DOUBLE BARS |
| 8" CMU | #4 | 21" | 26" | 13" | 22" |
| | #5 | 26" | 40" | 20" | 34" |
| | #6 | 43" | 54"/ MECHANICAL COUPLER | 37" | 54"/ MECHANICAL COUPLER |
| | #7 | 60" | 63"/ MECHANICAL COUPLER | 52" | 63"/ MECHANICAL COUPLER |
| | #8 | 72" | 72"/ MECHANICAL COUPLER | 72" | 72"/ MECHANICAL COUPLER |
| 10" CMU | #4 | 21" | 26" | 12" | 22" |
| | #5 | 26" | 40" | 15" | 34" |
| | #6 | 40" | 54"/ MECHANICAL COUPLER | 29" | 54"/ MECHANICAL COUPLER |
| | #7 | 46" | 63"/ MECHANICAL COUPLER | 40" | 63"/ MECHANICAL COUPLER |
| | #8 | 71" | 72"/ MECHANICAL COUPLER | 61" | 72"/ MECHANICAL COUPLER |
| 12" CMU | #4 | 21" | 26" | 12" | 22" |
| | #5 | 26" | 40" | 13" | 34" |
| | #6 | 40" | 54"/ MECHANICAL COUPLER | 24" | 54"/ MECHANICAL COUPLER |
| | #7 | 46" | 63"/ MECHANICAL COUPLER | 33" | 63"/ MECHANICAL COUPLER |
| | #8 | 61" | 72"/ MECHANICAL COUPLER | 50" | 72"/ MECHANICAL COUPLER |

NOTES:
1. VALUES BASED ON REBAR. Fy = 60,000 psi
2. CONTRACTOR'S OPTION TO USE MECHANICAL COUPLER IN LIEU OF LAP
3. DEPTH OF BAR FOR DOUBLE REINF EQUALS NOMINAL UNIT THICKNESS MINUS 2"

## 1 TYPICAL MASONRY WALL REINF LOW LIFT GROUTING

SCALE: 1" = 1'-0"

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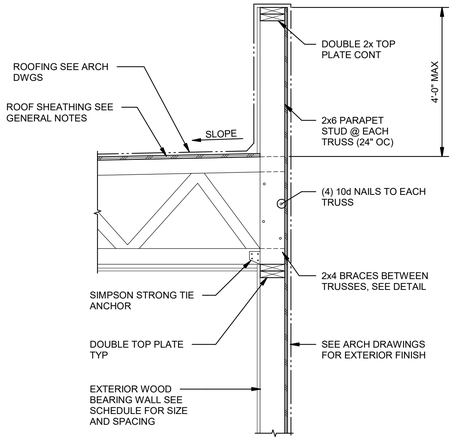
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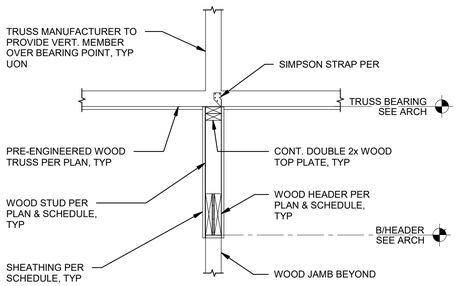
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SEAL



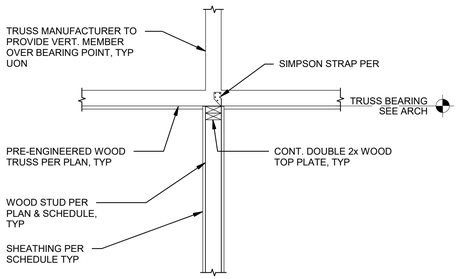

## 13 S.105 ROOF TRUSSES PERPENDICULAR TO EXTERIOR WALL

SCALE: 3/4" = 1'-0"



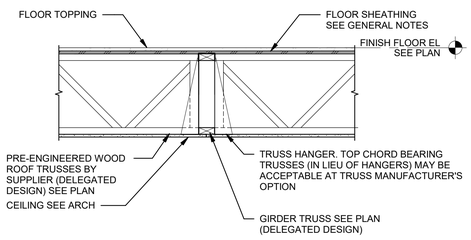

## 12 CONT. TRUSS BEARING @ WOOD HEADER

SCALE: 3/4" = 1'-0"



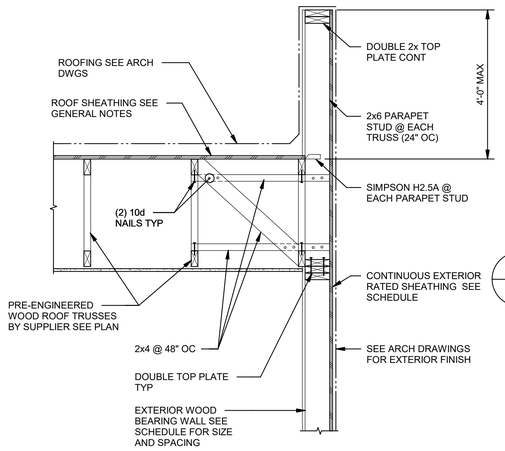

## 11 CONT. TRUSS BEARING @ WOOD STUD WALL

SCALE: 3/4" = 1'-0"



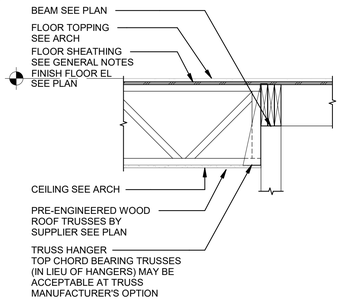

## 10 TYPICAL WOOD TRUSS TO GIRDER TRUSS DETAIL

SCALE: 3/4" = 1'-0"



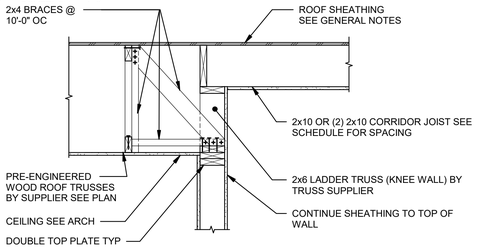

## 9 S.105 ROOF TRUSSES PARALLEL TO EXTERIOR WALL

SCALE: 3/4" = 1'-0"



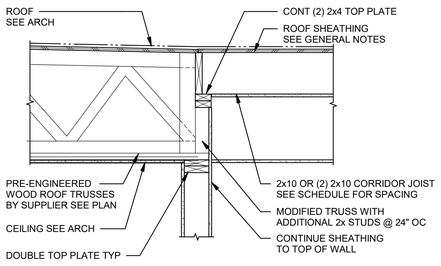

## 8 S.102 TYPICAL WOOD TRUSS TO BEAM DETAIL

SCALE: 3/4" = 1'-0"



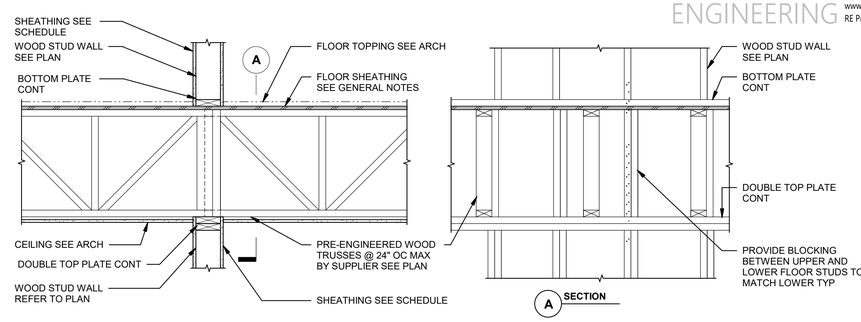

## 7 CORRIDOR JOISTS PERPENDICULAR TO ROOF TRUSSES

SCALE: 3/4" = 1'-0"



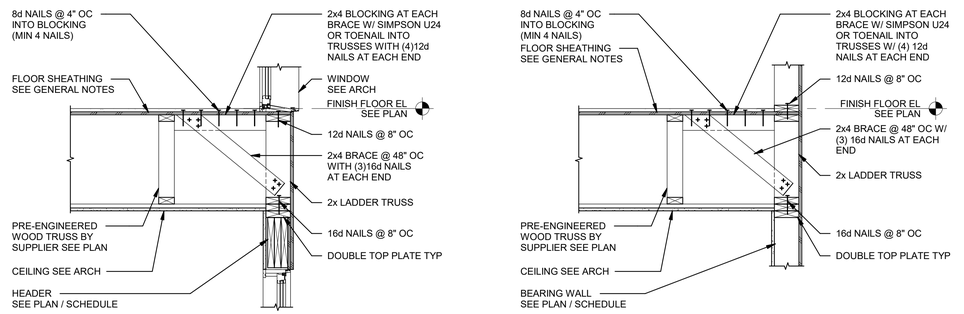

## 6 CORRIDOR JOISTS PARALLEL ROOF TRUSSES

SCALE: 3/4" = 1'-0"



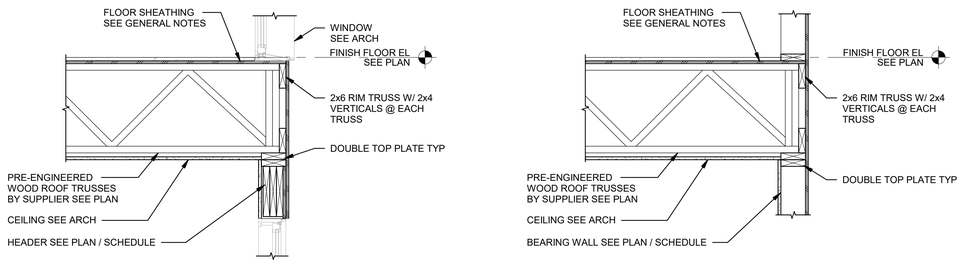

## 5 TYPICAL SECTION AT INTERIOR BEARING WALL

SCALE: 3/4" = 1'-0"



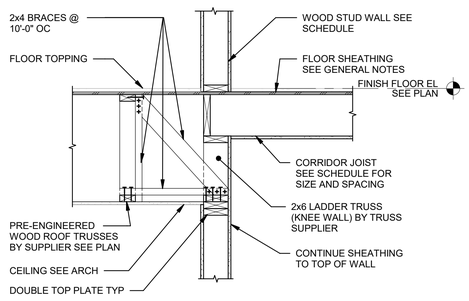

## 4 S.102 FLOOR TRUSSES PARALLEL TO EXTERIOR WALL (PLATFORM FRAMING)

SCALE: 3/4" = 1'-0"



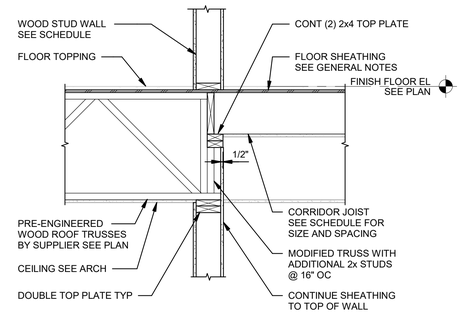

## 3 S.102 FLOOR TRUSSES PERPENDICULAR TO EXTERIOR WALL (PLATFORM FRAMING)

SCALE: 3/4" = 1'-0"




## 2 S.102 CORRIDOR JOISTS PERPENDICULAR TO FLOOR TRUSSES

SCALE: 3/4" = 1'-0"




## 1 S.102 CORRIDOR JOISTS PARALLEL FLOOR TRUSSES

SCALE: 3/4" = 1'-0"

MICHIGAN

DETROIT

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# Greystone SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM 1 |
| 09.23.24 | PERMITS |
| 08.20.24 | BID UPDATE |
| 08.31.23 | 50% PRICING |

KEY PLAN

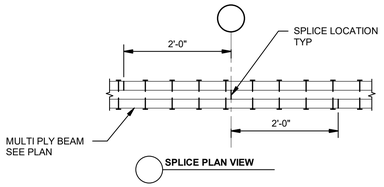
FSP PROJECT NO.
22136

DRAWING TITLE

WOOD SECTIONS AND DETAILS

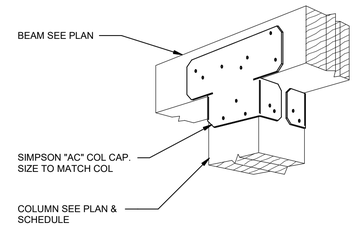
DRAWING NUMBER

S.601



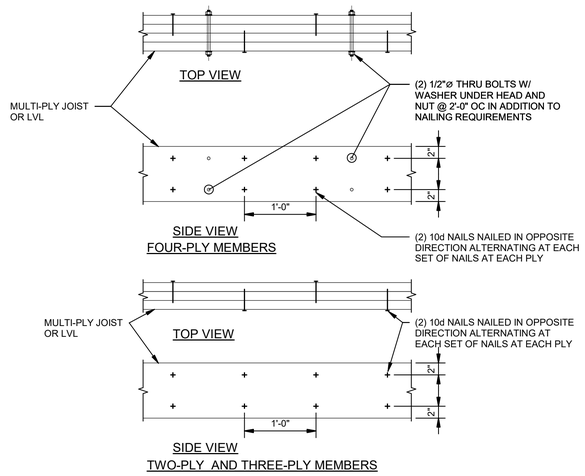

NOTES:
1. SEE PLAN FOR LOCATION.
2. SEE MANUFACTURER'S CATALOG FOR FASTENERS AND QUANTITIES.
3. SPLICE BEAM AT COLUMN CENTERLINE UON ON PLAN.

## 10 SIMPSON STRONG-TIE - "CC" COLUMN CAP
SCALE: 3/4" = 1'-0"

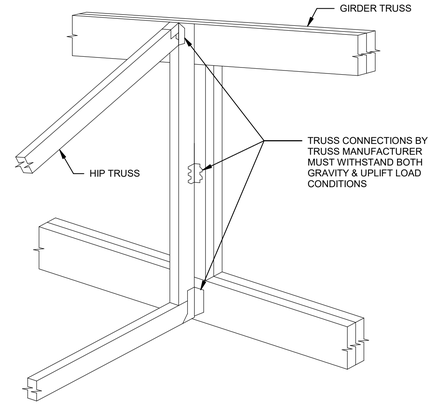



NOTES:
1. SEE PLAN FOR LOCATION.
2. SEE MANUFACTURER'S CATALOG FOR FASTENERS AND QUANTITIES.
3. SPLICE BEAM AT COLUMN CENTERLINE UON ON PLAN.

## 7 SIMPSON STRONG-TIE - "AC" COLUMN CAP
SCALE: 1 1/2" = 1'-0"




## 4 BUILT-UP MULTI-PLY JOIST NAILING PATTERN
SCALE: 1" = 1'-0"




## 1 GIRDER TRUSS CONNECTION
SCALE: 3/4" = 1'-0"




NOTES:
1. SEE PLAN FOR LOCATION.
2. SEE MANUFACTURER'S CATALOG FOR FASTENERS AND QUANTITIES.

## 9 SIMPSON STRONG-TIE - "CB" COLUMN BASE
SCALE: 1 1/2" = 1'-0"




NOTES:
1. SEE PLAN FOR LOCATION.
2. SEE MANUFACTURER'S CATALOG FOR FASTENERS AND QUANTITIES.

## 6 SIMPSON STRONG-TIE - "AB" COLUMN BASE
SCALE: 1 1/2" = 1'-0"

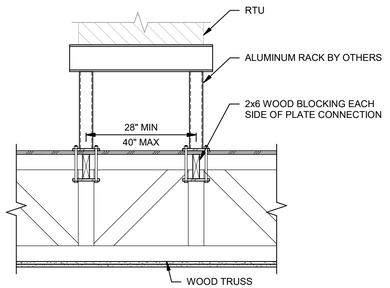



## 3 PRE ENGINEERED WOOD TRUSSES
SCALE: 3/4" = 1'-0"

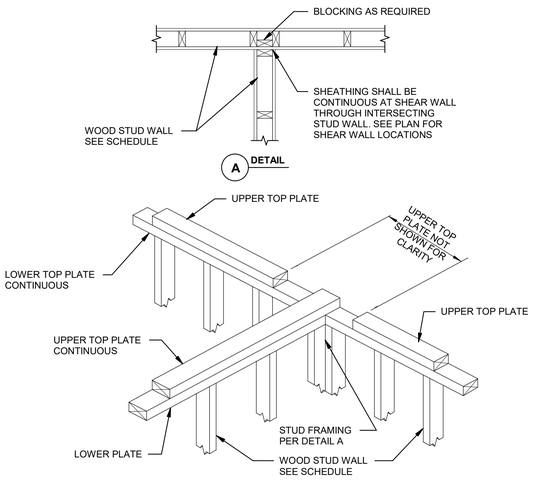
ROOF TRUSS NOTES:

1. PREFABRICATED WOOD ROOF TRUSSES SHALL BE DESIGNED FOR THE DEAD, LIVE AND WIND LOADS SHOWN AND ALL COMBINATIONS OF THESE LOADS AS SET FORTH IN THE MICHIGAN BUILDING CODE. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL DESIGN CRITERIA. TRUSS FABRICATOR SHALL SUBMIT S&S SHOP DRAWINGS & DESIGN CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED FOR REVIEW PRIOR TO TRUSS FABRICATION.
2. ROOF DEAD LOADS SHOWN SHALL BE DIVIDED EQUALLY BETWEEN TOP AND BOTTOM CHORDS TO ACCOUNT FOR DEAD LOAD OF ROOFING AS WELL AS HANGING MECHANICAL AND CEILING DEAD LOADS.
3. A MAXIMUM OF 10 PSF DEAD LOAD MAY BE USED TO RESIST UPLIFT, TYPICAL.
4. SEE ARCHITECTURAL DRAWINGS, MECHANICAL DRAWINGS, AND ROOF FRAMING PLANS FOR ADDITIONAL DEAD LOADS ON TOP OR BOTTOM CHORDS OF TRUSSES DUE TO MECHANICAL EQUIPMENT, WHERE APPLICABLE.
5. MAXIMUM TRUSS SPACING IS 2'-0", TYPICALLY. "PSF" LOADINGS SHALL BE MULTIPLIED ACCORDINGLY IN ORDER TO OBTAIN "PLF" TRUSS LOADINGS.
6. POINT LOADINGS WHICH ARE GENERATED BY SPECIAL TRUSS CONFIGURATIONS HAVING TRIBUTARY WIDTHS GREATER THAN 2'-0" (HIP TRUSSES, TRANSFER TRUSSES, ETC.) SHALL BE ACCOUNTED FOR IN TRUSS DESIGN, AND MAGNITUDE OF SUCH OF SUCH POINT LOADS SHALL BE CLEARLY NOTED ON SHOP DRAWINGS. TRUSSES SHALL ACCEPT POINT LOADS FROM ADJACENT TRUSSES AT TRUSS PANEL POINTS ONLY.
7. COORDINATE ROOF CONFIGURATION, SLOPE, DIMENSIONS, OVERHANGS, HIPS AND VALLEYS WITH ARCHITECTURAL DRAWINGS, TYPICAL.
8. TRUSS WEB CONFIGURATIONS SHOWN IN TRUSS ELEVATIONS ARE SCHEMATIC IN NATURE. FINAL LOCATION AND CONFIGURATION OF TRUSS WEB MEMBERS SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL SPACE REQUIREMENTS.
9. PERMANENT TRUSS BRACING AND BRIDGING SHALL BE PROVIDED IN ACCORDANCE WITH "TRUSS PLATE INSTITUTE" IN ORDER TO PROVIDE ADEQUATE LATERAL WIND STABILITY FOR TRUSS SYSTEM, TYPICAL.

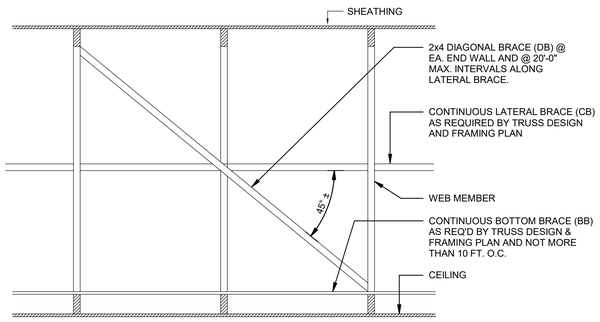
ALUMINUM CURB SUPPORT FOR RTU ATTACHED TO WOOD STRUCTURE BY MECH ENGINEER. DESING SHALL MEET IBC WIND LOAD REQUIREMENTS

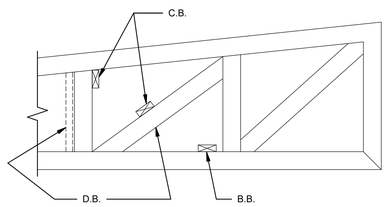



## 8 ROOF TRUSS AT RTU
SCALE: 3/4" = 1'-0"




## 5 TYPICAL INTERSECTION OF INTERIOR STUD WALLS
SCALE: 1" = 1'-0"




1. WOOD TRUSS ERECTOR SHALL PROVIDE BRACING ACCORDING TO BRACING WOOD TRUSSES COMMENTARY AND RECOMMENDATION, BWT-76 (TRUSS PLATE INSTITUTE). INSTALL BRACING AS THE TRUSSES ARE ERECTED. FULL BUNDLES OF PLYWOOD SHALL NOT BE PLACED ON TRUSSES. THE CONSTRUCTION LOAD SHALL BE LIMITED TO 8 SHEETS OF PLYWOOD ON ANY PAIR OF TRUSSES AND SHALL BE LOCATED ADJACENT TO THE SUPPORTS. NO EXCESS CONCENTRATION OF ANY CONSTRUCTION MATERIALS (SUCH AS GRAVEL OR SHINGLES) SHALL BE PLACES ON THE TRUSSES IN ANY ONE AREA & THEY SHALL BE SPREAD OUT EVENLY OVER A LARGE AREA SO AS TO AVOID OVERLOADING ANY ONE TRUSS.
2. ALL BRACING (DB,CB,BB) SHOWN IN THE FRAMING PLAN SHALL BE IN ADDITION TO CONTINUOUS LATERAL SPECIFIED BY THE TRUSS MANUF. ALL LATERAL BRACING SPECIFIED SHALL HAVE ADDITIONAL DIAGONAL BRACES @ 20'-0" MAX.
3. ALL BRACES SHALL BE 2x4 NOMINAL DIMENSION LUMBER AND SHALL BE ATTACHED WITH 2-16d NAILS @ EA. TRUSS INTERSECTION.

## 2 TYP WOOD TRUSS BRACING
SCALE: 3/4" = 1'-0"

RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226
www.resurget.engineering
RE Project No.: 0

FSP FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS
550 E. NINE MILE ROAD
FERNDALE, MICHIGAN, 48220
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KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

WOOD SECTIONS AND DETAILS

DRAWING NUMBER

S.602

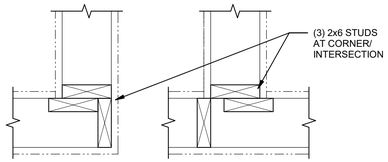
S.105

RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226
www.resurget.engineering
RE Project No.: 0

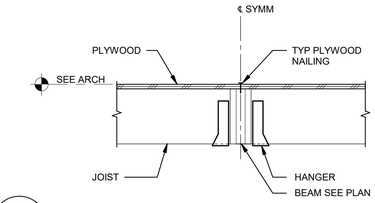
FSP FUSCO, SHAFFER & PAPPAS, INC.
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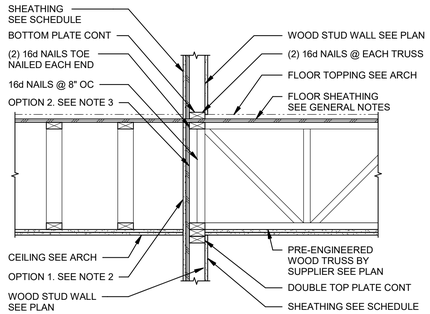
SEAL




## 6 TYPICAL WALL CORNER DETAIL
SCALE: 1 1/2" = 1'-0"

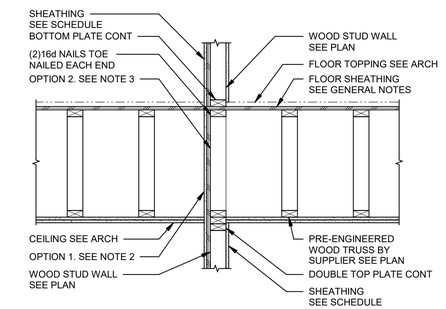



## 2 TYPICAL FLUSH BEAM AT FLOOR DETAIL
SCALE: 1" = 1'-0"



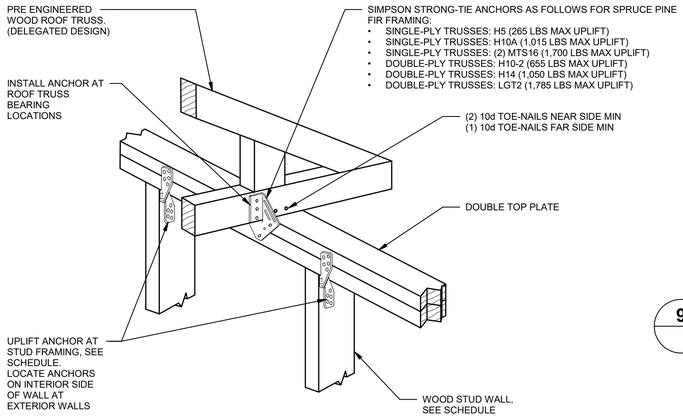

NOTES:
1. PROVIDE OPTION 1 OR OPTION 2 AT ALL INTERIOR SHEAR WALL LOCATIONS.
2. OPTION 1, EXTENDED SHEAR WALL SHEATHING UP TO TOP OF FLOOR TRUSSES AND NAIL TO FLOOR TRUSSES AND BLOCKING PER SHEAR WALL SCHEDULE. TRUSS BLOCKING IS NOT REQUIRED TO TRANSFER SHEAR.
3. OPTION 2, TRUSS SUPPLIER TO DESIGN TRUSS TO TRANSFER 630 PLF OVER LENGTH OF SHEAR WALL FROM TOP OF TRUSS TO TOP OF SHEAR WALL. SHEATHING NOT REQUIRED OVER TRUSS DEPTH EXCEPT AT EXTERIOR WALLS. VERTICAL MEMBERS TO MATCH BEARING WALL STUD SPACING ABOVE.
4. TRUSS SUPPLIER SHALL INDICATE IF TRUSS BLOCKING DESIGNED FOR LATERAL LOADING ON TRUSS LAYOUT PLANS IF OPTION 2 IS CHOSEN.
5. DIAGONAL BRACING OCCURS @ 4'-0" OC TYP

## 5 TRUSS AND DECK BEARING AT INTERIOR WALL
S.102
SCALE: 3/4" = 1'-0"




NOTES:
1. PROVIDE OPTION 1 OR OPTION 2 AT ALL INTERIOR SHEAR WALL LOCATIONS.
2. OPTION 1, EXTENDED SHEAR WALL SHEATHING UP TO TOP OF FLOOR TRUSSES AND NAIL TO FLOOR TRUSSES AND BLOCKING PER SHEAR WALL SCHEDULE. TRUSS BLOCKING IS NOT REQUIRED TO TRANSFER SHEAR.
3. OPTION 2, TRUSS SUPPLIER TO DESIGN TRUSS TO TRANSFER 630 PLF OVER LENGTH OF SHEAR WALL FROM TOP OF TRUSS TO TOP OF SHEAR WALL. SHEATHING NOT REQUIRED OVER TRUSS DEPTH EXCEPT AT EXTERIOR WALLS. VERTICAL MEMBERS TO MATCH BEARING WALL STUD SPACING ABOVE.
4. TRUSS SUPPLIER SHALL INDICATE IF TRUSS BLOCKING DESIGNED FOR LATERAL LOADING ON TRUSS LAYOUT PLANS IF OPTION 2 IS CHOSEN.
5. DIAGONAL BRACING OCCURS @ 4'-0" OC TYP

## 1 DECK BEARING AT INTERIOR WALL
S.102
SCALE: 3/4" = 1'-0"



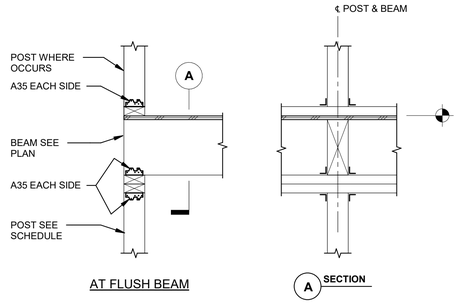

NOTES:
1. MAXIMUM WALL STUD SPACING 16" OC
2. SELECT TRUSS ANCHOR BASED ON APPROVED TRUSS SHOP DRAWINGS WITH TRUSS REACTIONS.
3. TRUSS MANUFACTURER OR CONTRACTOR SHALL REQUEST FOR ADDITIONAL HOLDOWN ANCHORS AT TRUSS GIRDERS, MULTI-PLY TRUSSES, JACK TRUSSES AND HIP/VALLEY TRUSSES.
4. MULTIPLE ANCHORS MAY BE USED (PER SIMPSON STRONG-TIE RECOMMENDED DETAILS) TO ANCHOR HIGHER UPLIFT VALUES.
5. DETAIL APPLIES TO INTERIOR AND EXTERIOR BEARING WALLS.

STUD UPLIFT ANCHOR REQUIREMENTS

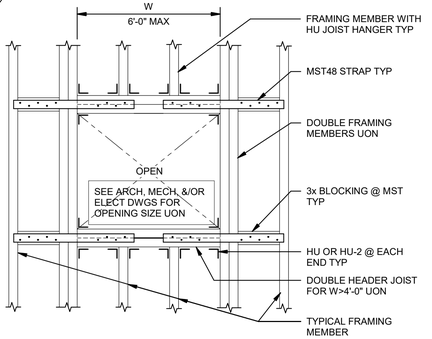
SPRUCE PINE FIR FRAMING, TRUSS SPACING @ 24" OC

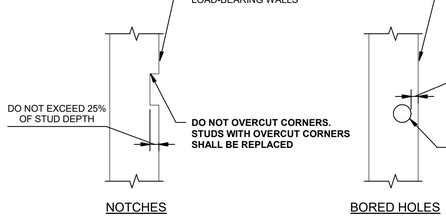
| TRUSS REACTION | ANCHOR TYPE |
|---|---|
| < 330 LBS | NONE |
| 330 LBS TO 1,100 LBS | H2, 5A |
| 1,100 LBS TO 2,250 LBS | H2, 5A PLUS H6 |
| > 2,250 LBS | CONTACT ENGINEER |

## 12 TYPICAL ROOF TRUSS CONNECTION
SCALE: 3" = 1'-0"




## 9 TYPICAL BEAM & POST CONNECTION
SCALE: 1" = 1'-0"

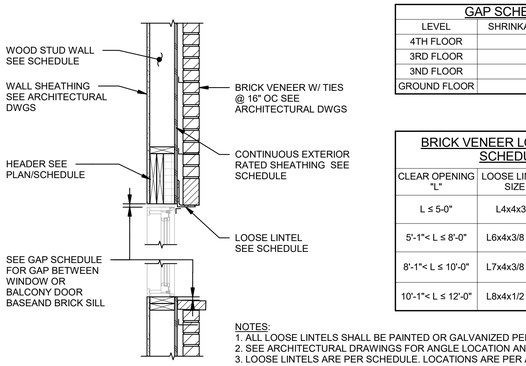



| STUD SIZE | MAX HOLE DIAMETER (40%) | MAX NOTCH DEPTH (25%) |
|---|---|---|
| 2X6 | 2 3/16" | 1 3/8" |
| 2X4 | 1 3/8" | 7/8" |

NOTE: NOTCHES AND BORED HOLES CANNOT BE LOCATED IN THE SAME SECTION (ELEVATION) IN STUD

## 4 MAX ALLOWABLE NOTCHES AND HOLES
SCALE: 1 1/2" = 1'-0"




GAP SCHEDULE

| LEVEL | SHRINKAGE GAP DIMENSION |
|---|---|
| 4TH FLOOR | 1 1/8" |
| 3RD FLOOR | 3/4" |
| 3ND FLOOR | 1/2" |
| GROUND FLOOR | 1/4" |

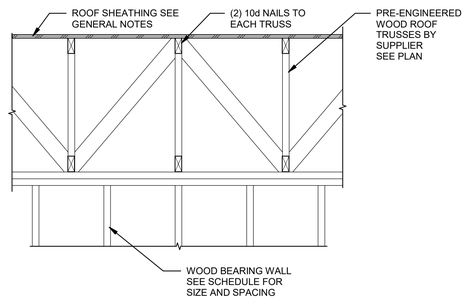
BRICK VENEER LOOSE LINTEL SCHEDULE

| CLEAR OPENING "L" | LOOSE LINTEL SIZE | END BEARING LENGTH |
|---|---|---|
| L ≤ 5-0" | L4x4x3/8 | 6" |
| 5'-1"< L ≤ 8'-0" | L6x4x3/8 LLV | 6" |
| 8'-1"< L ≤ 10'-0" | L7x4x3/8 LLV | 8" |
| 10'-1"< L ≤ 12'-0" | L8x4x1/2 LLV | 8" |

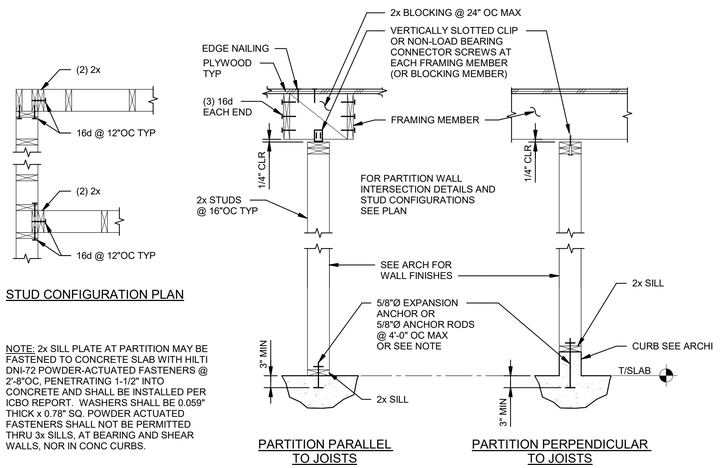
NOTES:
1. ALL LOOSE LINTELS SHALL BE PAINTED OR GALVANIZED PER ARCHITECTURAL DWGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ANGLE LOCATION AND FLASHING REQUIRED.
3. LOOSE LINTELS ARE PER SCHEDULE. LOCATIONS ARE PER ARCHITECTURAL DRAWINGS.
4. FOR OPENING SIZES GREATER THAN SHOWN IN SCHEDULE, SEE OTHER DETAILS OR CONTACT STRUCTURAL ENGINEER OF RECORD.

## 11 BRICK VENEER LOOSE LINTEL DETAIL
SCALE: 3/4" = 1'-0"

## 8 OPENING IN FRAMING DETAIL
SCALE: 1" = 1'-0"




## 7 TYPICAL BRACING BETWEEN ROOF TRUSSES AT BEARING WALLS
SCALE: 3/4" = 1'-0"




NOTE: 2x SILL PLATE AT PARTITION MAY BE FASTENED TO CONCRETE SLAB WITH HILTI DNI-72 POWDER-ACTUATED FASTENERS @ 2'-8"OC, PENETRATING 1-1/2" INTO CONCRETE AND SHALL BE INSTALLED PER ICBO REPORT. WASHERS SHALL BE 0.059" THICK x 0.78" SQ. POWDER ACTUATED FASTENERS SHALL NOT BE PERMITTED THRU 3x SILLS, AT BEARING AND SHEAR WALLS, NOR IN CONC CURBS.

## 3 NON-STRUCTURAL PARTITION WALL DETAIL
SCALE: 1" = 1'-0"

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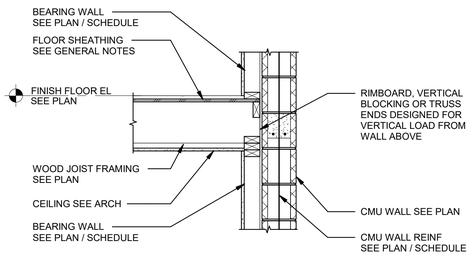
| DATE | ISSUE |
|---|---|
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM 1 |
| 09.23.24 | PERMITS |
| 08.20.24 | BID UPDATE |
| 08.31.23 | 50% PRICING |

KEY PLAN

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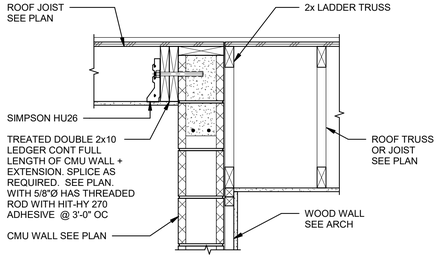
DRAWING TITLE
WOOD SECTIONS AND DETAILS

DRAWING NUMBER
S.603



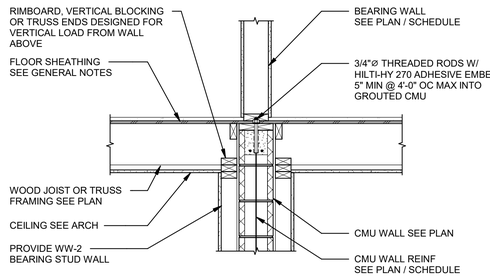

## 12 S.102 FLOOR JOIST BEARING AT CMU WALL

SCALE: 3/4" = 1'-0"



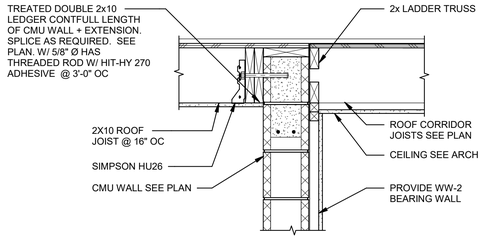

## 8 S.105 STAIR ROOF JOIST TO CMU DETAIL

SCALE: 1" = 1'-0"



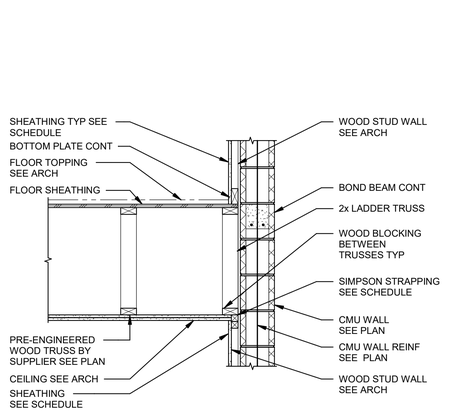

## 11 S.102 FLOOR JOIST BEARING AT CMU WALL

SCALE: 3/4" = 1'-0"



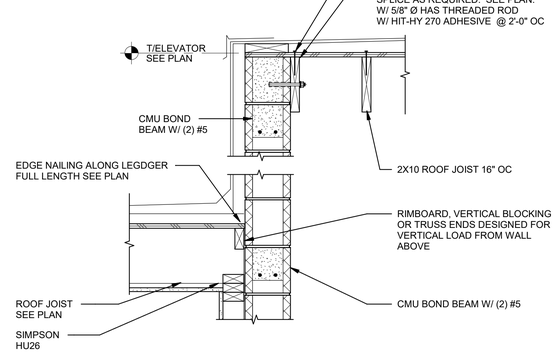

## 7 S.105 STAIR AND CORRIDOR ROOF JOIST TO CMU DETAIL

SCALE: 1" = 1'-0"



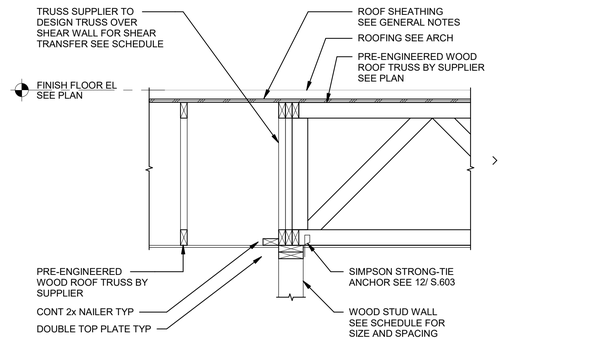

## 10 S.102 DECK BEARING AT INTERIOR CMU

SCALE: 3/4" = 1'-0"



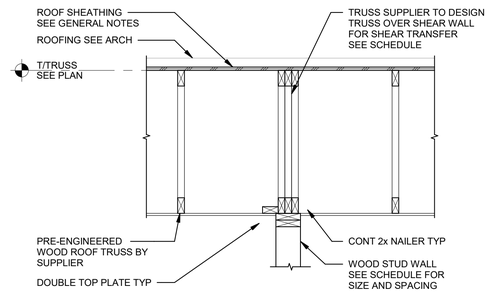

## 6 S.105 ROOF DECKING TO CMU @ ELEVATOR

SCALE: 1" = 1'-0"



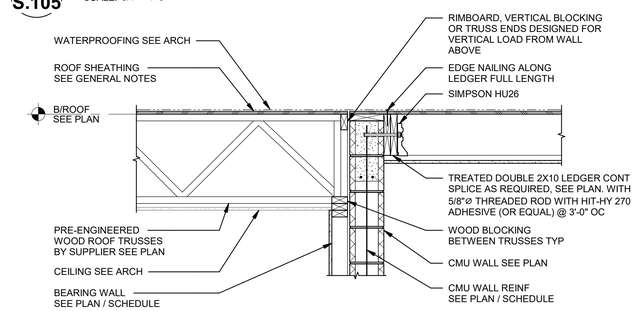

## 4 S.105 ROOF TRUSS PARALLEL AND PERPENDICULAR TO UNIT SEPARATION

SCALE: 3/4" = 1'-0"



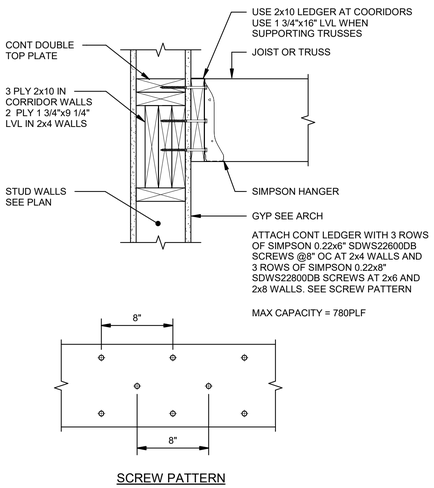

## 3 S.105 ROOF TRUSS PARALLEL TO UNIT SEPARATION

SCALE: 3/4" = 1'-0"



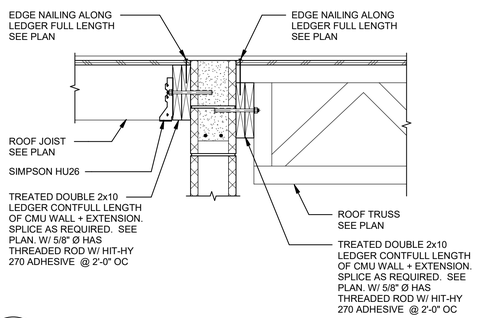

## 2 S.105 ROOF TRUSS BEARING AT CMU WALL

SCALE: 3/4" = 1'-0"



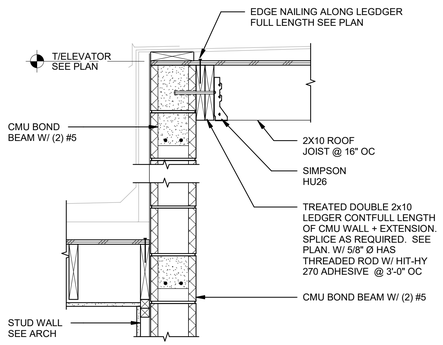

## 13 LEDGER AT RATED WALL

SCALE: 1 1/2" = 1'-0"



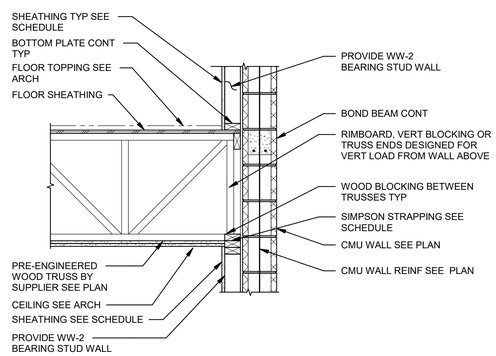

## 9 ROOF JOIST TO CMU DETAIL

SCALE: 1" = 1'-0"




## 5 S.105 ROOF DECKING TO CMU @ ELEVATOR

SCALE: 1" = 1'-0"




## 1 S.102 TRUSS BEARING AT INTERIOR CMU

SCALE: 3/4" = 1'-0"

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DETROIT, MI 48226
www.resurget.engineering
RE Project No.: 0

FSP FUSCO, SHAFFER & PAPPAS, INC.
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# Greystone SENIOR LIVING

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| 09.23.24 | PERMITS |
| 08.20.24 | BID UPDATE |

KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

WOOD SECTIONS AND DETAILS

DRAWING NUMBER

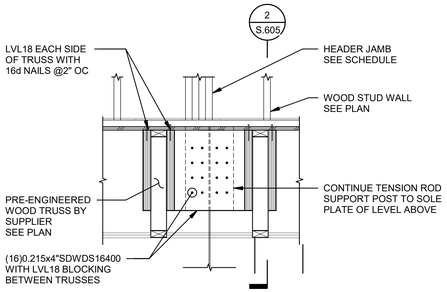
S.604

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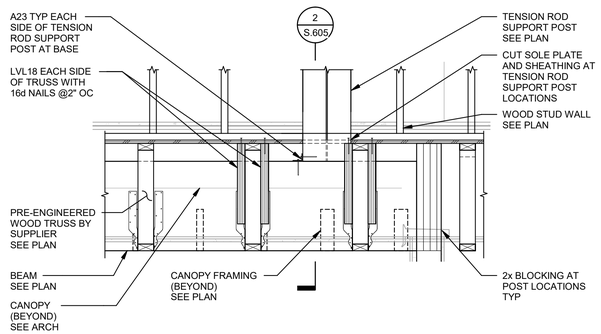
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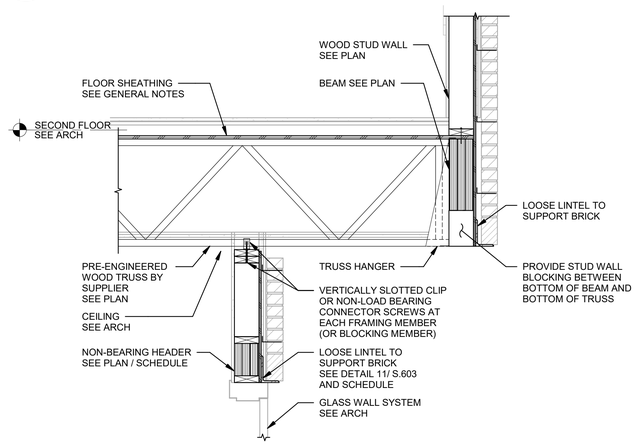

## 6 S.605 SECTION AT TOP OF CANOPY TENSION ROD SUPPORT POST

SCALE: 3/4" = 1'-0"



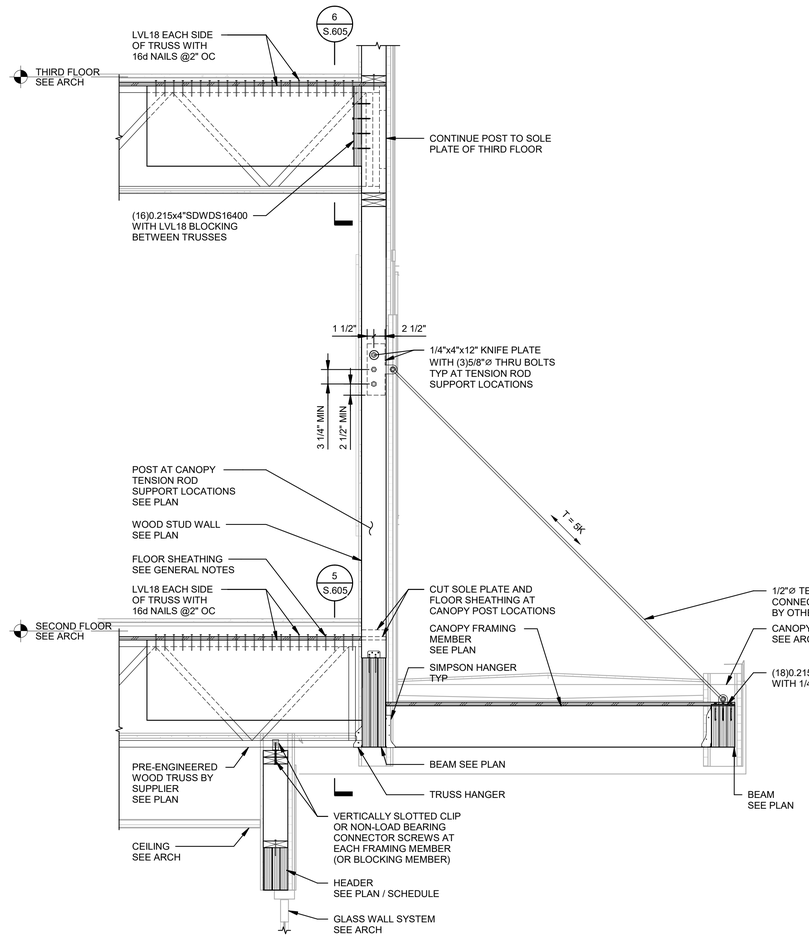

## 5 S.605 SECTION AT STRENGTHENED TRUSSES

SCALE: 3/4" = 1'-0"



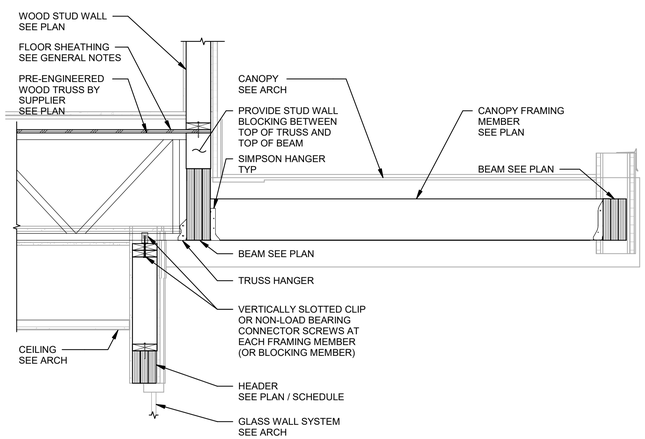

## 4 S.102 RECESSED ENTRANCE DETAIL

SCALE: 3/4" = 1'-0"




## 2 S.102 CANOPY DETAIL AT MLK BLVD ENTRANCE

SCALE: 3/4" = 1'-0"




## 1 S.102 CANOPY DETAIL AT PARKING LOT ENTRANCE

SCALE: 3/4" = 1'-0"

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| 08.20.24 | BID UPDATE |

KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

WOOD SECTIONS AND DETAILS

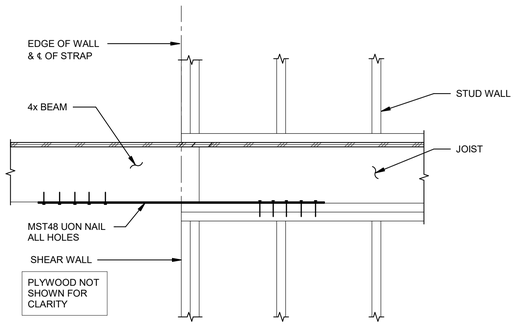
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S.605

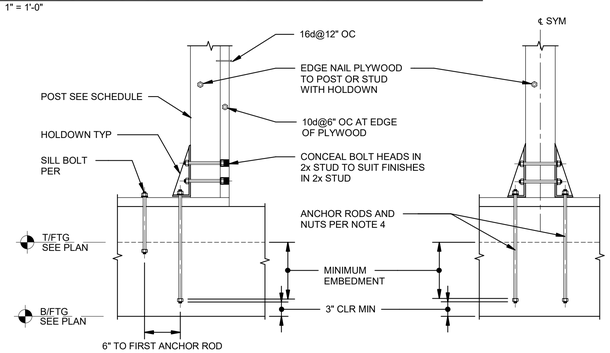
# WOOD SHEAR WALL SCHEDULE

| MARK | LEVEL | SHEATHING | | | | | TRUSS BLOCKING DESIGN FORCE [PLF] | NAILING | | | | | END CONDITION | | SILL PLATE | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SIDE 1 | | SIDE 2 | | BLOCKING | | SIDE 1 | | SIDE 2 | | PANEL FIELD | END POST | HOLDOWN | ANCHORAGE | SPACING (IN OC) | |
| | | TYPE | GRADE | TYPE | GRADE | | | SIZE | PANEL EDES | SIZE | PANEL EDGES | | | | | | |
| SW-1 | FOURTH FLOOR | 5/8 | GYPSUM WALLBOARD | - | - | UNBLOCKED | 54 | 6d | 7 IN OC | - | - | 12 IN OC | (2)-2x6 | NONE | (2) 10d COMMON | 32 | - |
| | THIRD FLOOR | 5/8 | GYPSUM WALLBOARD | - | - | BLOCKED | 98 | 6d | 7 IN OC | - | - | 12 IN OC | (2)-2x6 | NONE | (2) 10d COMMON | 24 | - |
| | SECOND FLOOR | 5/8 | GYPSUM WALLBOARD | - | - | BLOCKED | 139 | 6d | 4 IN OC | - | - | 12 IN OC | (3)-2x6 | NONE | (2) 10d COMMON | 16 | - |
| | FIRST FLOOR | 5/8 | GYPSUM WALLBOARD | - | - | BLOCKED | 175 | 6d | 4 IN OC | - | - | 12 IN OC | (4)-2x6 | NONE | 5/8"Ø BOLT INTO CONC | 32 | - |
| SW-2 | FOURTH FLOOR | 7/16 | OSB | - | - | UNBLOCKED | 189 | 8d | 6 IN OC | - | - | 12 IN OC | (2)-2x6 | CS20 | (2) 10d COMMON | 12 | - |
| | THIRD FLOOR | 7/16 | OSB | - | - | UNBLOCKED | 344 | 8d | 4 IN OC | - | - | 12 IN OC | (2)-2x6 | CS16 | (2) 16d COMMON | 8 | - |
| | SECOND FLOOR | 7/16 | OSB | - | - | UNBLOCKED | 488 | 8d | 3 IN OC | - | - | 12 IN OC | (4)-2x6 | CMST16 | (2) 16d COMMON | 6 | - |
| | FIRST FLOOR | 7/16 | OSB | - | - | UNBLOCKED | 630 | 8d | 2 IN OC | - | - | 12 IN OC | (6)-2x6 | HDUE9-SDS3.5 | 5/8"Ø BOLT INTO CONC | 16 | - |
| SW-3 | FOURTH FLOOR | 5/8 | GYPSUM WALLBOARD | - | - | UNBLOCKED | 65 | 6d | 7 IN OC | - | - | 12 IN OC | (2)-2x6 | CS20 | (2) 16d COMMON | 32 | - |
| | THIRD FLOOR | 5/8 | GYPSUM WALLBOARD | - | - | UNBLOCKED | 117 | 6d | 4 IN OC | - | - | 12 IN OC | (2)-2x6 | CS20 | (2) 16d COMMON | 24 | - |
| | SECOND FLOOR | 7/16 | OSB | - | - | UNBLOCKED | 207 | 6d | 6 IN OC | - | - | 12 IN OC | (2)-2x6 | CS14 | (2) 16d COMMON | 16 | - |
| | FIRST FLOOR | 7/16 | OSB | - | - | UNBLOCKED | 267 | 6d | 6 IN OC | - | - | 12 IN OC | (2)-2x6 | HDUE5-SDS3 | 5/8"Ø BOLT INTO CONC | 32 | - |
| SW-3a | FOURTH FLOOR | 5/8 | GYPSUM WALLBOARD | - | - | UNBLOCKED | 65 | 6d | 7 IN OC | - | - | 12 IN OC | (2)-2x4 | CS20 | (2) 16d COMMON | 32 | - |
| | THIRD FLOOR | 5/8 | GYPSUM WALLBOARD | - | - | UNBLOCKED | 117 | 6d | 4 IN OC | - | - | 12 IN OC | (2)-2x4 | CS20 | (2) 16d COMMON | 24 | - |
| | SECOND FLOOR | 7/16 | OSB | - | - | UNBLOCKED | 207 | 6d | 6 IN OC | - | - | 12 IN OC | (3)-2x4 | CS14 | (2) 16d COMMON | 16 | - |
| | FIRST FLOOR | 7/16 | OSB | - | - | UNBLOCKED | 267 | 6d | 6 IN OC | - | - | 12 IN OC | (4)-2x4 | HDUE5-SDS3 | 5/8"Ø BOLT INTO CONC | 32 | - |
| SW-4 | FOURTH FLOOR | 7/16 | OSB | - | - | BLOCKED | 89 | 8d | 6 IN OC | - | - | 12 IN OC | (2)-2x6 | CS20 | (2) 10d COMMON | 20 | - |
| | THIRD FLOOR | 7/16 | OSB | - | - | BLOCKED | 202 | 8d | 6 IN OC | - | - | 12 IN OC | (3)-2x6 | CS16 | (2) 10d COMMON | 12 | - |
| | SECOND FLOOR | 7/16 | OSB | - | - | BLOCKED | 287 | 8d | 6 IN OC | - | - | 12 IN OC | (4)-2x6 | CMST16 | 3/4"Ø BOLT | 8 | - |
| | FIRST FLOOR | 7/16 | OSB | - | - | BLOCKED | 371 | 8d | 6 IN OC | - | - | 12 IN OC | (5)-2x6 | HDUE5-SDS3 | 5/8"Ø BOLT INTO CONC | 32 | - |
| SW-5 | FOURTH FLOOR | 7/16 | OSB | - | - | BLOCKED | 232 | 8d | 6 IN OC | - | - | 12 IN OC | (2)-2x6 | CS20 | (2) 16d COMMON | 10 | - |
| | THIRD FLOOR | 7/16 | OSB | - | - | BLOCKED | 439 | 8d | 4 IN OC | - | - | 12 IN OC | (3)-2x6 | CS16 | (2) 16d COMMON | 4 | - |
| | SECOND FLOOR | 7/16 | OSB | 7/16 | OSB | BLOCKED | 421 | 8d | 6 IN OC | 8d | 6 IN OC | 12 IN OC | (5)-2x6 | CMST16 | (2) 16d COMMON | 12 | - |
| | FIRST FLOOR | 7/16 | OSB | 7/16 | OSB | BLOCKED | 598 | 8d | 3 IN OC | 8d | 3 IN OC | 12 IN OC | (6)-2x6 | HDUE13-SDS3.5 | 5/8" BOLT INTO CONC | 8 | - |

NOTES:
1. FOR DOUBLE 2x4 DEMISING SHEAR WALLS, APPLY SHEATHING TO EXTERIOR OF BOTH WALLS
2. FOR CORRIDOR SHEAR WALLS, DO NOT APPLY SHEATHING TO RIGID CHANNELS
3. ALL HD AND CS FASTENERS ARE AS MANUFACTURED BY SIMPSON STRONG TIE OR EQUAL.
4. WHERE SCHEDULED, ADDITIONAL STUDS AT ENDS OF SHEAR WALLS ARE INTERRUPTED AT TRUSS BEARING, PROVIDE SOLID BLOCKING IN THE TRUSS SPACE TO MATCH THE STUD SCHEDULED FOR THE LOWER FLOOR.
5. WHERE SCHEDULED SHEATHING CANNOT EXTEND FULL HEIGHT OF WALL, PROVIDE SHEATHING OR BLOCKING BETWEEN FLOOR TRUSSES AT ALL SHEAR WALLS.
6. SHEATHING SHALL EXTEND FULL HEIGHT OF SHEAR WALLS. STAGGERED SHEATHING HORIZONTAL JOINTS SO THEY DO NOT FALL AT HORIZONTAL JOINT BETWEEN DOUBLE TOP PLATES.
7. IN 2x6 STUD WALL PROVIDE EQUIVALENT PLY 2x6 STUD PACK TO THE SCHEDULED NUMBER OF PLYS FOR A 2x4 END POST




## 8 TYPICAL COLLECTOR AT FLOOR DETAIL
SCALE: 1" = 1'-0"

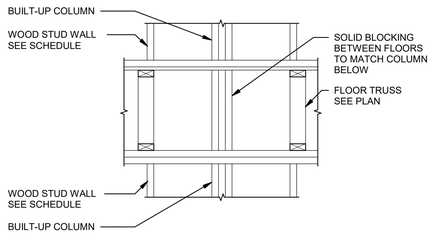



SINGLE "HD" DOUBLE "HD"

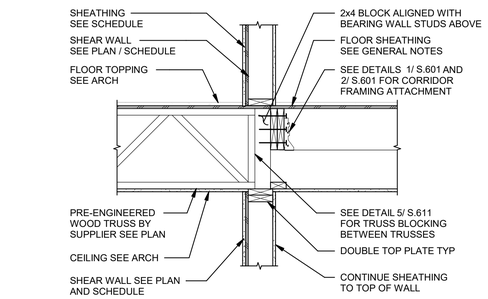
| HOLDOWN SCHEDULE | | | |
|---|---|---|---|
| HOLDOWN | MIN POST SIZE | ANCHOR ROD DIAMETER | ANCHOR ROD MIN EMBEDMENT |
| HDU2 | 3" x 3 1/2" | 5/8" | 12" |
| HDU4 | 3" x 3 1/2" | 5/8" | 12" |
| HDU5 | 3" x 3 1/2" | 5/8" | 12" |
| HDU8 | 3" x 4 1/2" | 7/8" | 16" |
| HDU11 | 3" x 7 1/4" | 1" | 16" |
| HDU14 | 3" x 7 1/4" | 1" | 18" |

NOTES:
1. SEE PLAN FOR SIZES AND LOCATIONS OF HOLDOWNS.
2. SIMPSON DESIGNATIONS USED.
3. FOLLOW ALL MANUFACTURER'S GUIDELINES NECESSARY TO ACHIEVE FULL ICBO DESIGN VALUES.
4. ANCHOR RODS FOR HOLDOWNS SHALL BE HEADED OR DOUBLE NUTTED IN CONCRETE

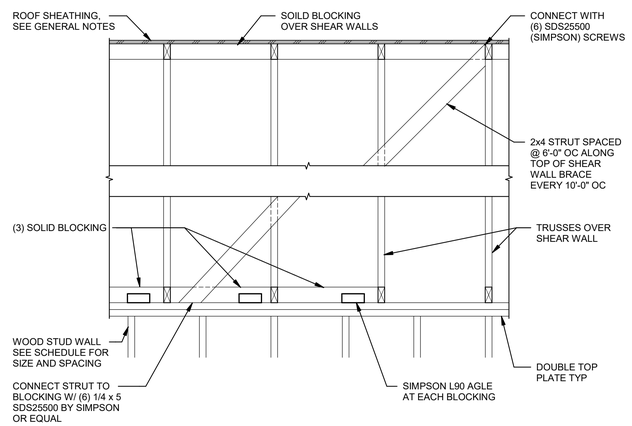
## 7 HOLDOWN AT FOUNDATION
SCALE: 1" = 1'-0"



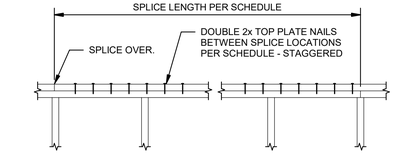

## 6 TYPICAL COLUMN THROUGH FLOOR DETAIL
SCALE: 3/4" = 1'-0"




## 5 SHEAR WALL AT CORRIDOR
SCALE: 3/4" = 1'-0"



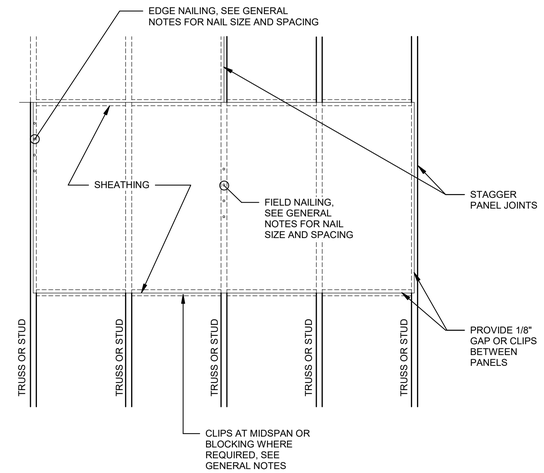

## 4 TOP OF SHEAR WALL BRACING
SCALE: 3/4" = 1'-0"



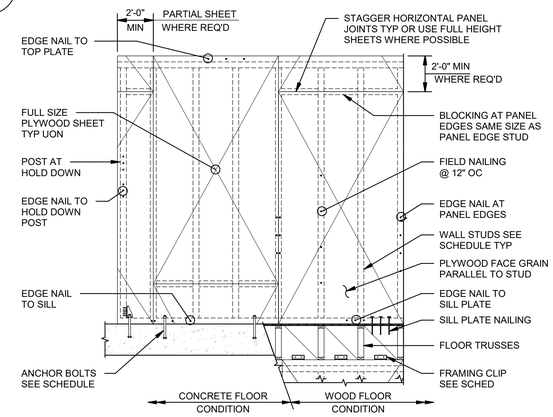

| LENGTH OF WALL (BETWEEN CORNERS) | SPLICE LENGTH (MINIMUM) | NAILS ALONG SPLICE LENGTH |
|---|---|---|
| > 30 FT | 4'-0" | (18) 12d |
| > 20 FT | 2'-8" | (10) 12d |
| > 10 FT | 1'-4" | (6) 12d |
| < 10 FT | 1'-4" | (4) 12d |

NOTES:
1. DO NOT SPLICE TOP PLATES WITHIN 6'-0" OF ENDS OF WOOD STRUCTURAL PANEL SHEAR WALLS.
2. THIS DETAIL APPLIES TO ALL EXTERIOR WALLS AND INTERIOR SHEAR WALLS

## 3 TYPICAL DOUBLE TOP PLATE SPLICE
SCALE: 3/4" = 1'-0"




## 2 TYPICAL SHEATHING NAILING PATTERN
SCALE: 1" = 1'-0"




NOTE: NAILING TO PT SILL TO BE GALVANIZED.

## 1 TYPICAL INTERIOR SHEAR WALL DETAIL
SCALE: 1/4" = 1'-0"


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KEY PLAN

FSP PROJECT NO.
22136

DRAWING TITLE

WOOD SHEAR WALL DETAILS

DRAWING NUMBER

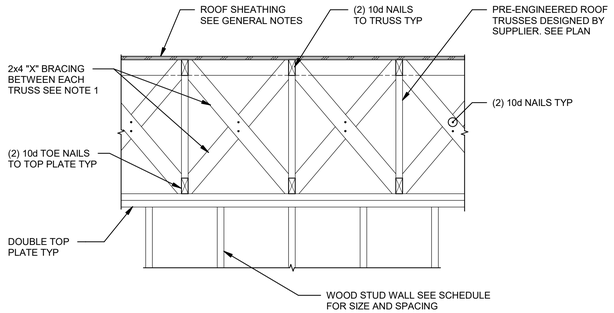
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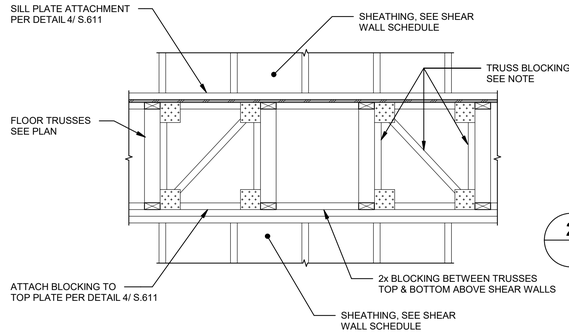
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NOTE:
1. "X" BRACING SHOULD BE SLOPED AS CLOSE TO A 1 TO 1 HORIZONTAL TO VERTICAL RATIO AS POSSIBLE. BRACES MAY PASS THROUGH MULTIPLE TRUSSES (3 MAX) TO ACHIEVE THE DESIRED SLOPE.

## 8 S.611 TYPICAL BRACING BETWEEN ROOF TRUSSES ABOVE SHEAR WALLS

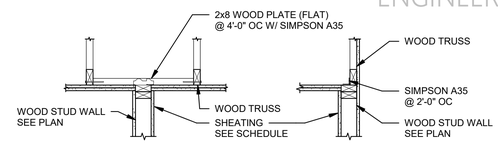
SCALE: 3/4" = 1'-0"




NOTE: TRUSS BLOCKING SHALL OCCUR AT EACH END OF SHEAR WALL AND AT EVERY OTHER TRUSS SPACE MIN OVER LENGTH OF SHEAR WALL. TRUSS BLOCKING SHALL BE DESIGNED FOR "TRUSS BLOCKING DESIGN FORCE" LISTED IN WOOD SHEAR WALL SCHEDULE OVER LENGTH OF SHEAR WALL.

## 5 S.611 TYPICAL TRUSS BLOCKING AT SHEAR WALLS

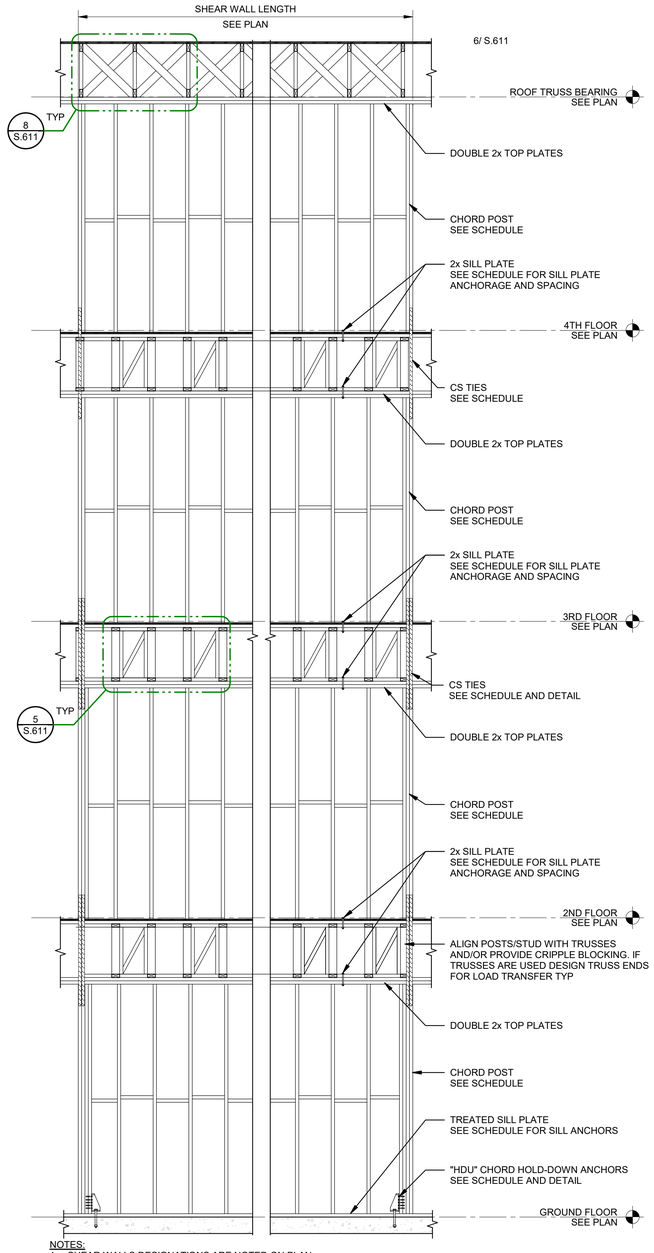
SCALE: 3/4" = 1'-0"




NOT ALIGNED WITH WALL ALIGNED WITH WALL

## 2 SHEAR WALL CONNECTION AT TRUSS

SCALE: 3/4" = 1'-0"




NOTES:
1. SHEAR WALLS DESIGNATIONS ARE NOTED ON PLAN.
2. ALL HOLD DOWN AND CS STRAP ANCHORS TO BE INSTALLED, SCREWED AND ANCHORED PER SIMPSON STRONG-TIE SPECIFICIATIONS AND REQUIREMENTS.
3. SEE BEARING WALL SCHEDULE FOR STUD SIZE AND SPACING.

## 1 TYPICAL WOOD SHEAR WALL ELEVATION 1

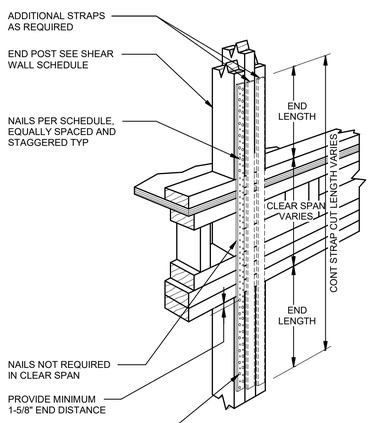
SCALE: 3/8" = 1'-0"




NOTE: SEE MANUFACTURER'S CATALOG FOR REQUIRED FASTENERS AND QUANTITIES.

## 7 "HDU" HOLDOWN AT FOUNDATION

SCALE: 3" = 1'-0"




NOTES:
1. CONTRACTOR TO DETERMINE CUT LENGTH BASED ON 2x LENGTH + DISTANCE FROM BOTTOM PLATE TO UNDERSIDE OF DOUBLE TOP PLATE
2. OPTION TO USE 8d OR 10d NAILS AS REQUIRED BY SCHEDULE
3. INSTALL HALF THE SPECIFIED FASTENERS TO END POST ABOVE AND HALF TO THE END POST BELOW.

## 6 "CS" STRAPS AT FLOOR

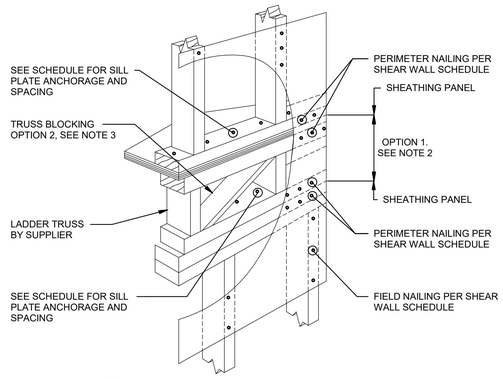
SCALE: 1" = 1'-0"




NOTES:
1. PROVIDE OPTION 1 OR OPTION 2 AT SHEAR WALL LOCATIONS.
2. OPTION 1, EXTENDED SHEAR WALL SHEATHING UP TO TOP OF FLOOR TRUSSES AND NAIL TO FLOOR TRUSSES AND BLOCKING PER SHEAR WALL SCHEDULE. TRUSS BLOCKING IS NOT REQUIRED TO TRANSFER SHEAR.
3. OPTION 2, TRUSS SUPPLIER TO DESIGN TRUSS BLOCKING PER TRUSS BLOCKING DETAIL 5/ S.611. SHEATHING NOT REQUIRED OVER TRUSS DEPTH EXCEPT AT EXTERIOR WALLS.
4. TRUSS SUPPLIER SHALL INDICATE IF TRUSS BLOCKING DESIGNED FOR LATERAL LOADING ON TRUSS LAYOUT PLANS IF OPTION 2 IS CHOSEN.

## 4 FLOOR TO FLOOR CONNECTION AT TRUSSES PERPENDICULAR TO SHEAR WALL

SCALE: 1" = 1'-0"




NOTES:
1. PROVIDE OPTION 1 OR OPTION 2 AT SHEAR WALL LOCATIONS.
2. OPTION 1, EXTENDED SHEAR WALL SHEATHING UP TO TOP OF FLOOR TRUSSES AND NAIL TO FLOOR TRUSSES AND BLOCKING PER SHEAR WALL SCHEDULE. TRUSS BLOCKING IS NOT REQUIRED TO TRANSFER SHEAR.
3. OPTION2, TRUSS SUPPLIER TO DESIGN TRUSS TO TRANSFER 630 PLF OVER LENGTH OF SHEAR WALL FROM TOP OF TRUSS TO TOP OF SHEAR WALL. SHEATHING NOT REQUIRED OVER TRUSS DEPTH EXCEPT AT EXTERIOR WALLS.
4. TRUSS SUPPLIER SHALL INDICATE IF TRUSS BLOCKING DESIGNED FOR LATERAL LOADING ON TRUSS LAYOUT PLANS IF OPTION 2 IS CHOSEN.

## 3 FLOOR TO FLOOR CONNECTION AT TRUSSES PARALLEL TO SHEAR WALL

SCALE: 1" = 1'-0"

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KEY PLAN

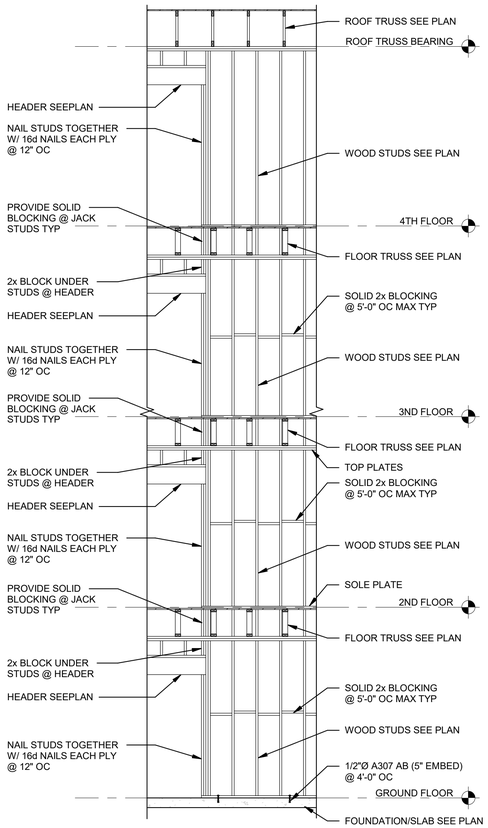
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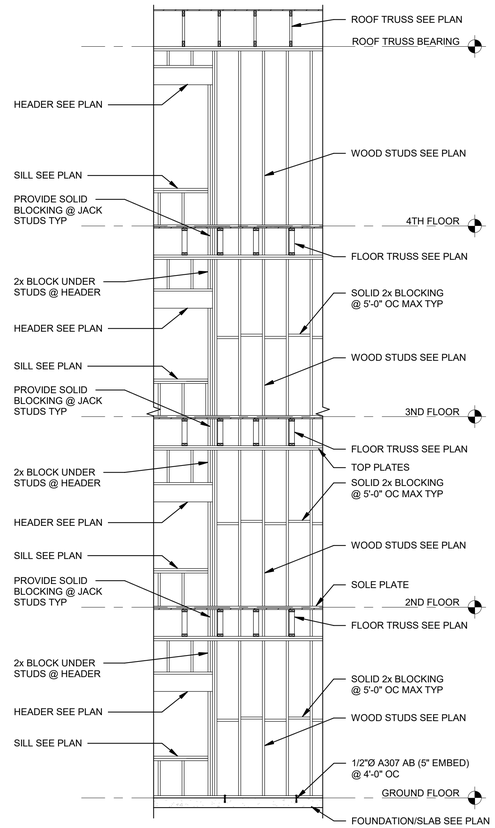
WOOD SHEAR WALL DETAILS

DRAWING NUMBER

S.611




INTERIOR BEARING WALL




EXTERIOR BEARING WALL

NOTES:
1. BEARING WALL MEMBERS ARE DESIGNATED IN BEARING WALL SCHEDULE ON SHEET
2. REFER TO SCHEDULES ON SHEET FOR HEADER, SILL AND COLUMN DESIGNATIONS
3. ALL HOLD DOWN ANCHORS TO BE INSTALLED, SCREWED AND ANCHORED PER SIMPSON STRONG-TIE SPECIFICIATIONS AND REQUIREMENTS.

## 4 TYPICAL BEARING WALL ELEVATION

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

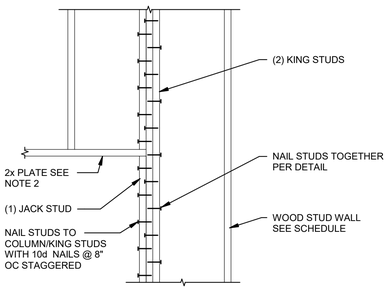
| WOOD HEADER SCHEDULE | | | WOOD POST SCHEDULE | | | |
|---|---|---|---|---|---|---|
| MARK | SIZE | KING STUDS | NUMBER OF JACK STUDS REQUIRED | | | |
| | | | 1ST TO 2ND | 2ND TO 3RD | 3RD TO 4TH | 4TH TO ROOF |
| WH-1 | (3)2x10 | 1 | (3)2x6 | (2)2x6 | (2)2x6 | 2x6 |
| WH-2 | (3)1.75x9.5 LVL | 2 | (3)2x6 | (2)2x6 | (2)2x6 | 2x6 |
| WH-3 | (3)2x8 | 1 | (4)2x4 | (3)2x4 | (2)2x4 | 2x4 |
| WH-4 | (3)2x8 | 2 | (2)2x6 | (2)2x6 | 2x6 | 2x6 |
| WH-5 | (3)1.75x11.25 LVL | 2 | (3)2x6 | - | - | - |
| WH-6 | (3)1.75x7.25 LVL | 1 | 2x6 | - | - | - |

NOTES:
1. SEE GENERAL NOTES FOR WOOD PROPERTIES.
2. NAIL MULTI-PLY HEADERS PER DETAIL -/ ---
3. ALL EXTERIOR HEADERS (DECKS AND POARCHES) MUST BE PRESSURE TREATED.
4. PROVIDE DOUBLE STUDS MIN AT ALL HEADERS, HIP TRUSSES AND TRUSS GIRDER SUPPORTS UON.
5. ALL HEADERS AND SILLS FOR EXTERIOR AND LOAD BEARING WALLS SHALL BE AS SHOWN IN SCHEDULE UON ON PLAN.
6. PROVIDE WOOD SPACER AS REQUIRED TO MATCH WALL THICKNESS.
7. FOR HEADER SUPPORT DETAIL, SEE 2/ S.701
8. "LVL" INDICATES LAMINATED VENEER LUMBER. MEMBERS INDICATED SHALL BE FABRICATED WITH BUILT-UP MULTI-PLY, LAMINATED BY NAILING OR BOLTING IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES.
9. HEADERS MARKED WITH AN ASTERISK (WH-X*) SHALL USE COLUMN SIZES AS INDICATED ON PLAN IN PLACE OF JACK STUDS AS LISTED IN SCHEDULE.

| CORRIDOR FRAMING SCHEDULE | | |
|---|---|---|
| SPAN | SIZE | SPACING |
| UP TO 11'-0" | 2x10 | 16" OC |
| 11'-0 < SPAN ≤ 15'-0" | (2)2x10 | 16" OC |

| WOOD SILL SCHEDULE | |
|---|---|
| SIZE | MAXIMUM OPENING |
| (1) 2x4 | 5'-0" |
| (2) 2x4 | 7'-0" |
| (1) 2x6 | 7'-3" |
| (2) 2x6 | 10'-3" |

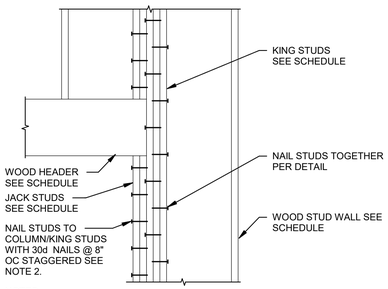
| LVL BEAM LEGEND | |
|---|---|
| MARK | SIZE |
| 3LVL7 | (3)1.75x7 1/4 LVL |
| 3LVL9.25 | (3)1.75x9 1/4 LVL |
| 3LVL9.5 | (3)1.75x9 1/2 LVL |
| 3LVL11 | (3)1.75x11 1/4 LVL |
| 3LVL14 | (3) 1.75x14 LVL |
| 3LVL16 | (3)1.75x16 LVL |
| 3LVL18 | (3)1.75x18 LVL |
| 3LVL20 | (3)1.75x20 LVL |
| 3LVL22 | (3)1.75x22 LVL |




NOTES:
1. DETAIL APPLIES ONLY TO HEADERS IN NON-LOAD BEARING WALLS SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
2. FOR SPANS LONGER THAN 6'-0" USE (2) 2x PLATES.

## 3 HEADER AT INTERIOR NON-LOAD BEARING WALLS

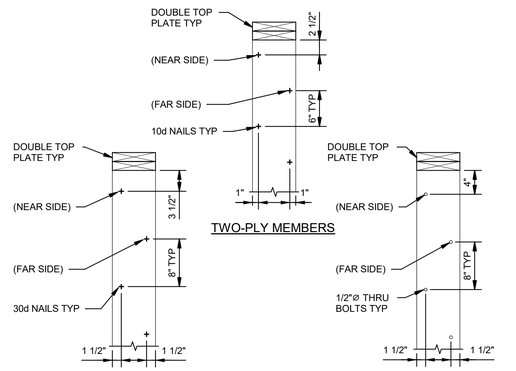
SCALE: 3/4" = 1'-0"




NOTES:
1. DETAIL APPLIES TO ALL HEADERS IN BEARING WALLS AND EXTERIOR WALLS.
2. SIMPSON SDWS 1/4"ø x 4-1/2" SCREWS (OR APPROVED EQUIVALENT) MAY BE SUBSTITUTED FOR 30d NAILS AT THE SAME SPACING AS INDICATED.

## 2 HEADER AT BEARING AND EXTERIOR WALLS

SCALE: 3/4" = 1'-0"




NOTE: SIMPSON SDWS 1/4"ø x 4-1/2" SCREWS (OR APPROVED EQUIVALENT) MAY BE SUBSTITUTED FOR 30d NAILS AT THE SAME SPACING AS INDICATED.

## 1 BUILT UP POST NAILING PATTERN

SCALE: 1" = 1'-0"

| BEARING WALL SCHEDULE | | | | |
|---|---|---|---|---|
| | WW-1 | | WW-2 | |
| LEVEL | STUD SIZE | SPACING [IN] | STUD SIZE | SPACING [IN] |
| FOURTH FLOOR | 2x6 | 16 | 2x4 | 16 |
| THIRD FLOOR | 2x6 | 16 | 2x4 | 16 |
| SECOND FLOOR | 2x6 | 16 | (2)2x4 | 16 |
| GROUND FLOOR | (2)2x6 | 16 | (3)2x4 | 16 |

| WOOD COLUMN SCHEDULE | | |
|---|---|---|
| MARK | TYPE | REMARKS |
| WC1 | 5.25x5.25 PSL | SEE NOTE 3 |
| WC2 | 3.5x5.25 PSL | - |
| WC3 | (3)2x6 | - |
| WC4 | 6x6 POST | SEE NOTE 3 |
| WC5 | (2)5.25x5.25 PSL | - |

NOTES:
1. SEE GENERAL NOTES FOR WOOD PROPERTIES.
2. NAIL BUILT-UP COLUMNS PER DETAIL 1/ S.701
3. ALL EXTERIOR COLUMNS (DECKS AND PORCHES) MUST BE PRESSURE TREATED.
4. PROVIDE DOUBLE STUDS MIN AT ALL HEADERS, HIP TRUSSES AND TRUSS GIRDER SUPPORTS UON.
5. PROVIDE MID-POINT BLOCKING WITHIN WALL EACH SIDE OF COLUMN.
6. FOR COLUMN THROUGH FLOOR FRAMING DETAIL, SEE 6/ S.610
7. "PSL" INDICATES PARALLEL STRAND LUMBER.

| MINIMUM FASTER REQUIREMENTS FOR WOOD FRAMING | | | | | | | |
|---|---|---|---|---|---|---|---|
| CONNECTION | NUMBER OR SPACING OF FASTENERS REQUIRED PER CONNECTION | | | | | | |
| | 3-1/2" x 0.162 | 3" x 0.148 | 3-1/4" x 0.131 | 3" x 0.131 | 2-1/2" x 0.131 | 3 1/4" x0.120 | 3" x0.120 |
| | FLOOR FRAMING | | | | | | |
| JOIST TO BAND JOIST | 3 | 5 | 5 | 5 | NA | 6 | 6 |
| LEDGER STRIP | 3 | 4 | 4 | 4 | 6 | 4 | 4 |
| JOIST TO SILL OR GIRDER | 3 | 3 | 3 | 3 | 3 | 4 | 4 |
| BLOCKING BETWEEN JOIST OR RAFTER TO TOP PLATE | 3 | 3 | 3 | 4 | 4 | 4 | 4 |
| BRIDGING TO JOIST | NA | NA | NA | NA | 2 | 3 | 3 |
| RIM JOIST TO TOP PLATE | 8" OC | 6" OC | 6" OC | 6" OC | 6" OC | 6" OC | 4" OC |
| BUILT UP GIRDERS AND BEAMS<br>- SPACING ALNG EDGES<br>- NUMBER AT ENDS AND SPLICES | 24" OC<br>3 | 24" OC<br>3 | 24" OC<br>3 | 24" OC<br>3 | 16" OC<br>4 | 16" OC<br>3 | 16" OC<br>3 |
| | CEILING AND ROOF FRAMING | | | | | | |
| CEILING JOIST TO PLATE | 3 | 4 | 5 | 5 | 5 | 5 | 5 |
| CEILING JOISTS, LAPS OVER PARTITIONS | 3 | 4 | 4 | 4 | 6 | 4 | 4 |
| CEILING JOIST TO PARALLEL RAFTER | 3 | 4 | 4 | 4 | 6 | 4 | 4 |
| COLLAR TIE TO RAFTER | 3 | 3 | 4 | 4 | 5 | 4 | 4 |
| JACK RAFTER TO HIP, TOE NAILED | 3 | 3 | 4 | 4 | 5 | 4 | 4 |
| JACK RAFTER TO HIP, FACE NAILED | 2 | 3 | 3 | 3 | 3 | 4 | 4 |
| ROOF RAFTER TO PLATE | 3 | 3 | 3 | 3 | 3 | 4 | 4 |
| ROOF RAFTER TO 2x RIDGE BEAM (DRIVEN THROUGH BEAM INTO END OF RIDGE) | 2 | 3 | 3 | 3 | NA | 4 | 4 |
| ROOF RAFTER TO 2x RIDGE BEAM (TOE NAIL RAFTER TO BEAM) | 2 | 3 | 3 | 3 | 3 | 4 | 4 |
| | WALL FRAMING | | | | | | |
| TOP OR SOLE PLATE TO STUD (END NAILED) | 2 | 3 | 3 | 3 | 5 | 4 | 4 |
| TOP OR SOLE PLATE TO STUD (TOE NAILED) | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| CAP/TOP PLATE LAPS AND INTERSECTIONS (EACH SIDE OF LAP) | 2 | 3 | 3 | 3 | 4 | 3 | 3 |
| DIAGONAL BRACING | 2 | 2 | 2 | 2 | 2 | 3 | 3 |
| SOLE PLATE TO JOIST OR BLOCKING AT BRACED PANELS (NUMBER PER 16" JOIST SPACE) | 2 | 3 | 3 | 4 | NA | 4 | 4 |
| SOLE PLATE TO JOIST OR BLOCKING | 16" OC | 8" OC | 8" OC | 8" OC | 6" OC | 8" OC | 8" OC |
| DOUBLE TOP PLATE | 16" OC | 16" OC | 12" OC | 12" OC | 8" OC | 12" OC | 12" OC |
| DOUBLE STUDS | 12" OC | 12" OC | 8" OC | 8" OC | 6" OC | 8" OC | 8" OC |
| CORNER STUDS | 24" OC | 16" OC | 16" OC | 16" OC | 8" OC | 12" OC | 12" OC |

NOTES:
1. NAIL LENGTHS ARE A MINIMUM NOMINAL LENGTH IN INCHES. NAIL SHANK DIAMETERS SHOWN ARE MINIMUM NOMINAL DIAMETER IN INCHES.
2. FASTNENER SCHEDULW APPLIES TO NOMINAL 2x LUMBER (ACTUAL THICKNESS = 1-1/2").
3. TABULATED FASTENING MAY APPLY TO FOR OTHER CONNECTIONS NOT LISTED HAVING SAME CONFIGURATION AND CODE REQUIREMENT FOR FASTENER QUANTITY/SPACING AND SIZE (PENYWEIGHT AND STYLE).
4. WHEN DETAILS OR SPECIFICATIONS CONFLICT WITH THE SCHEDULE ABOVE, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

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FSP PROJECT NO.
22136

DRAWING TITLE

WOOD FRAMING SCHEDULES

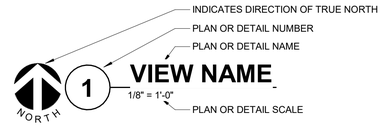
DRAWING NUMBER

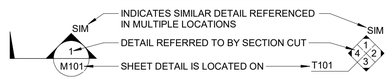
S.701

## VIEW KEY

NAME — LEVEL NAME
10'-0" — HEIGHT ABOVE PROJECT 0'-0"

1 — INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL




LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
——— NEW
- - - - - - - - - EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
— — — — NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E — TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG — UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

## APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS.

| | |
|---|---|
| BUILDING CODE: | 2021 MICHIGAN BUILDING CODE |
| FIRE CODE: | 2019 MICHIGAN FIRE ALARM CODE |
| PLUMBING CODE: | 2021 MICHIGAN PLUMBING CODE |
| MECHANICAL CODE: | 2021 MICHIGAN MECHANICAL CODE |
| ELECTRICAL CODE: | 2023 MICHIGAN ELECTRICAL CODE |
| LIFE SAFETY CODE: | 2012 MICHIGAN LIFE SAFETY CODE |
| ENERGY CODE: | 2021 MICHIGAN ENERGY CODE |

## CONTRACTOR ABBREVIATION KEY

| ABBR: | DESCRIPTION: |
|---|---|
| A.C. | ASBESTOS ABATEMENT CONTRACTOR |
| A.V.C. | AUDIO/VISUAL CONTRACTOR |
| C.C. | CIVIL CONTRACTOR |
| C.M. | CONSTRUCTION MANAGER |
| E.C. | ELECTRICAL CONTRACTOR |
| F.P.C. | FIRE PROTECTION CONTRACTOR |
| F.S.C. | FOOD SERVICE CONTRACTOR |
| G.C. | GENERAL CONTRACTOR |
| H.C. | HEATING CONTRACTOR |
| M.C. | MECHANICAL CONTRACTOR |
| N.C.C. | NURSE CALL CONTRACTOR |
| P.C. | PLUMBING CONTRACTOR |
| S.C. | SECURITY CONTRACTOR |
| T.C. | TECHNOLOGY CONTRACTOR |
| T.C.C. | TEMPERATURE CONTROLS CONTRACTOR |
| V.C. | VENTILATION CONTRACTOR |

## CONTACT PERSONS:

| DESCRIPTION: | PERSON: |
|---|---|
| PROJECT MANAGER | DONOVAN D. GESKE |
| MECHANICAL | CRAIG R. ENGLE |
| ELECTRICAL | JAMES M. STUTZKA |

## MECHANICAL SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

| SYMBOL: | DESCRIPTION: |
|---|---|
| BD | BOILER BLOW DOWN |
| BF | BOILER FEED WATER |
| CA | COMPRESSED AIR |
| CBR | CHILLED BEAM RETURN |
| CBS | CHILLED BEAM SUPPLY |
| CR | CONDENSER WATER RETURN |
| CS | CONDENSER WATER SUPPLY |
| CWR | CHILLED WATER RETURN |
| CWS | CHILLED WATER SUPPLY |
| DPP | DRAIN |
| G | NATURAL GAS |
| GV | GAS REGULATOR VENT |
| GWR | GLYCOL WATER RETURN |
| GWS | GLYCOL WATER SUPPLY |
| HCR | HEATING/CHILLED WATER RETURN |
| HG | REFRIGERANT HOT GAS |
| HWR | HEATING WATER RETURN |
| HWS | HEATING WATER SUPPLY |
| LIQ | REFRIGERANT LIQUID |
| LWR | LOOP WATER RETURN |
| LWS | LOOP WATER SUPPLY |
| RCS | RADIANT COOLING SUPPLY |
| REF | REFRIGERANT |
| RWR | REHEAT WATER RETURN |
| RWS | REHEAT WATER SUPPLY |
| SUC | REFRIGERANT SUCTION |
| SV | SAFETY RELIEF VENT |
| | PIPE CAP |
| | PIPE DOWN |
| | PIPE UP OR UP/DOWN |
| | PITCH PIPE IN DIRECTION |
| | DIRECTION OF FLOW IN PIPE |
| | DIELECTRIC CONNECTION |
| | UNION/FLANGE |
| | SHUTOFF VALVE NORMALLY OPEN |
| | SHUTOFF VALVE NORMALLY CLOSED |
| | THROTTLING VALVE |
| | BALANCING VALVE (NUMBER INDICATES GPM) |
| | AUTOMATIC BALANCING VALVE |
| | MIXING VALVE |
| | CONTROL VALVE (THREE-WAY) |
| | CONTROL VALVE (TWO-WAY) |
| | SOLENOID VALVE |
| | CHECK VALVE |
| | BACKFLOW PREVENTER |
| | SAFETY/RELIEF VALVE |
| | PRESSURE REDUCING VALVE (LIQUID/GAS) |
| | TRIPLE DUTY VALVE (ANGLE TYPE) |
| | TRIPLE DUTY VALVE (IN-LINE TYPE) |
| | PUMP |
| | VACUUM BREAKER |
| | "WYE" - STRAINER |
| | "WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP |
| | BASKET STRAINER |
| | FLEXIBLE CONNECTION |
| | PRESSURE/TEMPERATURE TEST PLUG |
| | REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB |
| | SUCTION DIFFUSER WITH SUPPORT FOOT |
| | AUTOMATIC AIR VENT |
| | MANUAL AIR VENT |
| T-* | DRAIN VALVE WITH HOSE CONNECTION AND CAP |
| | ALIGNMENT GUIDE |
| | PIPE ANCHOR |
| EJ-# (#.#") | EXPANSION JOINT #.#" IS THE EXPANSION TRAVEL INCHES |
| M | METER |

## MECHANICAL SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

| SYMBOL: | DESCRIPTION: |
|---|---|
| | DIRECTION OF AIR FLOW |
| | FLEXIBLE DUCT |
| | MANUAL VOLUME DAMPER |
| R | RISE IN DIRECTION OF AIR FLOW |
| D | DROP IN DIRECTION OF AIR FLOW |
| | DUCT CAP |
| | DUCT DOWN |
| | DUCT UP |
| | SUPPLY/OUTSIDE AIR DUCT SECTION |
| | RETURN AIR DUCT SECTION |
| | EXHAUST/RELIEF AIR DUCT SECTION |
| | 4-WAY DIFFUSER WITH BLANKOFF IN ONE DIRECTION |
| SD-1 6/115 | AIR TERMINAL PROPERTIES SYMBOL NECK SIZE/CFM |
| H | HUMIDIFIER |
| | OPPOSED BLADE DAMPER (REFER TO SCHEDULE) |
| | PARALLEL BLADE DAMPER (REFER TO SCHEDULE) |
| | DIFFERENTIAL PRESSURE SENSOR |
| H | HUMIDISTAT SENSOR |
| H | HUMIDISTAT / SENSOR |
| C | CARBON MONOXIDE SENSOR |
| $C_2$ | CARBON DIOXIDE SENSOR |
| O | OCCUPANCY SENSOR |
| P | PRESSURE SENSOR/MONITOR |
| P | PRESSURE SENSOR (DUCT MOUNTED) |
| T | THERMOSTAT/SENSOR |
| T | TEMPERATURE SENSOR |
| | THERMOSTAT/SENSOR WITH HEAVY DUTY ENCLOSURE |

## MECHANICAL ABBREVIATION KEY

| ABBR: | DESCRIPTION: |
|---|---|
| AD | ACCESS DOOR |
| AFF | ABOVE FINISHED FLOOR |
| C | COMMON |
| CO | CLEANOUT |
| CFSD | CONTROL/FIRE/SMOKE DAMPER |
| DPG (0-2") | DIFFERENTIAL PRESSURE GAUGE (RANGE) |
| DPS | DIFFERENTIAL PRESSURE SWITCH |
| EA | EXHAUST/RELIEF AIR |
| ECFSD | EXISTING CONTROL FIRE SMOKE DAMPER |
| EFD | EXISTING FIRE DAMPER |
| EFSD | EXISTING FIRE SMOKE DAMPER |
| EP | ELECTRICAL TO PNEUMATIC VALVE |
| ESD | EXISTING SMOKE DAMPER |
| FD | FIRE DAMPER |
| FOB | FLAT ON BOTTOM |
| FOT | FLAT ON TOP |
| FSD | FIRE/SMOKE DAMPER |
| MA | MIXED AIR |
| MV | MIXING VALVE |
| N.C. | NORMALLY CLOSED |
| NIC | NOT IN CONTRACT |
| N.O. | NORMALLY OPEN |
| OA | OUTSIDE AIR |
| PS | PRESSURE SWITCH |
| RA | RETURN AIR |
| SA | SUPPLY AIR |
| SCCR | SHORT CIRCUIT CURRENT RATING |
| SD | SMOKE DAMPER |
| TAB | TERMINAL AIR BOX |
| TD | TRANSFER DUCT |
| TYP | TYPICAL |
| UC-1 | DOOR UNDERCUT BY OTHERS (1" TYPICAL) |
| UON | UNLESS OTHERWISE NOTES |

## PIPING GENERAL NOTES:

1. THE SIZE OF BRANCH PIPING TO TERMINAL HEATING DEVICES AND COILS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.
3. INSTALL ALL REFRIGERANT LIQUID AND SUCTION PIPING SIZED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.

## VENTILATION GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.
2. ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER.
3. PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.
4. CLEAN ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK UPSTREAM OF ALL NEW CONNECTIONS PER SPECIFICATION SECTION 23 31 00.

## TAB POST-CONSTRUCTION NOTES:

1. AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, TESTING, ADJUSTING (TAB) AND BALANCING CONTRACTOR SHALL REBALANCE AIR HANDLING UNITS AND EXHAUST FANS AS REQUIRED TO ACHIEVE THE NEW AIRFLOW VALUES SHOWN ON THE CONSTRUCTION DRAWINGS.
2. AREAS SERVED BY THIS EQUIPMENT WHICH WERE NOT RENOVATED SHALL BE RE-BALANCED TO THE AIRFLOW RATES MEASURED BEFORE THE RENOVATION OCCURRED (REFER TO THE FINAL PRE- DEMOLITION REPORT).
3. IF DUCT TRAVERSE LOCATION AS MARKED ON THE DRAWINGS IS INACCESSIBLE FOR MEASUREMENT, THE TAB CONTRACTOR SHALL PERFORM THE TRAVERSE AT AN ALTERNATE LOCATION OR SHALL TAKE MULTIPLE DUCT TRAVERSES AND/OR GRILLE READINGS AS REQUIRED TO DETERMINE THE FLOW RATE. IN THE EVENT TRAVERSES ARE TAKEN AT AN ALTERNATE LOCATION(S), TAB CONTRACTOR SHALL INCLUDE A DRAWING THAT SHOWS THE LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.
4. A DUCT STATIC PRESSURE READING SHALL BE TAKEN AT EACH LOCATION WHERE A DUCT TRAVERSE READING IS TAKEN AND SHALL BE INCLUDED IN THE FINAL POST-CONSTRUCTION TAB REPORT.
5. TAB CONTRACTOR SHALL COMPILE AND SUBMIT COPIES OF THE FINAL POST-CONSTRUCTION TAB REPORT AS REQUIRED BY SECTION 23 05 93.
6. THE FINAL POST CONSTRUCTION REPORT SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.

## MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
9. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
10. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
14. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
15. MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-6" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.
16. MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING; DUCTWORK, PIPING, ETC.
17. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
18. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

## MECHANICAL SHEET INDEX



| | |
|---|---|
| M000 | MECHANICAL COVERSHEET |
| M201 | LEVEL 01 PLAN - MECHANICAL |
| M202 | LEVEL 02 PLAN - MECHANICAL |
| M203 | LEVEL 03 PLAN - MECHANICAL |
| M204 | LEVEL 04 PLAN - MECHANICAL |
| M205 | ROOF PLAN - MECHANICAL |
| M300 | MECHANICAL UNIT ENLARGED PLANS |
| M301 | MECHANICAL UNIT ENLARGED PLANS |
| M302 | MECHANICAL LAUNDRY ENLARGED PLANS |
| M400 | MECHANICAL DETAILS |
| M600 | MECHANICAL SCHEDULES |
| GRAND TOTAL: 11 | |




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6/26/2026

440 W. MARTIN LUTHER KING JR BLVD
GREYSTONE
SENIOR LIVING
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 03.24.25 | PLAN REVIEW #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

MECHANICAL COVERSHEET

DRAWING NUMBER

M000


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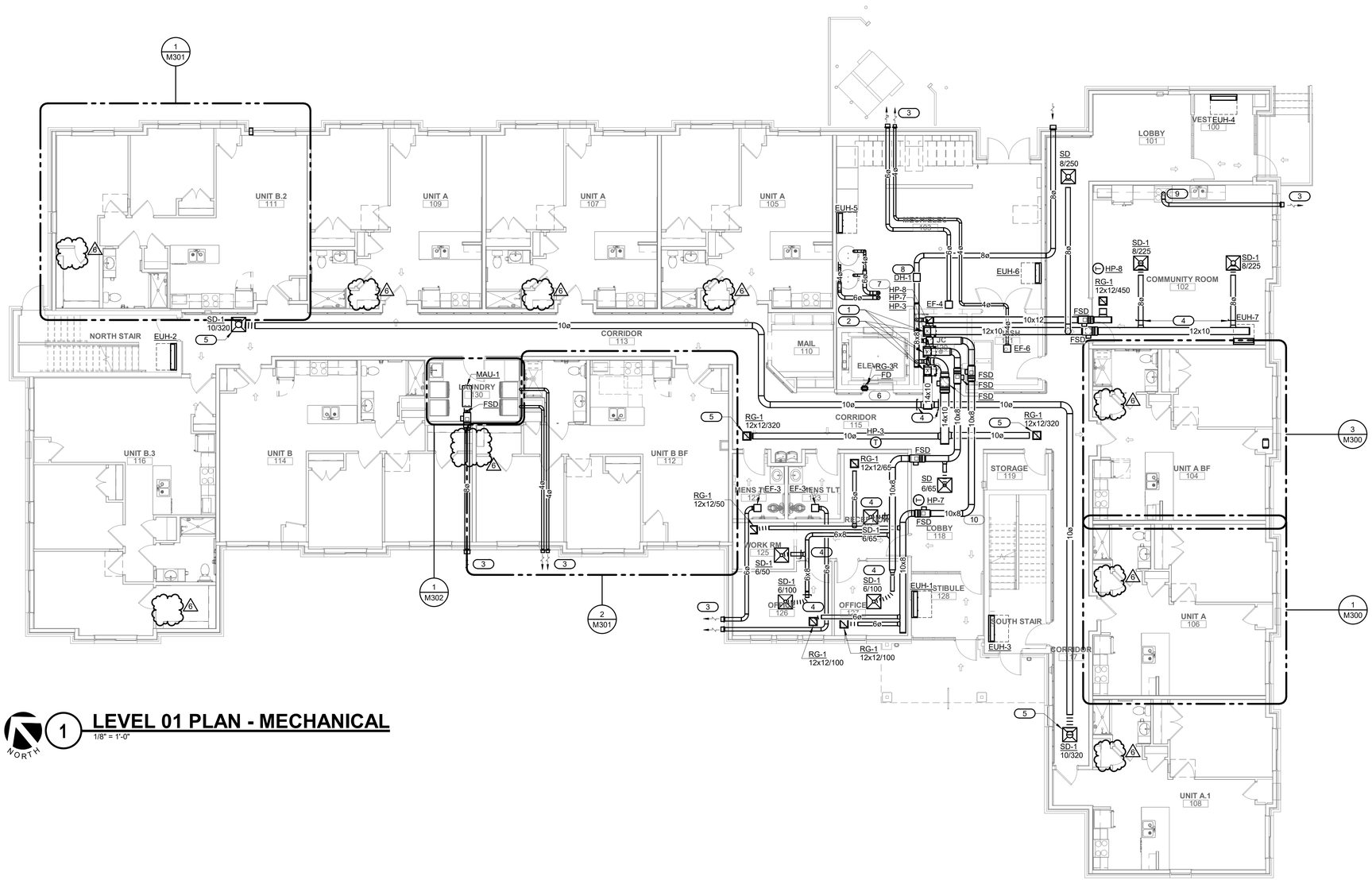


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REF. SCALE IN INCHES
PROJECT #22007630.00

**KEYNOTES:** ( # )

1. PROVIDE WALL MOUNTED,DAY PROGRAMMABLE SMART THERMOSTAT WITH REMOTE ACCESS AND GOVERNING FEATURE, PROVIDE CONDENSATE LINE TO NEAREST FLOOR DRAIN .SEE DETAIL 5/M400. SEE SCHEDULE FOR SPECIFICATIONS AND ADDITIONAL INFORMATION.
2. ROUTE REFRIGERANT PIPING TO CORRESPONDING CONDENSING UNIT ON ROOF, SIZE PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ROUTING AND LOCATION ON SITE.
3. TERMINATE IN VENT CAP. VERIFY ROUTING AND LOCATION ON SITE AND WITH ARCHITECTURAL PLANS.
4. PROVIDE CEILING ACCESS PANEL FOR BALANCING DAMPERS.
5. PROVIDE RADIATION DAMPERS AT SUPPLY AND RETURN DIFFUSERS WHERE THEY PENETRATE THE RATED HORIZONTAL ASSEMBLY PROVIDE ACCESS PANELS FOR RESETTING DAMPERS.
6. REFER TO DETAIL M400/2
7. REFER TO COMMON VENT KIT INSTRUCTIONS FOR AOSMITH WATER HEATERS.
8. DUCT HEATER TO BE INTERLOCKED WITH ASSOCIATED HEATPUMP.
9. CONTRACTOR SHALL ROUTE AND INSTALL EXHAUST DUCTWORK IN CEILING ASSEMBLY. INSTALL PER MANUFACTURER'S INSTRUCTIONS, PROVIDE ALL MATERIALS NECESSARY TO MAINTAIN ALL RATINGS, VERIFY AND COMPLY WITH ALL LOCAL AND STATE CODE REQUIREMENTS.
10. N/A.




## 1 LEVEL 01 PLAN - MECHANICAL

1/8" = 1'-0"

NORTH


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6/26/2026

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**GREYSTONE**
**SENIOR LIVING**
**DETROIT MICHIGAN**

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 07.11.25 | ADDENDUM #1 |
| 03.24.25 | PLAN REVIEW #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

LEVEL 01 PLAN - MECHANICAL

DRAWING NUMBER

M201


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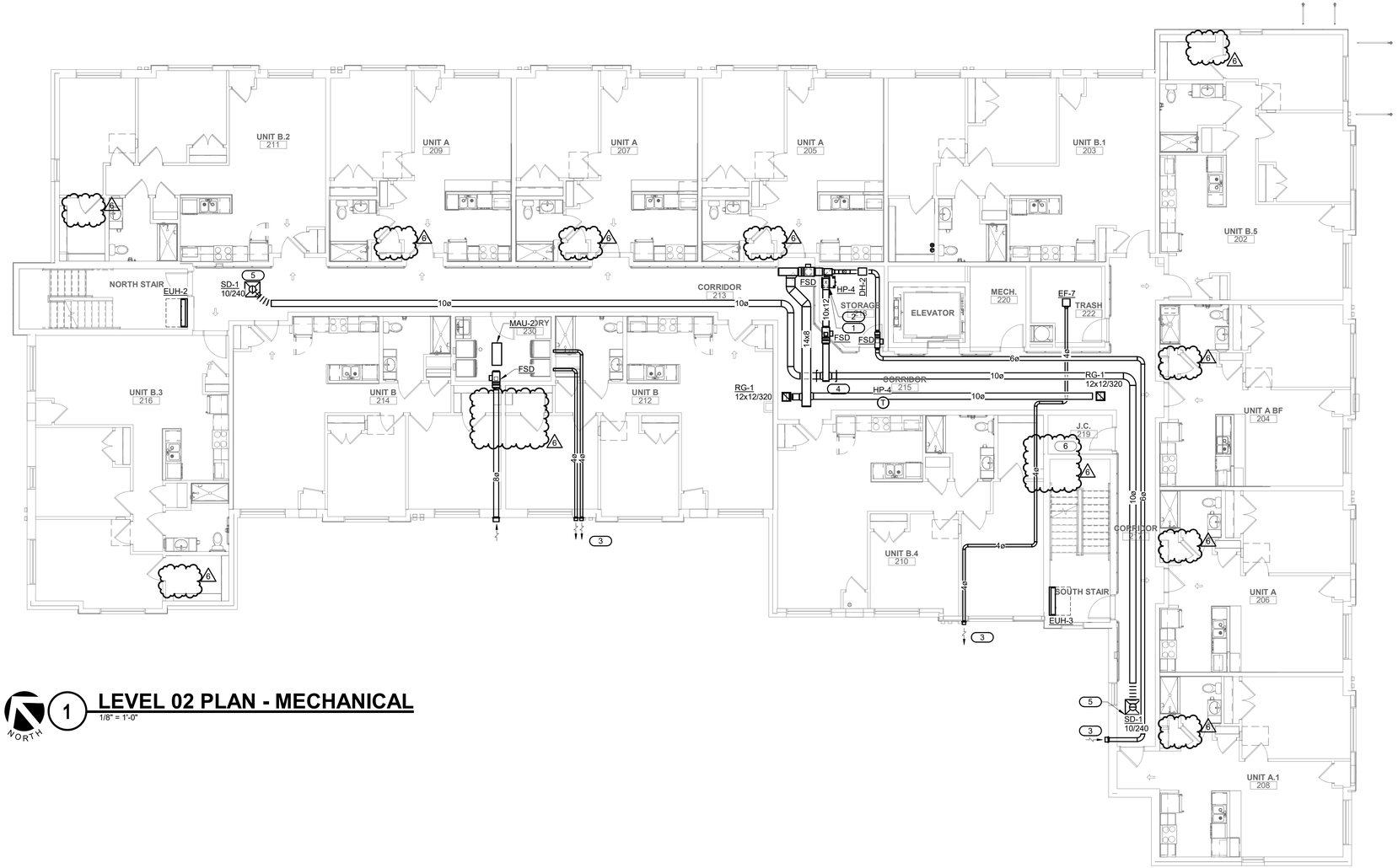
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REF. SCALE IN INCHES

PROJECT #22007630.00

**KEYNOTES:** #

1. PROVIDE WALL MOUNTED,DAY PROGRAMMABLE SMART THERMOSTAT WITH REMOTE ACCESS AND GOVERNING FEATURE, PROVIDE CONDENSATE LINE TO NEAREST FLOOR DRAIN .SEE DETAIL 5/M400. SEE SCHEDULE FOR SPECIFICATIONS AND ADDITIONAL INFORMATION.
2. ROUTE REFRIGERANT PIPING TO CORRESPONDING CONDENSING UNIT ON ROOF, SIZE PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ROUTING AND LOCATION ON SITE.
3. TERMINATE IN VENT CAP. VERIFY ROUTING AND LOCATION ON SITE AND WITH ARCHITECTURAL PLANS.
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5. PROVIDE RADIATION DAMPERS AT SUPPLY AND RETURN DIFFUSERS WHERE THEY PENETRATE THE RATED HORIZONTAL ASSEMBLY PROVIDE ACCESS PANELS FOR RESETTING DAMPERS.
6. REFRIGERANT PIPE ROUTING.




## 1 LEVEL 02 PLAN - MECHANICAL

1/8" = 1'-0"

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| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

LEVEL 02 PLAN - MECHANICAL

DRAWING NUMBER

M202


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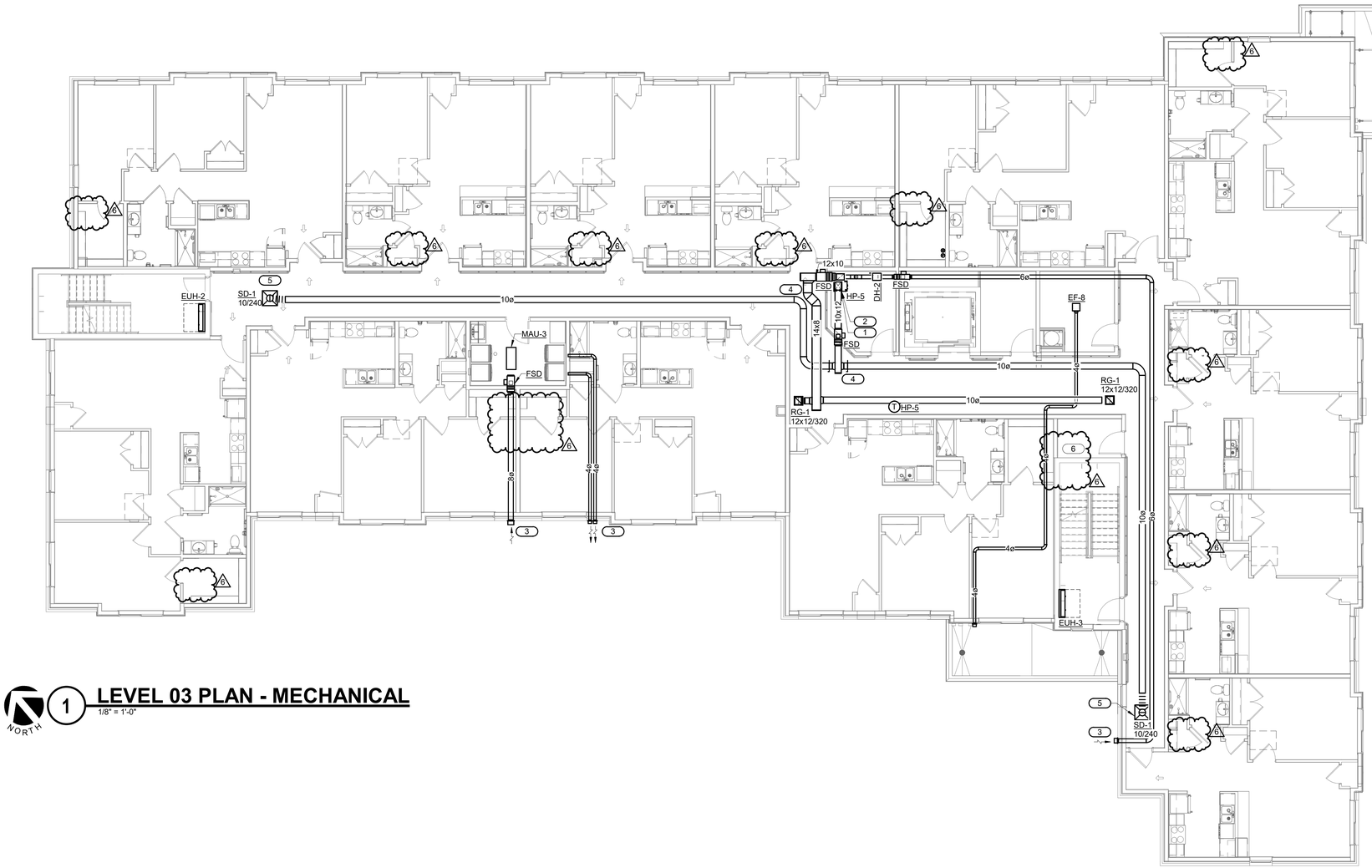
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PROJECT #22007630.00

**KEYNOTES:** ( # )

1. PROVIDE WALL MOUNTED,DAY PROGRAMMABLE SMART THERMOSTAT WITH REMOTE ACCESS AND GOVERNING FEATURE, PROVIDE CONDENSATE LINE TO NEAREST FLOOR DRAIN .SEE DETAIL 5/M400. SEE SCHEDULE FOR SPECIFICATIONS AND ADDITIONAL INFORMATION.
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6. REFRIGERANT PIPE ROUTING.




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## 1 LEVEL 03 PLAN - MECHANICAL

1/8" = 1'-0"


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CCD18.002

DRAWING TITLE

LEVEL 03 PLAN - MECHANICAL

DRAWING NUMBER

M203

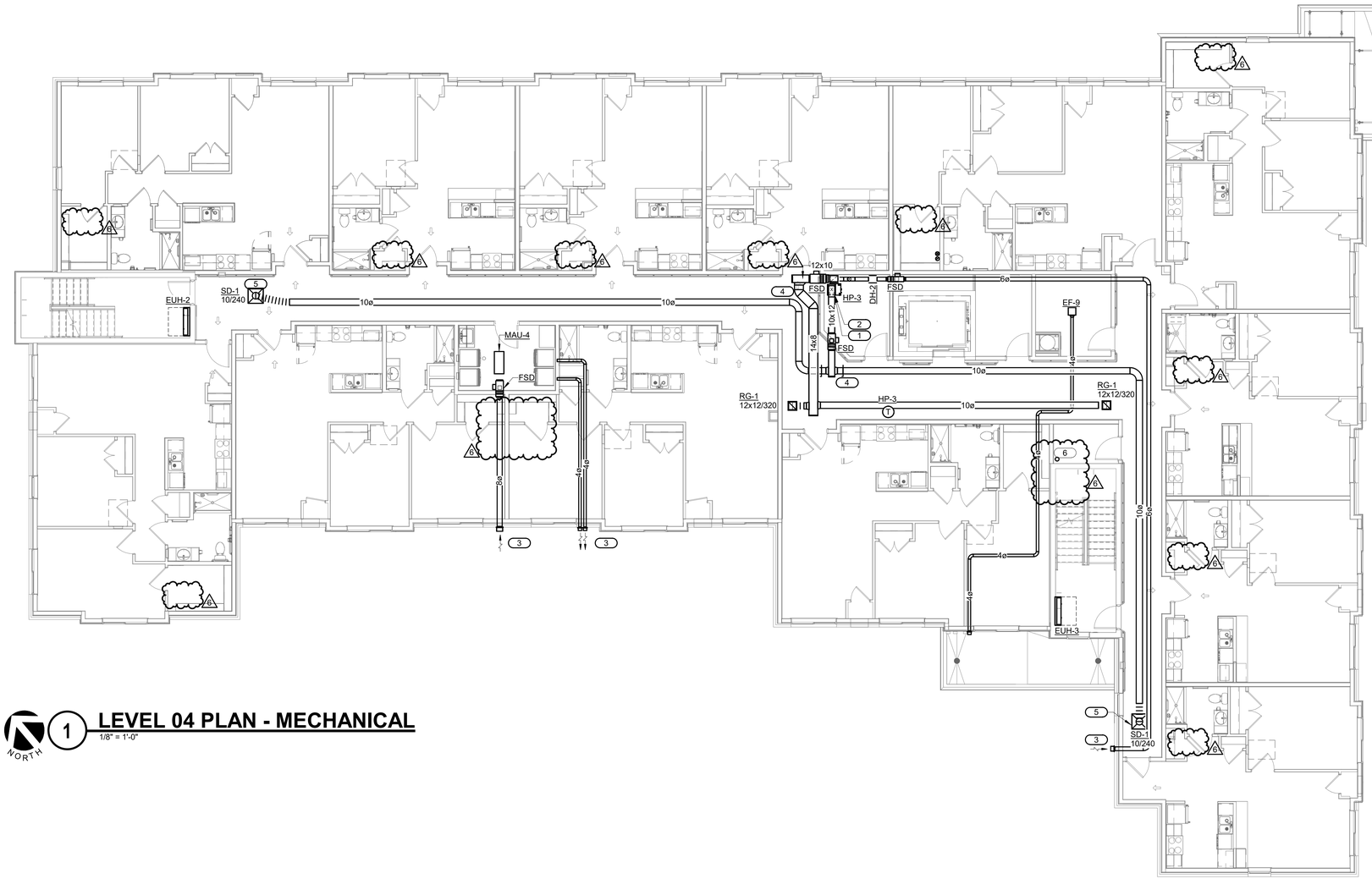

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PROJECT #22007630.00




## 1 LEVEL 04 PLAN - MECHANICAL

1/8" = 1'-0"

NORTH

**KEYNOTES:** #

1. PROVIDE WALL MOUNTED,DAY PROGRAMMABLE SMART THERMOSTAT WITH REMOTE ACCESS AND GEOFENCING FEATURE, PROVIDE CONDENSATE LINE TO NEAREST FLOOR DRAIN .SEE DETAIL 5/M400. SEE SCHEDULE FOR SPECIFICATIONS AND ADDITIONAL INFORMATION.
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6. REFRIGERANT PIPE ROUTING.

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# GREYSTONE
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|---|---|
| 06.19.26 | BULLETIN #1 |
| 07.11.25 | ADDENDUM #1 |
| 03.24.25 | PLAN REVIEW #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

LEVEL 04 PLAN - MECHANICAL

DRAWING NUMBER

M204

IMEG
3001 BROADWAY STREET NE
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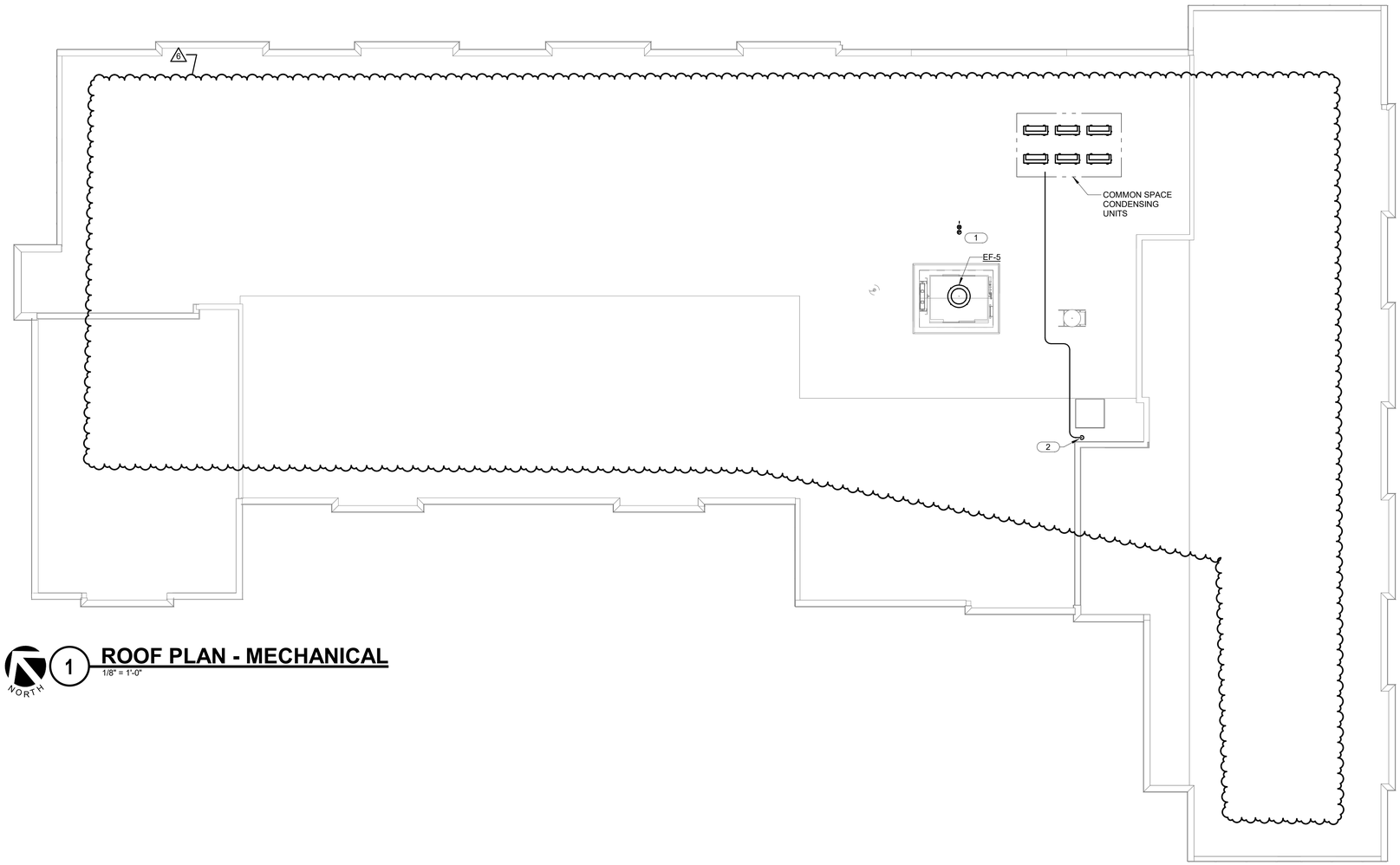
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REF. SCALE IN INCHES

PROJECT #220076300.00

**KEYNOTES:**

1. REFER TO DETAIL M400/4 FOR TERMINATION
2. REFRIGERANT PIPING DOWN TO UNITS.




## 1 ROOF PLAN - MECHANICAL

1/8" = 1'-0"

NORTH

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6/26/2026

MICHIGAN

# 440 W. MARTIN LUTHER KING JR BLVD

# GREYSTONE

## SENIOR LIVING

DETROIT

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 10.30.25 | ADDENDUM #4 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ROOF PLAN - MECHANICAL

DRAWING NUMBER

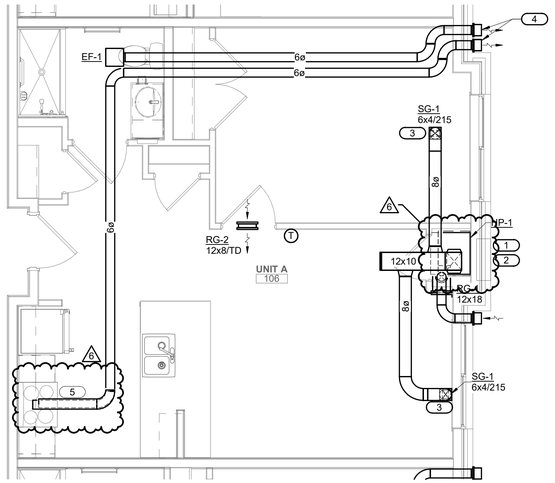
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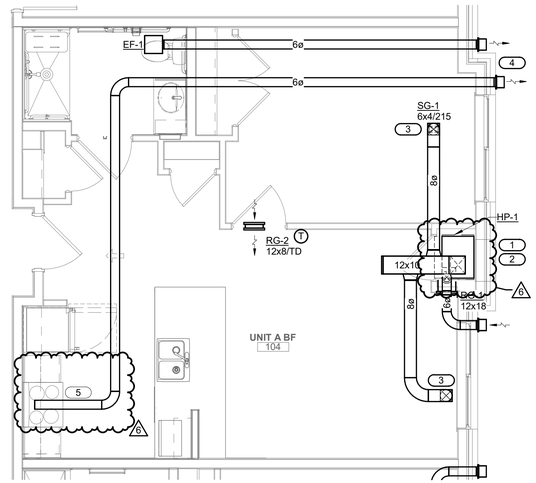
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REF. SCALE IN INCHES

PROJECT #220007630.00



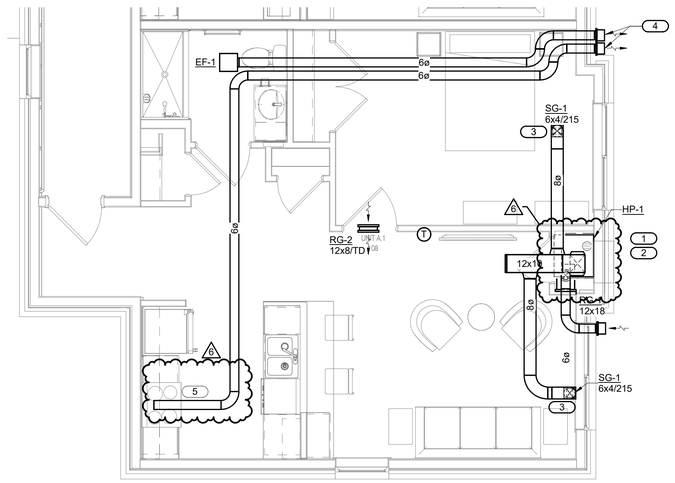

## 1 UNIT A TYP. ENLARGED PLAN - MECHANICAL

1/4" = 1'-0"




## 3 UNIT A-BF TYP. ENLARGED PLAN - MECHANICAL

1/4" = 1'-0"




## 2 UNIT A.1 TYP. ENLARGED PLAN - MECHANICAL

1/4" = 1'-0"

**KEYNOTES:** ( # )

1. PROVIDE LG, SPLIT SYSTEM HEAT PUMP, PROVIDE WALL MOUNTED,DAY PROGRAMMABLE SMART THERMOSTAT WITH REMOTE ACCESS AND GEOFENCING FEATURE, PROVIDE CONDENSATE LINE TO NEAREST FLOOR DRAIN .SEE DETAIL 5/M400. SEE SCHEDULE FOR SPECIFICATIONS AND ADDITIONAL INFORMATION.
2. ROUTE REFRIGERANT PIPING TO CORRESPONDING CONDENSING UNIT ON ROOF, SIZE PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ROUTING AND LOCATION ON SITE.
3. SUPPLY GRILLE TO BE INSTALLED AT 8'-6" A.F.F. COORDINATE HEIGHT WITH ARCHITECTURAL SHEETS.
4. TERMINATE IN VENT CAP. VERIFY ROUTING AND LOCATION ON SITE AND WITH ARCHITECTURAL PLANS.
5. CONNECT 6" DIA EXHAUST DUCT TO RANGE HOOD.

**APARTMENT GENERAL NOTES:**

1. ALL ACCESS PANELS REQUIRED FOR ACCESSING MECHANICAL EQUIPMENT OR DAMPERS ARE TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. COORDINATE ACCESS PANELS WITH OWNERS REP PRIOR TO PURCHASE.
2. ALL SUPPLY AND RETURN DUCTS RUN IN INTERSTITIAL SPACE ABOVE CEILING JOISTS, UNO, DUCTS ON FOURTH FLOOR UNITS RUNS THROUGH WEBBED JOIST.
3. ALL CEILING DIFFUSERS AND GRILLES INSTALLED IN RATED FLOOR/CEILING ASSEMBLY ARE TO BE EQUIPPED WITH LISTED CEILING RADIATION DAMPERS.
4. FIRESTOP CAULKING SHALL BE INSTALLED AROUND ALL DUCTS THAT PENETRATE UP INTO TRUSS SPACE FIRE CAULK SHALL BE USED TO FILL THE ANNULAR SPACE AROUND DUCT WHERE IT PENETRATES THE RATED ASSEMBLY SUCH THAT IT PREVENTS THE PASSAGE OF FLAME AND SMOKE DUCTWORK TO BE A MINIMUM OF 25 GAUGE GALVANIZED. FLEX DUCT SHALL NOT BE USED AT PENETRATION OF ANY RATED ASSEMBLY.
5. ALL BATHROOM AND BEDROOM DOORS ARE TO BE UNDERCUT 3/4 TO ALLOW RETURN/EXHAUST AIR TO TRANSFER.
6. 3 CODE REQUIRED CLEARANCE BETWEEN EXHAUST OUTLETS AND OPERABLE OPENINGS SHALL BE MAINTAINED.
7. FRESH AIR VENTILATION:
   - WHEN KITCHEN EXHAUST (EF-2) FAN IS ACTIVATED EITHER MANUALLY OR BY TIMER SETTING.
   - BATHROOM EXHAUST (EF-1) FAN IS CONTROLLED WITH WALL SWITCH WITH INTEGRAL COUNTDOWN TIMER CAPABLE OF 5-60 MINUTE SETTINGS AND ADJUSTABLE MINUTES PER HOUR (PANASONIC WHISPER CONTROL FV-WCD01 OR EQUAL) SETTINGS TO COMPLY WITH ASHRAE 62.2 TIMER TO BE SET PER INTERNATIONAL ENERGY CONSERVATION CODE 2015 (IECC 2015), SECTION 403, EQUATION R403.64.3. PROVIDE ADDITIONAL RELAYS AS NEEDED TO INTERLOCK FAN OPERATION WITH MOTORIZED DAMPER AND BLOWER OF HEAT PUMP.
   - SEE VENTILATION RATES TABLE ON SHEET M600 FOR SPECIFIC RATES AND RUN TIMES.

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6/26/2026

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

# GREYSTONE
## SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

MECHANICAL UNIT ENLARGED PLANS

DRAWING NUMBER

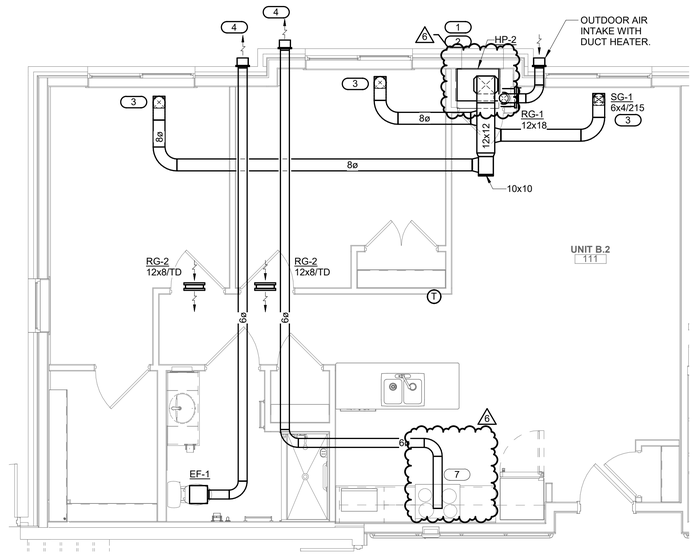
M300

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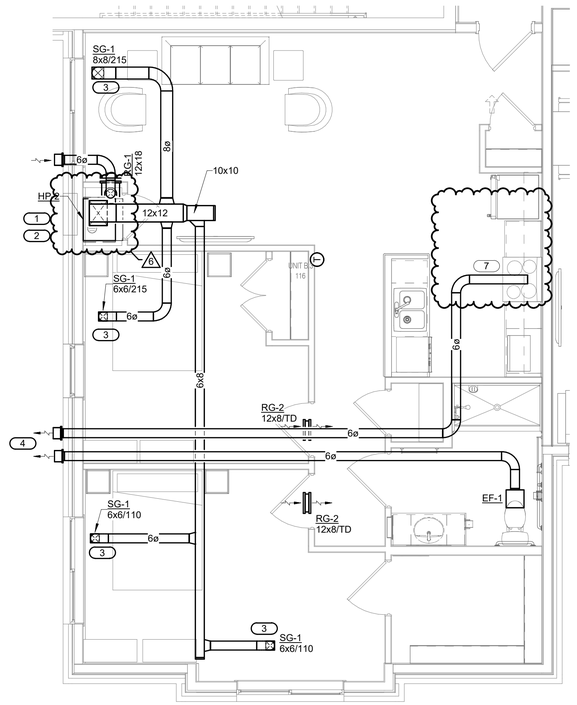
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REF. SCALE IN INCHES

PROJECT #22007630.00



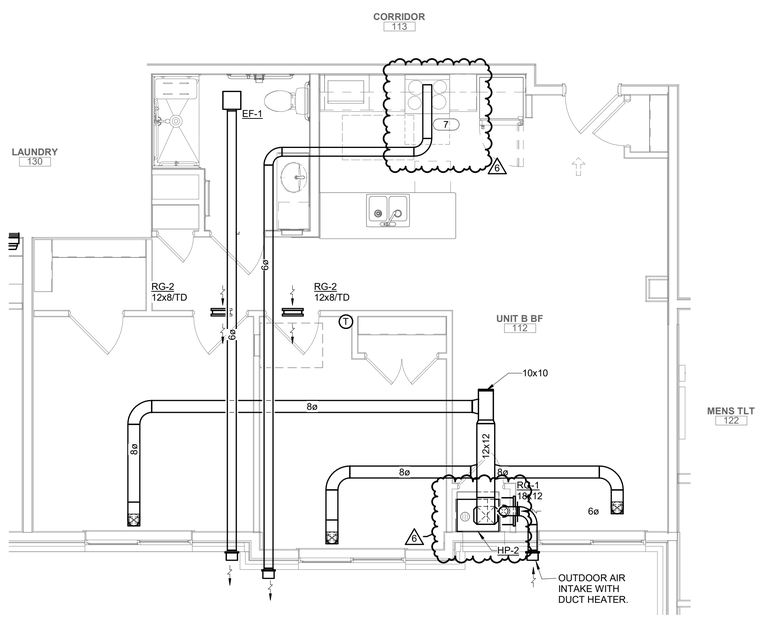

# 1 UNIT B TYP. ENLARGED PLAN - MECHANICAL

1/4" = 1'-0"




# 3 UNIT B.3 TYP. ENLARGED PLAN - MECHANICAL

1/4" = 1'-0"




# 2 UNIT B-BF TYP. ENLARGED PLAN - MECHANICAL

1/4" = 1'-0"

**KEYNOTES:** (#)

1. PROVIDE LG, SPLIT SYSTEM HEAT PUMP, PROVIDE WALL MOUNTED,DAY PROGRAMMABLE SMART THERMOSTAT WITH REMOTE ACCESS AND GEOFENCING FEATURE, PROVIDE CONDENSATE LINE TO NEAREST FLOOR DRAIN .SEE DETAIL 5/M400. SEE SCHEDULE FOR SPECIFICATIONS AND ADDITIONAL INFORMATION.
2. ROUTE REFRIGERANT PIPING TO CORRESPONDING CONDENSING UNIT ON ROOF, SIZE PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ROUTING AND LOCATION ON SITE.
3. SUPPLY GRILLE TO BE INSTALLED AT 8'-6" A.F.F. COORDINATE HEIGHT WITH ARCHITECTURAL SHEETS.
4. TERMINATE IN VENT CAP. VERIFY ROUTING AND LOCATION ON SITE AND WITH ARCHITECTURAL PLANS.
5. PROVIDE CEILING ACCESS PANEL FOR BALANCING DAMPERS.
6. PROVIDE RADIATION DAMPERS AT SUPPLY AND RETURN DIFFUSERS WHERE THEY PENETRATE THE RATED HORIZONTAL ASSEMBLY PROVIDE ACCESS PANELS FOR RESETTING DAMPERS.
7. CONNECT 6" DIA EXHAUST DUCT TO RANGE HOOD.

**APARTMENT GENERAL NOTES:**

1. ALL ACCESS PANELS REQUIRED FOR ACCESSING MECHANICAL EQUIPMENT OR DAMPERS ARE TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. COORDINATE ACCESS PANELS WITH OWNERS REP PRIOR TO PURCHASE.
2. ALL SUPPLY AND RETURN DUCTS RUN IN INTERSTITIAL SPACE ABOVE CEILING JOISTS, UNO. DUCTS ON FOURTH FLOOR UNITS RUNS THROUGH WEBBED JOIST.
3. ALL CEILING DIFFUSERS AND GRILLES INSTALLED IN RATED FLOOR/CEILING ASSEMBLY ARE TO BE EQUIPPED WITH LISTED CEILING RADIATION DAMPERS.
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   - SEE VENTILATION RATES TABLE ON SHEET M600 FOR SPECIFIC RATES AND RUN TIMES.

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6/26/2026

MICHIGAN

DETROIT

**440 W. MARTIN LUTHER KING JR BLVD**

# GREYSTONE

## SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

MECHANICAL UNIT ENLARGED PLANS

DRAWING NUMBER

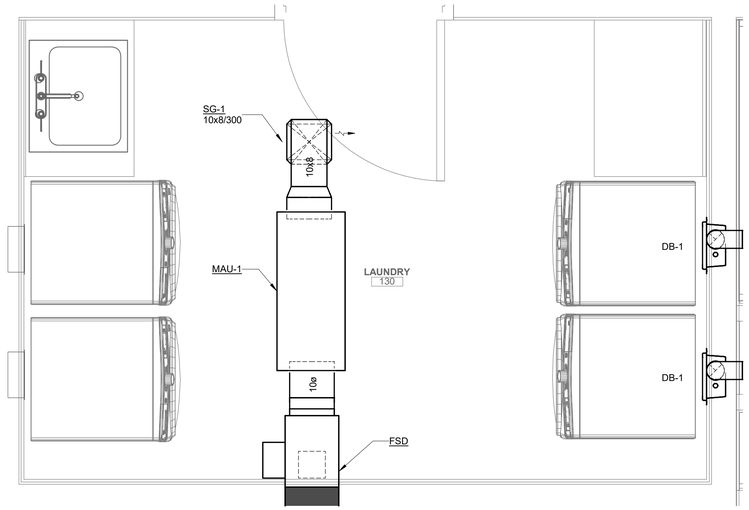
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REF. SCALE IN INCHES

PROJECT #22007630.00




## 1 LAUNDRY TYP. ENLARGED PLAN - MECHANICAL

3/4" = 1'-0"

**LAUNDRY GENERAL NOTES:**

1. ALL ACCESS PANELS REQUIRED FOR ACCESSING MECHANICAL EQUIPMENT OR DAMPERS ARE TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. COORDINATE ACCESS PANELS WITH OWNERS REP PRIOR TO PURCHASE.
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5. 3 CODE REQUIRED CLEARANCE BETWEEN EXHAUST OUTLETS AND OPERABLE OPENINGS SHALL BE MAINTAINED.

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6/26/2026

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**GREYSTONE**
**SENIOR LIVING**
**DETROIT MICHIGAN**

| DATE | ISSUE |
|---|---|
| 07.11.25 | ADDENDUM #1 |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

MECHANICAL LAUNDRY ENLARGED PLANS

DRAWING NUMBER

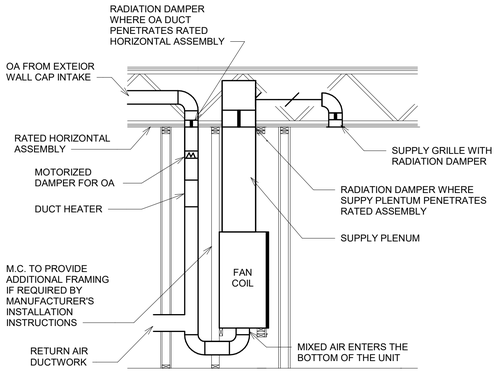
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REF. SCALE IN INCHES

PROJECT #22007630.00

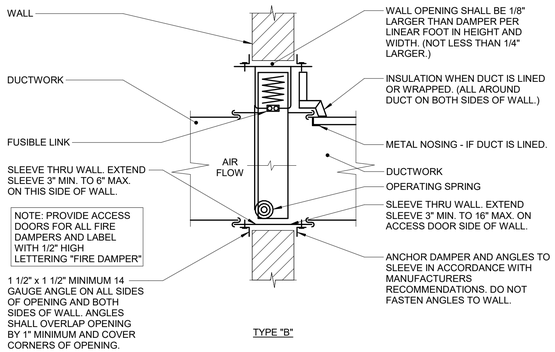



NOTES:

1. SEE FLOOR PLANS FOR ALL DUCT SIZING AND EXACT ROUTING.

## 5 VERTICAL FAN COIL UNIT DETAIL1

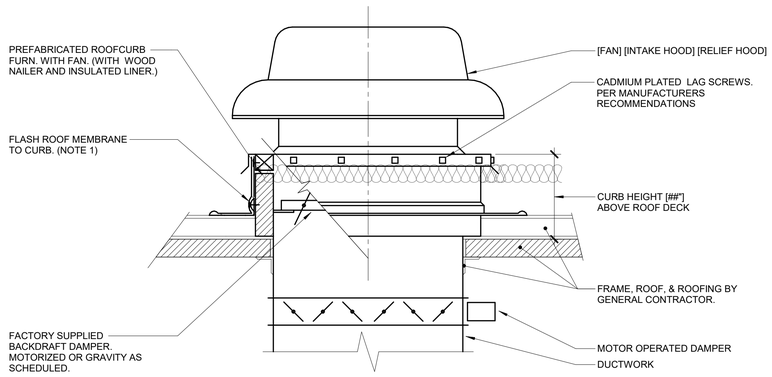
NO SCALE




TYPE "B"

## 2 FIRE DAMPER THRU WALL DETAIL (TYPE B)

NO SCALE

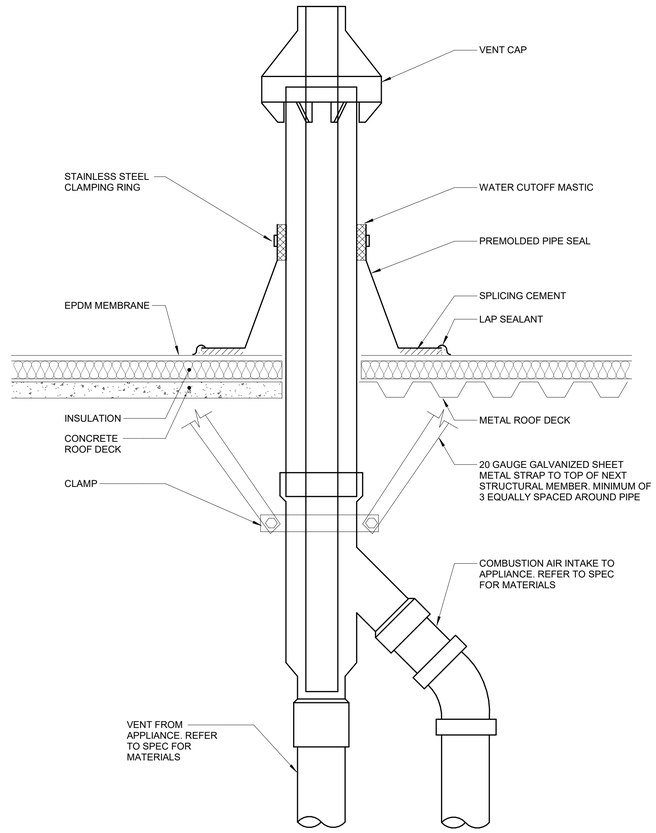



NOTES:

1. ALL ROOF FLASHING SHALL BE PER ROOFING MANUFACTURERS RECOMMENDATIONS.

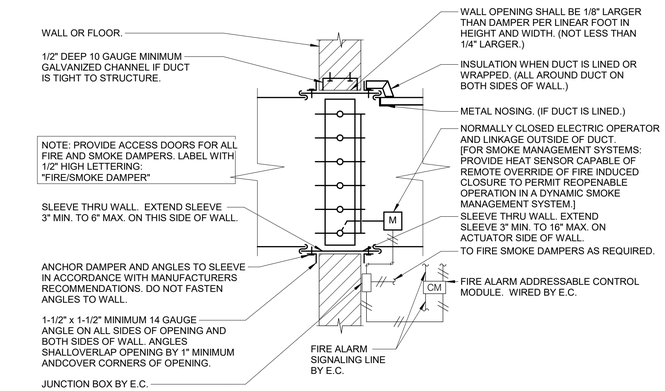
## 1 ROOF FAN/HOOD CURB

NO SCALE




## 4 CONCENTRIC GAS VENT/INTAKE DETAIL

NO SCALE




NOTES:

1. CONNECTION OF DAMPER TO SLEEVE SHALL BE AS SHOWN IN FIGURE 1 OF SMACNA "FIRE DAMPER AND HEAT STOP GUIDE FOR AIR HANDLING SYSTEMS", SECOND EDITION.
2. DAMPER CLOSES BY SPRING ACTION IN EVENT OF HIGH TEMPERATURE.
3. FLOOR MOUNTED DAMPER SIMILAR WITH ACTUATOR ON SIDE WITH ACCESS DOOR.
4. WHERE DUCT SMOKE DETECTORS CANNOT BE ACCESSED BY THE DAMPER ACCESS DOOR THE ELECTRICAL CONTRACTOR SHALL FURNISH A DUCT ACCESS DOOR FOR THE DETECTOR. THE MECHANICAL CONTRACTOR SHALL INSTALL THE DOOR IN THE DUCT.
5. SEE FIRE/SMOKE DAMPER WIRING SCHEMATIC DETAIL ON ELECTRICAL DRAWINGS FOR WIRING DETAILS. REFER TO ELECTRICAL DRAWINGS FOR FSD/CM LOCATIONS.

## 3 COMBINATION FIRE & SMOKE DAMPER (ELECTRIC)

NO SCALE

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6/26/2026

MICHIGAN

# 440 W. MARTIN LUTHER KING JR BLVD
# GREYSTONE
## SENIOR LIVING

DETROIT

| DATE | ISSUE |
|---|---|
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

MECHANICAL DETAILS

DRAWING NUMBER

M400

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REF. SCALE IN INCHES
PROJECT #220070630.00

## SPLIT SYSTEM UNIT SCHEDULE

NOTES:
1.SET FAN SPEED TO HIGH
2. SET FAN SPEED TO MEDIUM
3. SET FAN SPEED TO LOW

| | | INDOOR UNIT | | | | | | | | OUTDOOR UNIT | | | | | | ELECTRICAL | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MAX. DIMENSIONS | | | | | | MAX. DIMENSIONS | | | | | | | | | DISCONNECT | | CONTROLLER/ STARTER | | | |
| TAG NAME | AREA SERVED | CFM | COOLING MBH | HEATING MBH | LENGTH | WIDTH | HEIGHT | WEIGHT | MODEL | SEER | HEIGHT | LENGTH | WIDTH | WEIGHT | MODEL | VOLTAGE | PHASE | MCA | MOCP AMPS | BY (NOTE A) | TYPE (NOTE B) | BY (NOTE A) | SCCR | MANUFACTURER | NOTES |
| HP-3 | CORRIDOR 113, CORRIDOR 115, CORRIDOR 117 | 645 | 24.8 | 27 | 21 13/32" | 18" | 49 3/8" | 116.8 | LVN181HV4 | 19.2 | 2'-8 27/32" | 1'-1" | 3'-1 13/32" | 133.4 | LUU180HHV | 208 | 1 | 22.0 | 30 | EC | NF | MFG | 0 | LG Electronics | 1 |
| HP-4 | CORRIDOR 213, CORRIDOR 215, CORRIDOR 217 | 475 | 24.8 | 27 | 21 13/32" | 18" | 49 3/8" | 116.8 | LVN181HV4 | 19.2 | 2'-8 27/32" | 1'-1" | 3'-1 13/32" | 133.4 | LUU180HHV | 208 | 1 | 22.0 | 30 | EC | NF | MFG | 0 | LG Electronics | 3 |
| HP-5 | CORRIDOR 313, CORRIDOR 315, CORRIDOR 317 | 475 | 24.8 | 27 | 21 13/32" | 18" | 49 3/8" | 116.8 | LVN181HV4 | 19.2 | 2'-8 27/32" | 1'-1" | 3'-1 13/32" | 133.4 | LUU180HHV | 208 | 1 | 22.0 | 30 | EC | NF | MFG | 0 | LG Electronics | 3 |
| HP-7 | RECEPTION 124, WORK ROOM 125, OFFICE 126, OFFICE 127 | 315 | 30 | 36 | 21 13/32" | 18" | 49 3/8" | 116.8 | LVN241HV4 | 16.45 | 2'-8 27/32" | 1'-1" | 3'-1 13/32" | 133.4 | LUU240HHV | 208 | 1 | 22.0 | 30 | EC | NF | MFG | 0 | LG Electronics | 3 |
| HP-8 | COMMUNITY ROOM 102 | 450 | 24.8 | 27 | 21 13/32" | 18" | 49 3/8" | 116.8 | LVN181HV4 | 19.2 | 2'-8 27/32" | 1'-1" | 3'-1 13/32" | 133.4 | LUU180HHV | 208 | 1 | 22.0 | 30 | EC | NF | MFG | 0 | LG Electronics | 3 |

## UNIT HEATER SCHEDULE - ELECTRIC

NOTES:
1. SURFACE MOUNTED

| | | | | ELECTRICAL | | | HEATING ELEMENT | | | ELECTRICAL | | | | | | MAX. DIMENSIONS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | TOTAL KW (QTY * KW) | | | | | DISCONNECT | | | | | | | | | |
| TAG NAME | AREA SERVED | CONFIGURATION | CFM | HP | RPM | NUMBER OF STAGES | QTY | KW | VOLTAGE | PHASES | FLA | BY (NOTE A) | TYPE (NOTE B) | CONTROL | LENGTH | WIDTH | HEIGHT | WEIGHT | MANUFACTURER | MODEL | NOTES |
| EUH-1 | VESTIBULE 128 | WALL MOUNTED | 500 | 0.125 | 1550 | 2 | 1 | 10 | 208 | 1 | 0.0 | EC | NF | INTEGRAL | 45" | 9-3/4" | 26-3/8" | 160 | Marley Engineered Products | CU900 | 1 |
| EUH-2 | NORTH STAIR | WALL MOUNTED | 500 | 0.125 | 1550 | 2 | 1 | 10 | 208 | 1 | 0.0 | EC | NF | INTEGRAL | 45" | 9-3/4" | 26-3/8" | 160 | Marley Engineered Products | CU900 | 1 |
| EUH-3 | SOUTH STAIR | WALL MOUNTED | 500 | 0.125 | 1550 | 2 | 1 | 10 | 208 | 1 | 0.0 | EC | NF | INTEGRAL | 45" | 9-3/4" | 26-3/8" | 160 | Marley Engineered Products | CU900 | 1 |
| EUH-4 | VESTIBULE 100 | WALL MOUNTED | 500 | 0.125 | 1550 | 2 | 1 | 10 | 208 | 1 | 0.0 | EC | NF | INTEGRAL | 45" | 9-3/4" | 26-3/8" | 160 | Marley Engineered Products | CU900 | 1 |
| EUH-5 | FIRE PUMP 130 | WALL MOUNTED | 250 | 0.125 | 1550 | 2 | 1 | 6 | 208 | 1 | 0.0 | EC | NF | INTEGRAL | 35" | 9-3/4" | 26-3/8" | 120 | Marley Engineered Products | CU900 | 1 |
| EUH-6 | MECH/ELEC 103 | WALL MOUNTED | 250 | 0.125 | 1550 | 2 | 1 | 6 | 208 | 1 | 0.0 | EC | NF | INTEGRAL | 35" | 9-3/4" | 26-3/8" | 120 | Marley Engineered Products | CU900 | 1 |
| EUH-7 | COMMUNITY ROOM 102 | WALL MOUNTED | 250 | 0.125 | 1550 | 2 | 1 | 6 | 208 | 1 | 0.0 | EC | NF | INTEGRAL | 35" | 9-3/4" | 26-3/8" | 120 | Marley Engineered Products | CU900 | 1 |

## MAKE-UP AIR UNIT SCHEDULE

NOTES:
1. ELECTRICAL DATA - POWER = 80 WATTS...

| | | | | | ELECTRICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | DISCONNECT | | CONTROLLER/ STARTER | | | | | | |
| TAG NAME | AREA SERVED | CFM | FAN RPM (NOTE D) | EXT. S.P. IN. W.C. | VOLTAGE | PHASES | BY (NOTE A) | TYPE (NOTE B) | BY (NOTE A) | TYPE (NOTE C) | LENGTH | WIDTH | HEIGHT | WEIGHT | MANUFACTURER | MODEL |
| MAU-1 | FLOOR 1 LAUNDRY | 300 | 3600 | 0.2 | 208 | 3 | EC | NF | MFR | D23-TF | 35.5 | 15 | 15 | 70 | THERMOLEC | FER-10-10-208-3 |
| MAU-2 | FLOOR 2 LAUNDRY | 300 | 3600 | 0.2 | 208 | 3 | EC | NF | MFR | D23-TF | 35.5 | 15 | 15 | 70 | THERMOLEC | FER-10-10-208-3 |
| MAU-3 | FLOOR 3 LAUNDRY | 300 | 3600 | 0.2 | 208 | 3 | EC | NF | MFR | D23-TF | 35.5 | 15 | 15 | 70 | THERMOLEC | FER-10-10-208-3 |
| MAU-4 | FLOOR 4 LAUNDRY | 300 | 3600 | 0.2 | 208 | 3 | EC | NF | MFR | D23-TF | 35.5 | 15 | 15 | 70 | THERMOLEC | FER-10-10-208-3 |

## AIR TERMINAL SCHEDULE

NOTES:
1.CONTRACTOR SHALL DETERMINE PROPER BORDER TYPE TO MATCH CEILING CONSTRUCTION.
2.REFER TO DRAWINGS FOR NECK SIZE. ALL BRANCH DUCTWORK TO AIR TERMINALS SHALL BE NECK SIZE UNLESS NOTED OTHERWISE....

| TAG NAME | FACE SIZE (IN.) (NOTE 2) | TYPE | BORDER (NOTE 1) | MATERIAL | FINISH | VOLUME DAMPER REQUIRED | MANUFACTURER | MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|
| RG-1 | INLET +2 | 35 DEGREE DEFLECTION | 1 1/4" | STEEL | WHITE | NO | TITUS | 350R | |
| RG-2 | INLET +2 | 35 DEGREE DEFLECTION | 1 1/4" | STEEL | WHITE | NO | TITUS | 350R | |
| RG-3 | INLET +2 | 35 DEGREE DEFLECTION | 1 1/4" | STEEL | WHITE | NO | TITUS | 350R | |
| SD-1 | 24x24 | PANEL FACE | LAY-IN | ALUMINUM | WHITE | NO | TITUS | TMS | FLUSH FACE PANEL |
| SG-1 | INLET +2 | DOUBLE DEFLECTION | 1 1/4" | STEEL | WHITE | NO | TITUS | 300R | FRONT BLADES VERTICAL UNLESS NOTED OTHERWISE |

## FAN SCHEDULE

NOTES:
1.PROVIDE SHAFT GROUNDING AS REQUIRED.
2. ELECTRICAL DATA - POWER = 7.4 WATTS
3. ELECTRICAL DATA - POWER = 10.8 WATTS
4 MAXIMUM CFM LISTED. REFER TO VENTIALTION RATE SCHEDULE FOR OA QUANTITY IN EACH SPACE. EXHAUST FAN CFM TO MATCH OA CFM AS SCHEDULED IN VENTILATION SCHEDULE.

| | | | | | | | ELECTRICAL (NOTE 1) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | DISCONNECT | | | CONTROLLER/ STARTER | | | | |
| TAG NAME | AREA SERVED | CFM | S.P. IN. W.C. | FAN RPM (NOTE F) | DRIVE TYPE | BACKDRAFT DAMPER TYPE | MHP | VOLTAGE | PHASES | BY (NOTE A) | TYPE (NOTE B) | BY (NOTE A) | TYPE (NOTE C) | SCCR | MANUFACTURER | MODEL | NOTES |
| EF-1 | UNIT TOILET | 50 | 0.25 | 1093 | DIRECT | YES | 0 | 120 | 1 | MFR | NF | MFR | WALL SWITCH | 5000 | PANASONIC | FV-0511VQ1 | 2 |
| EF-3 | PUBLIC TOILET | 100 | 0.25 | 957 | DIRECT | YES | 0 | 120 | 1 | MFR | NF | MFR | PANASONIC WHISPER CONTROL | 5000 | PANASONIC | FV-0511VQ1 | 2 |
| EF-4 | JANITOR CLOSET | 50 | 0.25 | 956 | DIRECT | YES | 0 | 120 | 1 | MFR | NF | MFR | WALL SWITCH | 5000 | PANASONIC | FV-0511VQ1 | |
| EF-5 | ELEVATOR | 680 | 0.50 | 1235 | BELT | YES | 0.25 | 115 | 1 | MFR | NF | MFR | CONSTANT | 5000 | GREENHECK | GB-100 | |
| EF-6 | TRASH 121 | 100 | 0.25 | 756 | DIRECT | YES | 0 | 120 | 1 | MFR | NF | MFR | WALL SWITCH | 5000 | PANASONIC | FV-0511VQ1 | |
| EF-7 | TRASH 222 | 100 | 0.25 | 756 | DIRECT | YES | 0 | 120 | 1 | MFR | NF | MFR | WALL SWITCH | 5000 | PANASONIC | FV-0511VQ1 | |
| EF-8 | TRASH 322 | 100 | 0.25 | 756 | DIRECT | YES | 0 | 120 | 1 | MFR | NF | MFR | WALL SWITCH | 5000 | PANASONIC | FV-0511VQ1 | |
| EF-9 | TRASH 422 | 100 | 0.25 | 756 | DIRECT | YES | 0 | 120 | 1 | MFR | NF | MFR | WALL SWITCH | 5000 | PANASONIC | FV-0511VQ1 | |

## DUCT HEATER SCHEDULE

NOTES:
1.NEITHER RADIATED NOR DISCHARGE SOUND LEVELS SHALL EXCEED NC 35 AT 1.5" INLET STATIC PRESSURE WHEN TESTED PER AHRI STANDARD 885-2008 USING 5/8" 20-LB DENSITY MINERAL FIBER CEILING TILE.
2.TOTAL AIR PRESSURE DROP OF TAB AND REHEAT COIL SHALL NOT EXCEED 0.50" WC.
3.REFER TO CONTROL DRAWINGS FOR DESCRIPTION OF CONTROL TYPE.
4.SENSOR TYPES: 1 - SENSOR ONLY, 2 - SENSOR WITH ADJUSTMENT, 3 - SENSOR WITH OVERRIDE, 4 - SENSOR WITH ADJUSTMENT AND OVERRIDE.

| TAG NAME | AREA SERVED | CFM | MINIMUM OUTSIDE AIR CFM | SENSOR TYPE (NOTE 4) | DIAMETER | ELEMENT KW | VOLTAGE | FULL LOAD AMPS | MANUFACTURER | MODEL (NOTES 1, 2) | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DH-1 | CORRI DORS, COMMUNITY ROOM, OFFICES | 180 | 120 | INTEGRAL TS | 8" | 3.5 | 208 V | 19.2 A | THERMOLEC | TER-8-4208 | 1, 2, 3, 4 |
| DH-2 | FLOOR 2 CORRIDORS | 80 | 60 | INTEGRAL TS | 6" | 1.5 | 120 V | 16.7 A | THERMOLEC | FER-10-10-208-3 | 1, 2, 3, 4 |
| DH-2 | FLOOR 3 CORRIDORS | 80 | 60 | INTEGRAL TS | 6" | 1.5 | 120 V | 16.7 A | THERMOLEC | TER-6-2120 | 1, 2, 3, 4 |
| DH-2 | FLOOR 4 CORRIDORS | 80 | 60 | INTEGRAL TS | 6" | 1.5 | 120 V | 16.7 A | THERMOLEC | FER-10-10-208-3 | 1, 2, 3, 4 |

## APARTMENT VENTILATION RATE REQUIREMENTS (IMC 2021)

| | | | | | | | | | MAKEUP AIR REQUIREMENTS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| APARTMENT | SQUARE FOOTAGE | NUMBER OF BEDROOMS | NUMBER OF OCCUPANTS | TOTAL VENT REQUIRED @ 15 CFM/PERSON | Ez * | CORRECTED VENT REQUIRED (CFM) | TOTAL VENT REQUIRED @ 0.35 ACH (CFM) | PRESSURE FACTOR | ESTIMATED INFILTRATION... | CLOTHES DRYER IN APARTMENT (YES OR... | EXHAUST CAPACITY (CFM) (80% LARGEST EXHAUST... | TOTAL EXHAUST CAPACITY... | MAKEUP AIR QUANTITY... | TOTAL VENT APPLIED (CFM) | TOTAL VENT PROVIDED (CFM) |
| UNIT A-1 | 587 | 1 | 2 | 30 | 0.8 | 38 | 31 | 0.15 | 88 | NO | 32 | 32 | 32 | 38 | 40 |
| UNIT A-2 | 585 | 1 | 2 | 30 | 0.8 | 38 | 31 | 0.15 | 88 | NO | 32 | 32 | 32 | 38 | 40 |
| UNIT A-3 | 585 | 1 | 2 | 30 | 0.8 | 38 | 31 | 0.15 | 88 | NO | 32 | 32 | 32 | 38 | 40 |
| UNIT A-4 | 595 | 1 | 2 | 30 | 0.8 | 38 | 31 | 0.15 | 89 | NO | 32 | 32 | 32 | 38 | 40 |
| UNIT B-1 | 907 | 2 | 3 | 45 | 0.8 | 56 | 48 | 0.15 | 136 | NO | 48 | 48 | 48 | 56 | 60 |
| UNIT B-2 | 899 | 2 | 3 | 45 | 0.8 | 56 | 47 | 0.15 | 135 | NO | 48 | 48 | 48 | 56 | 60 |
| UNIT B-3 | 901 | 2 | 3 | 45 | 0.8 | 56 | 47 | 0.15 | 135 | NO | 48 | 48 | 48 | 56 | 60 |
| UNIT B-4 | 900 | 2 | 3 | 45 | 0.8 | 56 | 47 | 0.15 | 135 | NO | 48 | 48 | 48 | 56 | 60 |
| UNIT B-5 | 912 | 2 | 3 | 45 | 0.8 | 56 | 48 | 0.15 | 137 | NO | 48 | 48 | 48 | 56 | 60 |
| UNIT B-6 | 871 | 2 | 3 | 45 | 0.8 | 56 | 46 | 0.15 | 131 | NO | 48 | 48 | 48 | 56 | 60 |

NOTES:

1. VENTILATION AND EXHAUST RATES COMPLY WITH 2021 IMC MECHANICAL CODE (TABLE 403.3.1.1) AND THE COMMERCIAL PROVISIONS OF THE 2015 IECC ENERGY CODE.
2. M.C. TO PROVIDE WALL SWITCH WITH INTEGRAL COUNTDOWN TIMER AND MINUTES PER HOUR (SIMILAR TO PANASONIC WHISPER CONTROL FV-WCD01) FOR ALL EXHAUST FANS LISTED ABOVE.
3. M.C. TO SET MINUTES PER HOUR (MPH) SETTING TO TIME NOTED ABOVE AT EACH EXHAUST FAN LISTED ABOVE.
4. EXHAUST FANS TO BE INTERLOCKED WITH 24V MOTORIZED DAMPER ON OUTSIDE AIR INTAKE AT FURNACE, WHEN EITHER EXHAUST FAN IS IN OPERATION, DAMPER IS IN OPEN POSITION.
5. OUTSIDE AIR MIXES WITH RETURN AIR AT HEAT PUMP, FHEAT PUMP BLOWER TO BE ON WHEN APARTMENT IS OCCUPIED.
6. HEAT PUMP IS A DIRECT VENT APPLIANCE.
7. IF MAKEUP AIR QUANTITY IS NEGATIVE, NO MAKE-UP AIR IS REQUIRED.

* Ez = ZONE AIR DISTRIBUTION EFFECTIVENESS FACTOR.

## PACKAGED TERMINAL AIR CONDITIONER SCHEDULE

NOTES:
1. CONTRACTOR SHALL PROVIDE WALL SLEAVE AND LOUVER.

| | | | | | | | ELECTRICAL | | | | | | | | MAX. DIMENSIONS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | DISCONNECT | | CONTROLLER/ STARTER | | | | | | | |
| TAG NAME | AREA SERVED | COOLING CFM | OA CFM | COOLING CAPACITY BTUH | HEATING CAPACITY BTUH | MIN. EER | VOLTAGE | PHASES | FLA | MCA | MOCP | BY (NOTE A) | TYPE (NOTE B) | BY (NOTE A) | SCCR | LENGTH | WIDTH | HEIGHT | WEIGHT | MANUFACTURER | MODEL | NOTES |
| HP-1 | UNITS | 640 | 40 | 18000 | 16200 | 10 | 208 | 1 | 1.4 | 33 | 35 | EC | NF | MFG | 12 | 28 | 21-1/2 | 47-7/8 | 228 | Magic Pak | M Series MHP4 | 1 |
| HP-2 | UNITS | 710 | 60 | 24000 | 22200 | 10.5 | 208 | 1 | 1.6 | 47 | 50 | EC | NF | MFG | 12 | 28 | 24-3/8 | 55-7/8 | 278 | Magic Pak | M Series MHP4 | 1 |


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GREYSTONE
SENIOR LIVING
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE
MECHANICAL SCHEDULES

DRAWING NUMBER
M600


IMEG
www.imegcorp.com
3001 BROADWAY STREET NE
SUITE 601
MINNEAPOLIS, MN 55413
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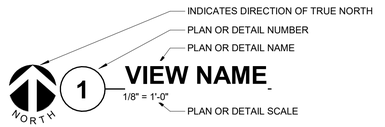
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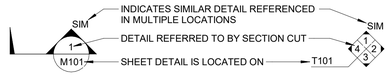

REF. SCALE IN INCHES 0 1 2 3
PROJECT #22007630.00

## VIEW KEY

NAME — LEVEL NAME
10'-0" — HEIGHT ABOVE PROJECT 0'-0"

1 — INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL




LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
——— NEW
- - - - - - - - - EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
— — — NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E — TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG — UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

## APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS.

| | |
|---|---|
| BUILDING CODE: | 2021 MICHIGAN BUILDING CODE |
| FIRE CODE: | 2019 MICHIGAN FIRE ALARM CODE |
| PLUMBING CODE: | 2021 MICHIGAN PLUMBING CODE |
| MECHANICAL CODE: | 2021 MICHIGAN MECHANICAL CODE |
| ELECTRICAL CODE: | 2023 MICHIGAN ELECTRICAL CODE |
| LIFE SAFETY CODE: | 2012 MICHIGAN LIFE SAFETY CODE |
| ENERGY CODE: | 2021 MICHIGAN ENERGY CODE |

## CONTRACTOR ABBREVIATION KEY

| ABBR: | DESCRIPTION: |
|---|---|
| A.C. | ASBESTOS ABATEMENT CONTRACTOR |
| A.V.C. | AUDIO/VISUAL CONTRACTOR |
| C.C. | CIVIL CONTRACTOR |
| C.M. | CONSTRUCTION MANAGER |
| E.C. | ELECTRICAL CONTRACTOR |
| F.P.C. | FIRE PROTECTION CONTRACTOR |
| F.S.C. | FOOD SERVICE CONTRACTOR |
| G.C. | GENERAL CONTRACTOR |
| H.C. | HEATING CONTRACTOR |
| M.C. | MECHANICAL CONTRACTOR |
| N.C.C. | NURSE CALL CONTRACTOR |
| P.C. | PLUMBING CONTRACTOR |
| S.C. | SECURITY CONTRACTOR |
| T.C. | TECHNOLOGY CONTRACTOR |
| T.C.C. | TEMPERATURE CONTROLS CONTRACTOR |
| V.C. | VENTILATION CONTRACTOR |

## CONTACT PERSONS:

| DESCRIPTION: | PERSON: |
|---|---|
| PROJECT MANAGER | DONOVAN D. GESKE |
| MECHANICAL | CRAIG R. ENGLE |
| ELECTRICAL | JAMES M. STUTZKA |

## PLUMBING SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

| SYMBOL: | DESCRIPTION: |
|---|---|
| —AV— | ACID VENT |
| —AW— | ACID WASTE |
| —CA— | COMPRESSED AIR |
| —CW— | COLD WATER - POTABLE |
| —D— | DRAIN |
| —DI— | DEIONIZED WATER |
| —DT— | DRAIN TILE |
| —FOR— | FUEL OIL RETURN |
| —FOS— | FUEL OIL SUPPLY |
| —G— | NATURAL GAS |
| —GRV— | GAS REGULATOR VENT |
| —GSAN— | SANITARY DRAINAGE (GREASE SANITARY DRAINAGE) |
| —GV— | GREASE VENT |
| —HW— | HOT WATER - POTABLE |
| —HWC— | HOT WATER CIRCULATING - POTABLE |
| —HW140— | HOT WATER - POTABLE NUMBER INDICATES TEMP |
| —HWC140— | HOT WATER CIRC. - POTABLE NUMBER INDICATES TEMP |
| —IA— | INSTRUMENT AIR |
| —MA— | MEDICAL AIR |
| —MPG— | MEDIUM PRESSURE GAS |
| —MV— | MEDICAL VACUUM |
| —N— | NITROGEN |
| —NCW— | NON-POTABLE COLD WATER |
| —NHW— | NON-POTABLE HOT WATER |
| —NO— | NITROUS OXIDE |
| —O— | OXYGEN |
| —P— | PROPANE GAS |
| —PD— | PUMPED DISCHARGE |
| —PW— | PURE WATER |
| —RO— | REVERSE OSMOSIS WATER |
| —SAN— | SANITARY DRAINAGE |
| —SCW— | SOFT COLD WATER |
| —SHW— | SOFT HOT WATER |
| —ST(1,000)— | STORM DRAINAGE (ROOF SQUARE FOOTAGE) |
| —STS— | STORM DRAINAGE (SECONDARY) |
| —STW— | SOFT TEMPERED WATER |
| —TW— | TEMPERED WATER |
| —V— | VENT |
| —VAC— | LAB VACUUM |
| —W— | SERVICE WATER - POTABLE |
| —WAGD— | WASTE ANETHESIA GAS DISPOSAL |
| | PIPE CONTINUATION |
| | PIPE CAP |
| | PIPE DOWN |
| | PIPE UP OR UP/DOWN |
| FD | PIPE SERVING FIXTURE ON FLOOR ABOVE (EXAMPLE: FD = FLOOR DRAIN) |
| | PITCH PIPE IN DIRECTION |
| | DIRECTION OF FLOW IN PIPE |
| | ROUTE TO DRAIN |
| RD-1 6"(1000) | ROOF DRAIN PROPERTIES SYMBOL / SIZE (ROOF SQ. FT.) |
| | DIELECTRIC CONNECTION |
| | UNION/FLANGE |
| | SHUTOFF VALVE NORMALLY OPEN |
| | SHUTOFF VALVE NORMALLY CLOSED |
| GPM | BALANCING VALVE (NUMBER INDICATES GPM) |
| | CHECK VALVE |
| | BACKFLOW PREVENTER |
| | SOLENOID VALVE |
| | SAFETY/RELIEF VALVE |
| | VACUUM BREAKER |
| P | PRESSURE GAUGE (FURNISHED WITH BALL VALVE) |
| P | PRESSURE SENSOR (FURNISHED WITH BALL VALVE) |
| T | TEMPERATURE SENSOR WITH WELL |
| T | THERMOMETER WITH WELL (DIAL TYPE) |
| | THERMOMETER WITH WELL (FILLED TYPE) |
| | REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB |
| | PRESSURE REDUCING VALVE (LIQUID/GAS) |
| | PUMP |
| M | METER |
| | ALIGNMENT GUIDE |
| | PIPE ANCHOR |
| EJ-# (#.#") | EXPANSION JOINT #.#" IS THE EXPANSION TRAVEL INCHES |
| | AIR ADMITTANCE VALVE |

## PLUMBING ABBREVIATION KEY

| ABBR: | DESCRIPTION: |
|---|---|
| AD | ACCESS DOOR |
| AFF | ABOVE FINISHED FLOOR |
| BFP | BACKFLOW PREVENTER |
| BT | BATHTUB |
| CB | CATCH BASIN |
| CI | CAST IRON |
| CO | CLEANOUT |
| CS | CLINICAL SINK |
| DB | DIALYSIS BOX |
| DF | DRINKING FOUNTAIN |
| DI | DUCTILE IRON |
| E | EXISTING |
| EE | EMERGENCY EYEWASH |
| ES | EMERGENCY SHOWER |
| ESE | EMERGENCY SHOWER/EYEWASH |
| EWC | ELECTRIC WATER COOLER |
| FCO | FLOOR CLEANOUT |
| FD | FLOOR DRAIN |
| FM | FLOW METER |
| FS | FLOOR SINK |
| GD | GARBAGE DISPOSER |
| GI | GREASE INTERCEPTOR |
| HB | HOSE BIBB |
| I.E. | INVERT ELEVATION (FOR REFERENCE ONLY) |
| LAV | LAVATORY |
| MB | MOP BASIN |
| MH | MANHOLE |
| MV | MIXING VALVE |
| NIC | NOT IN CONTRACT |
| NT | NEUTRALIZATION TANK |
| OS | OIL SEPARATOR |
| RD | ROOF DRAIN |
| SCCR | SHORT CIRCUIT CURRENT RATING |
| SH | SHOWER |
| SK | SINK |
| SS | SERVICE SINK |
| TD | TRENCH DRAIN |
| TP | TRAP PRIMER |
| TYP | TYPICAL |
| UR | URINAL |
| VTR | VENT THROUGH ROOF |
| WC | WATER CLOSET |
| WCO | WALL CLEANOUT |
| WF | WASH FOUNTAIN |
| WH | WATER HEATER |
| WMF | WASHING MACHINE FIXTURE |
| WM | WATER METER |
| WS | WATER SOFTENER |
| UB | UTILITY BOX |
| UON | UNLESS OTHERWISE NOTES |
| YCO | YARD CLEANOUT |

## PLUMBING ROUGH-IN SCHEDULE

NOTES: (APPLIES TO ALL PLUMBING FIXTURES LISTED BELOW)
1) SIZES SHOWN ARE MINIMUMS. LARGER SIZES SHOWN ON THE DRAWING SHALL DICTATE THE ROUGH-IN SIZE. 2) SANITARY RISERS UP IN WALL TO FIXTURES SHALL BE A MINUMUM OF 2". 3) DOMESTIC WATER BRANCH PIPING OUTSIDE OF THE WALL/CHASE SHALL BE A MINIMUM OF 3/4" UNLESS NOTED OTHERWISE. ONLY THE FINAL RISE-DROP SHALL BE SMALLER. 4) FINAL SANITARY SIZE SHALL MATCH P-TRAP SIZE (REFER TO MATERIAL LIST).

| TAG NAME | DESCRIPTION | COLD WATER | HOT WATER | SANITARY | VENT | HIDE |
|---|---|---|---|---|---|---|
| EWC-1 | ELECTRIC WATER COOLER (ACCESSIBLE) | 1/2" | - | 1 1/2" | 1 1/2" | |
| FD-1 | FLOOR DRAIN | | | 2" | 1 1/2" | |
| L-1 | LAVATORY | 1/2" | 1/2" | 1 1/2" | 1 1/2" | |
| L-2 | LAVATORY (ACCESSIBLE) | 1/2" | 1/2" | 1 1/2" | 1 1/2" | |
| L-3 | LAVATORY (ACCESSIBLE) | 1/2" | 1/2" | 1 1/2" | 1 1/2" | |
| MB-1 | MOP BASIN | 3/4" | 3/4" | 3" | 1 1/2" | |
| SH-1 | SHOWER | 1/2" | 1/2" | 2" | 1 1/2" | |
| SH-2 | SHOWER (ACCESSIBLE) | 1/2" | 1/2" | 2" | 1 1/2" | |
| SK-1 | SINK | 1/2" | 1/2" | 1 1/2" | 1 1/2" | |
| SK-2 | SINK (ACCESSIBLE) | 1/2" | 1/2" | 1 1/2" | 1 1/2" | |
| SK-3 | SINK | 1/2" | 1/2" | 1 1/2" | 1 1/2" | |
| WC-1 | WATER CLOSET (ACCESSIBLE) | 1/2" | - | 4" | 2" | |
| WC-2 | WATER CLOSET (ACCESSIBLE) | 1 1/2" | - | 4" | 2" | |
| WMF-1 | UTILITY BOX (WASHING MACHINE) | 3/4" | 3/4" | 2" | 1 1/2" | |

## PLUMBING GENERAL NOTES:

1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
2. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.
3. CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.
4. ALL FIXTURES SHALL CONFORM TO FEDERAL ACT S.3874
5. INVERT ELEVATIONS ARE FROM EXISTING DRAWINGS AND MAY NOT BE ACCURATE. VERIFY ALL ELEVATIONS BEFORE BEGINNING WORK.
6. VERIFY UNDERGROUND PIPE SIZES, INVERT ELEVATIONS, AND LOCATIONS PRIOR TO BEGINNING ANY WORK.
7. REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO PLUMBING FIXTURES.
8. FOR CLARITY, NOT ALL VALVES HAVE BEEN SHOWN. PROVIDE SHUTOFF VALVES IN DOMESTIC WATER PIPING SERVING EACH ROOM WITH FIXTURES. ANGLE STOPS SHALL NOT BE CONSIDERED SHUTOFF VALVES.
9. EXISTING CONDITIONS ON DEMOLITION PLANS ARE PROVIDED TO INDICATE THE GENERAL SCOPE OF ITEMS TO BE REMOVED. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL DEMOLITION INFORMATION.
10. P.C. SHALL CUT AND PATCH EXISTING AS REQUIRED FOR NEW OR DEMOLITION WORK UNLESS NOTED OTHERWISE. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL INFORMATION.

## PLUMBING SLOPE REQUIREMENTS:

BASED ON PLUMBING CODE: MICHIGAN PLUMBING CODE

| | |
|---|---|
| **INTERIOR:** | |
| **SANITARY WASTE:** | 1/4" PER FOOT |
| **GREASE WASTE:** | 1/4" PER FOOT |
| **STORM (GRAVITY):** | 1/8" PER FOOT |
| **CONDENSATE AND INDIRECT DRAINAGE:** | 1/8" PER FOOT |
| **SANITARY AND GREASE VENT:** | NO SPECIFIC PITCH, PITCH TO FIXTURES |
| **DOMESTIC WATER:** | NO SPECIFIC PITCH, PITCH TO FIXTURES |

## PLUMBING SHEET INDEX



| | |
|---|---|
| P000 | PLUMBING COVERSHEET |
| P200 | UNDERFLOOR PLAN |
| P201 | LEVEL 01 PLAN - PLUMBING |
| P202 | LEVEL 02 PLAN - PLUMBING |
| P203 | LEVEL 03 PLAN - PLUMBING |
| P204 | LEVEL 04 PLAN - PLUMBING |
| P205 | ROOF PLAN - PLUMBING |
| P300 | PLUMBING UNIT ENLARGED PLAN |
| P301 | PLUMBING UNIT ENLARGED PLAN |
| P302 | PLUMBING LAUNDRY ENLARGED PLAN |
| P400 | PLUMBING DETAILS |
| P500 | PLUMBING DIAGRAMS |
| P501 | PLUMBING DIAGRAMS |
| P600 | PLUMBING SCHEDULES |
| GRAND TOTAL: 14 | |



## PLUMBING GENERAL NOTES:

1. THE SIZE OF BRANCH PIPING TO TERMINAL HEATING DEVICES AND COILS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. PIPE DRAN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.
3. INSTALL ALL REFRIDGERANT LIQUID AND SUCTION PIPING SIZED PER EQUIPMEN MANUFACTURER RECOMMENDATIONS.


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6/26/2026

# GREYSTONE
## SENIOR LIVING
### 440 W. MARTIN LUTHER KING JR BLVD
### DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

PLUMBING COVERSHEET

DRAWING NUMBER

P000


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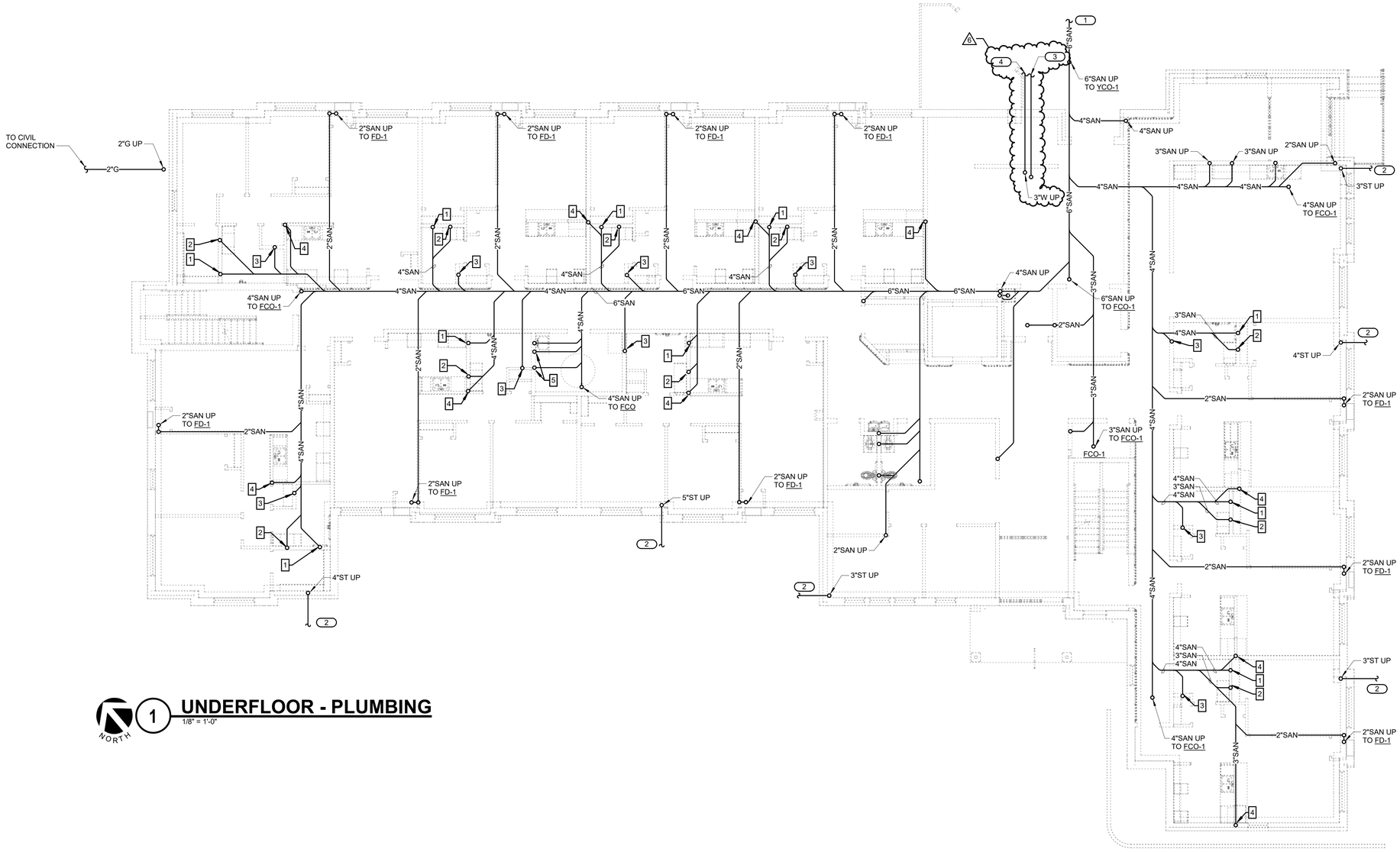
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0 1 2 3
REF. SCALE IN INCHES

PROJECT #2200763O.00

**KEYNOTES:** (#)

1. 8" SANITARY PIPING, SEE CIVIL PLANS FOR CONTINUATION. COORDINATE ROUTING AND LOCATION WITH CIVIL.
2. SEE CIVIL PLANS FOR CONTINUTION OF STORM PIPING.
3. 6" FIRE MAIN PIPING, SEE CIVIL PLANS FOR CONTINUATION
4. 3" DOMESTIC WATER MAIN PIPING, SEE CIVIL PLANS FOR CONTINUATION




## 1 UNDERFLOOR - PLUMBING

1/8" = 1'-0"

NORTH


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**SENIOR LIVING**
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| 06.19.26 | BULLETIN #1 |
| 07.11.25 | ADDENDUM #1 |
| 03.24.25 | PLAN REVIEW #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

UNDERFLOOR PLAN

DRAWING NUMBER

P200

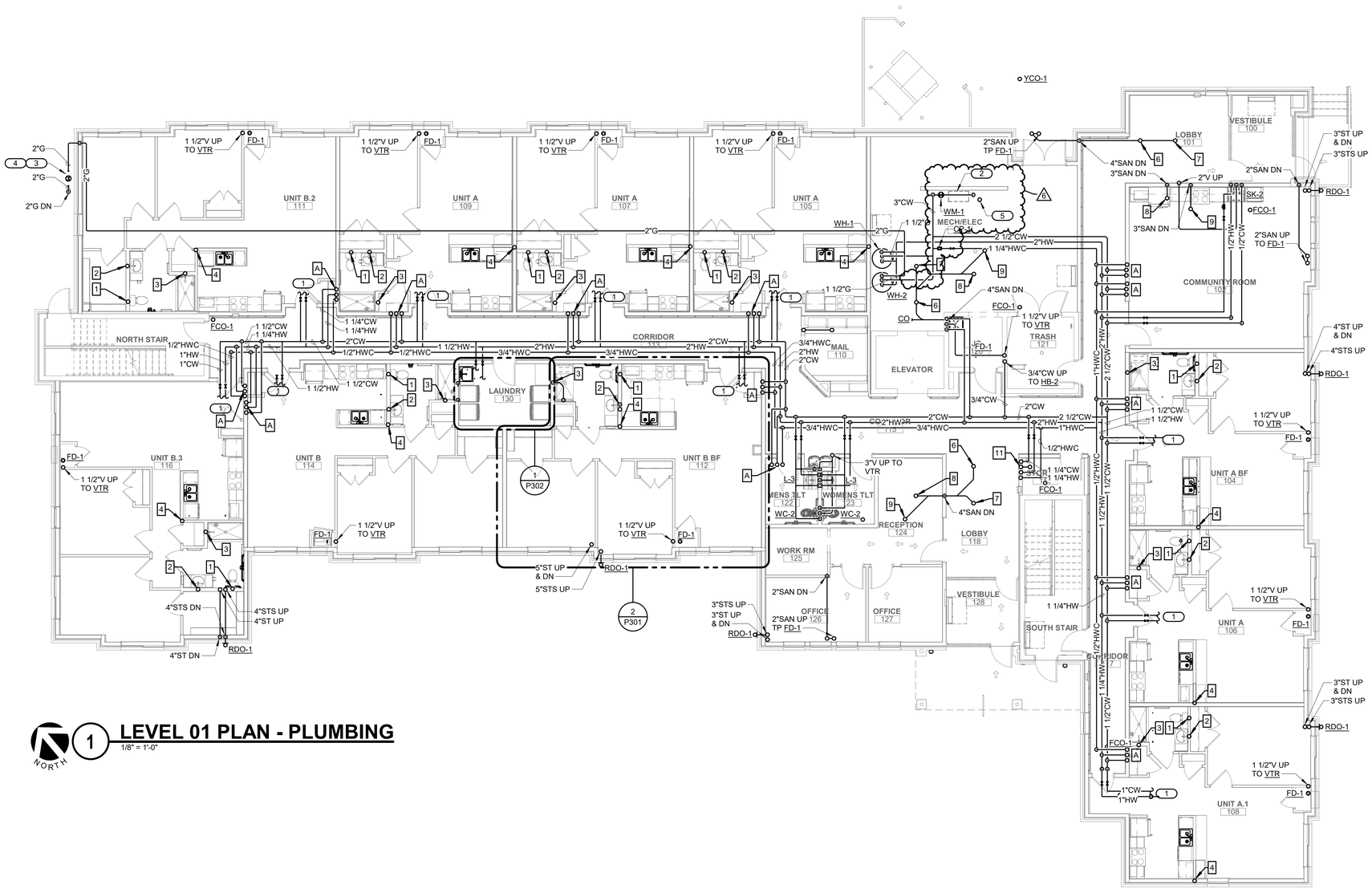

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PROJECT #22007630.00




## 1 LEVEL 01 PLAN - PLUMBING

1/8" = 1'-0"

NORTH

**KEYNOTES:** ( # )

1. SEE UNIT PLANS FOR CONTINUATION OF PLANS.
2. RPZ BACK FLOW PREVENTER.
3. FIELD COORDINATED FINAL INSTALLATION LOCATION OF GAS METER ON EXTERIOR WALL WITH LOCAL UTILITY AND ARCHITECT.
4. NATURAL GAS SERVICE SIZED BASED ON 2015 IFGC TALBE 402.4(2), TOTAL SERVICE LOAD: 800,800 CFH AND DEVELOPED LENGTH OF 250'-0".
5. 6" FP PIPING. SEE PRE PROTECTION PLANS FOR CONTINUATION


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DRAWING TITLE

LEVEL 01 PLAN - PLUMBING

DRAWING NUMBER

P201

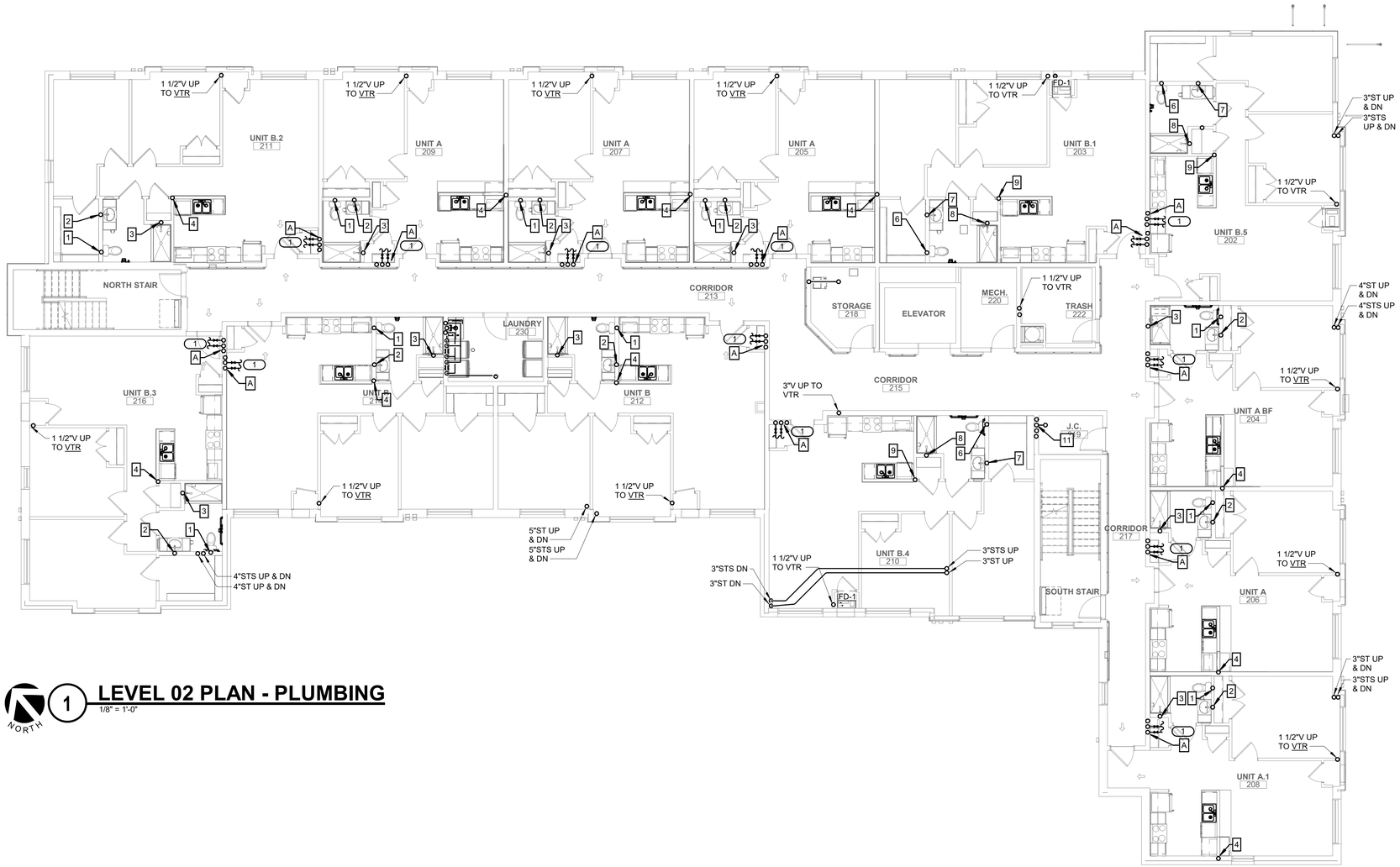

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## 1 LEVEL 02 PLAN - PLUMBING

1/8" = 1'-0"

NORTH

**KEYNOTES:** (#)

1. SEE UNIT PLANS FOR CONTINUATION OF PLANS.


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FSP PROJECT NO.
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DRAWING TITLE

LEVEL 02 PLAN - PLUMBING

DRAWING NUMBER

P202

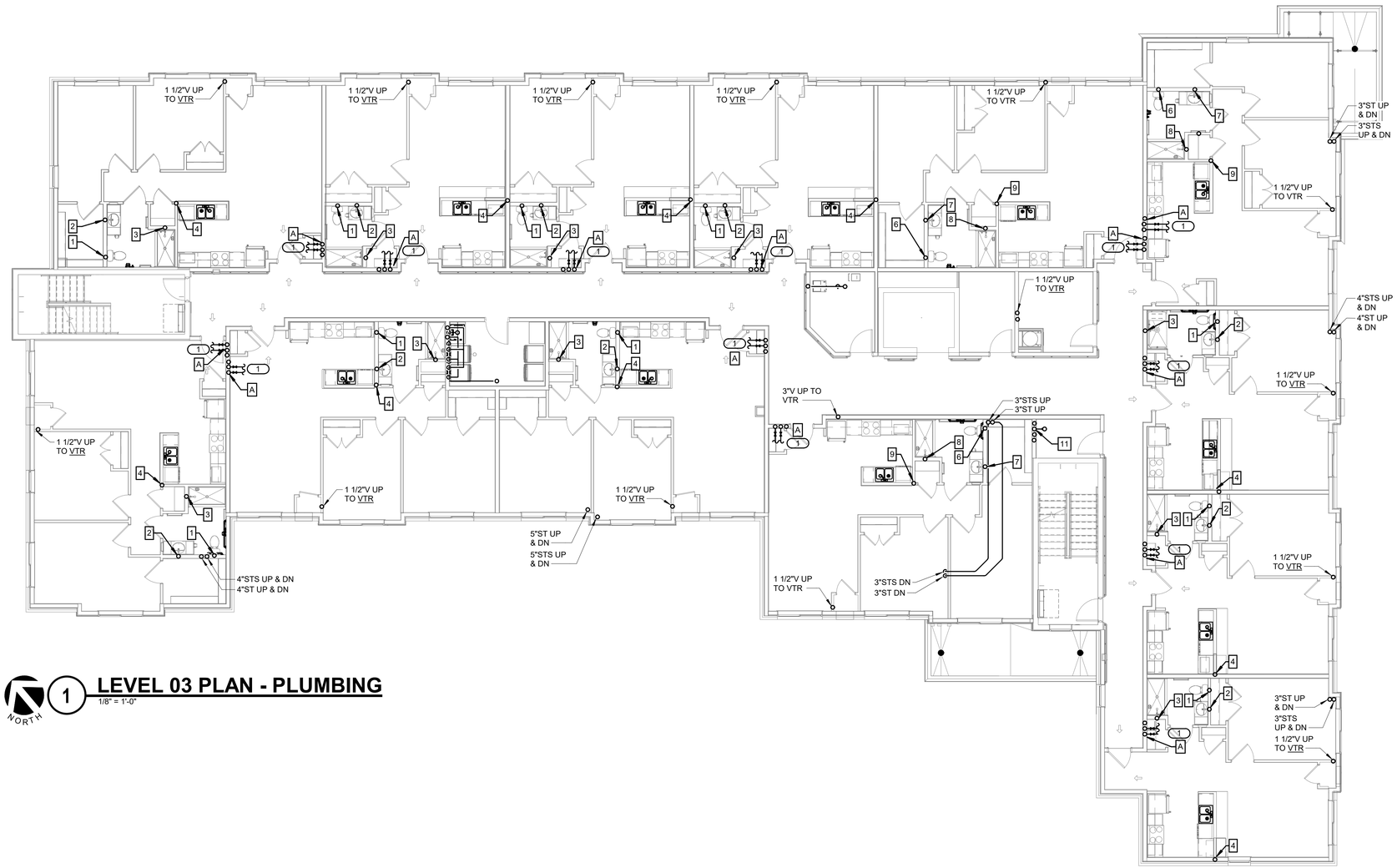

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## 1 LEVEL 03 PLAN - PLUMBING

1/8" = 1'-0"

NORTH

**KEYNOTES:** #

1. SEE UNIT PLANS FOR CONTINUATION OF PLANS.


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DRAWING TITLE

LEVEL 03 PLAN - PLUMBING

DRAWING NUMBER

P203

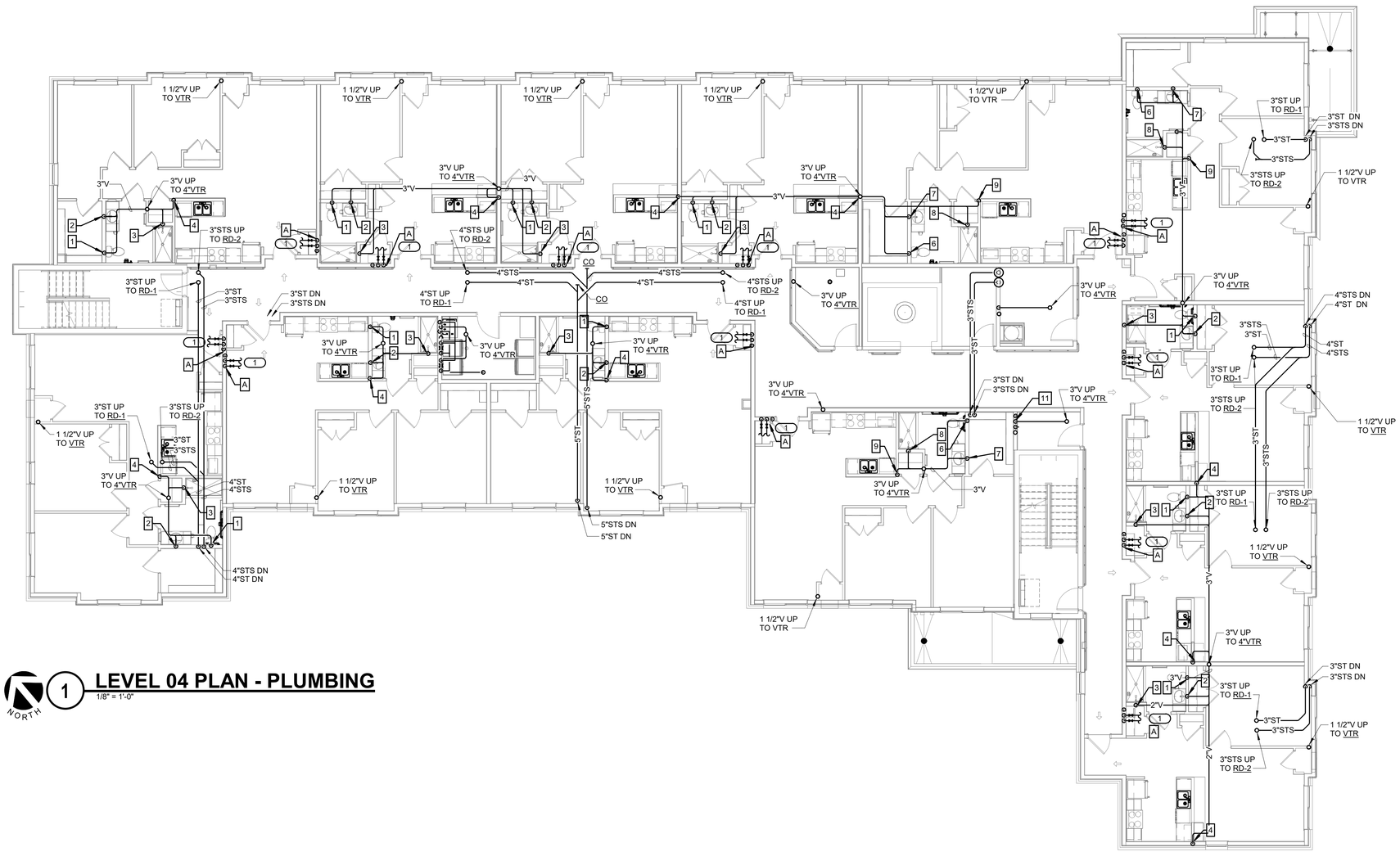

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## 1 LEVEL 04 PLAN - PLUMBING

1/8" = 1'-0"

NORTH

**KEYNOTES:** ( # )

1. SEE UNIT PLANS FOR CONTINUATION OF PLANS.


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# GREYSTONE

## SENIOR LIVING

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LEVEL 04 PLAN - PLUMBING

DRAWING NUMBER

P204

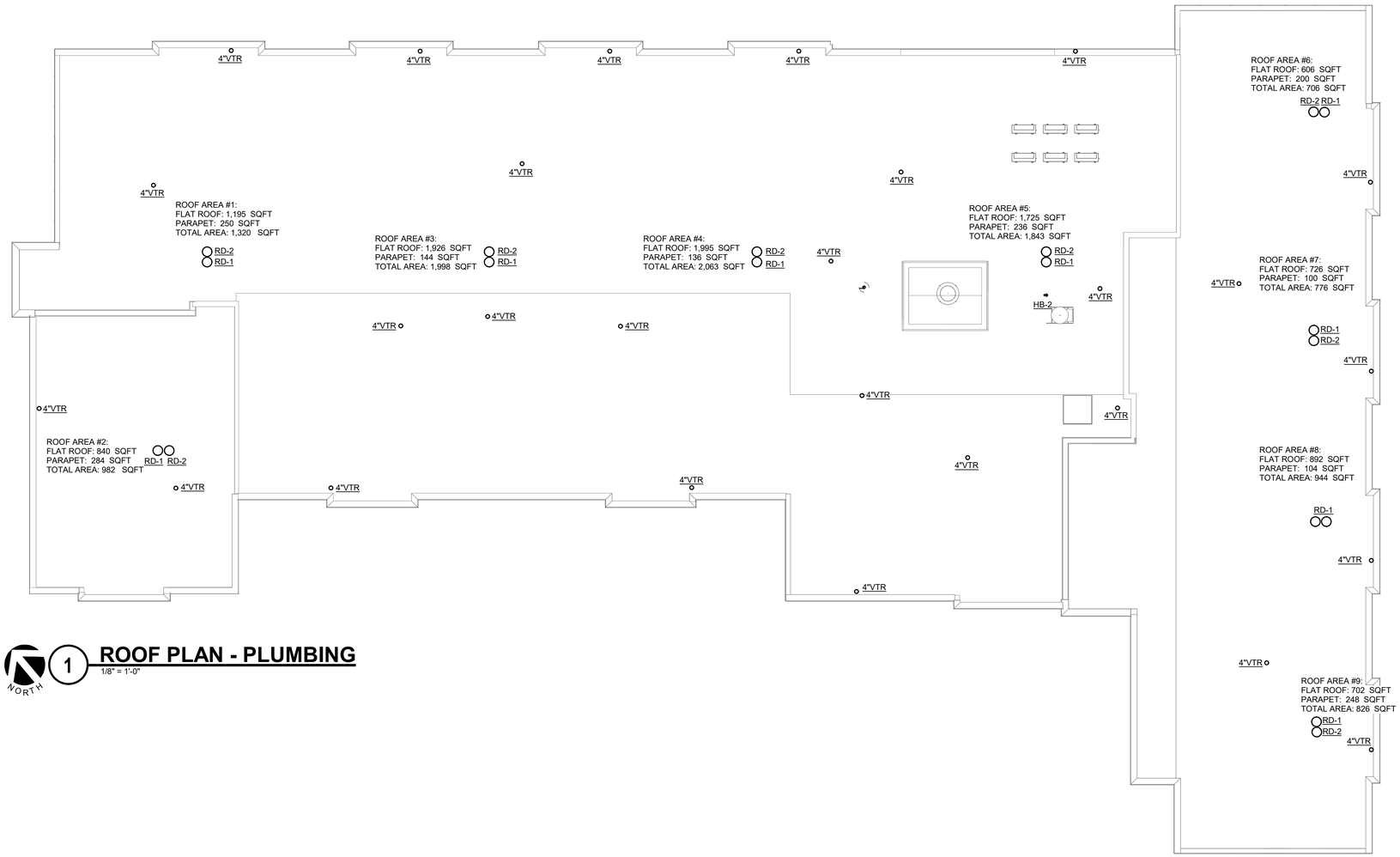

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1 **ROOF PLAN - PLUMBING**
1/8" = 1'-0"

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ROOF PLAN - PLUMBING

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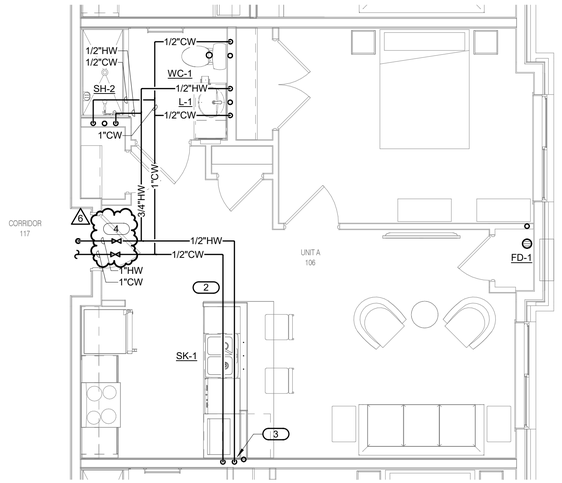
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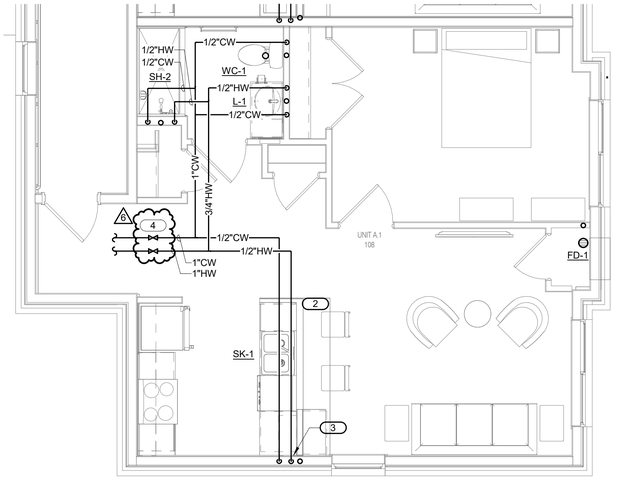
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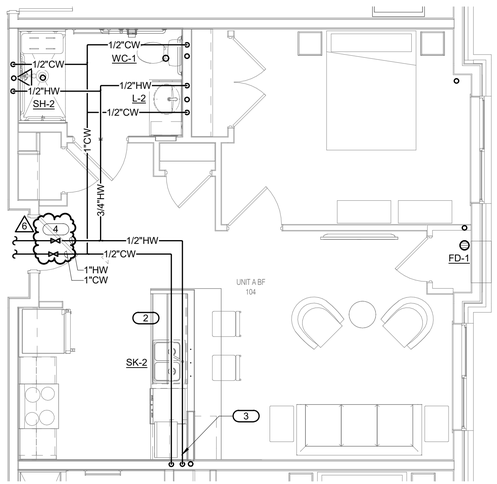

## 1 UNIT A TYP. ENLARGED PLAN - PLUMBING

1/4" = 1'-0"




## 3 UNIT A.1 TYP. ENLARGED PLAN - PLUMBING

1/4" = 1'-0"




## 2 UNIT A BF TYP. ENLARGED PLAN - PLUMBING

1/4" = 1'-0"

**SHEET NOTES:**

1. PROVIDE 1/4" COLDWATER CONNECTION TO EACH REFRIGERATOR.
2. PROVIDE 1/2" HOTWATER CONNECTION WITH A TEE AND AN ANGLE STOP TO THE DISHWASHER.
3. PROVIDE SAN CONNECTION FROM SK-1 TO DISHWASHER.
4. PROVIDE CEILING ACCESS PANEL FOR UNIT CW AND HW ISOLATION VALVES.

**KEYNOTES:** (#)

1. NOT USED.
2. REFER TO DETAIL 2/P400 FOR DISWASHER.
3. ROUTE & EXTEND HOT & COLD WATER PIPING TO SINK.

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KEY PLAN

FSP PROJECT NO.
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DRAWING TITLE

PLUMBING UNIT ENLARGED PLAN

DRAWING NUMBER

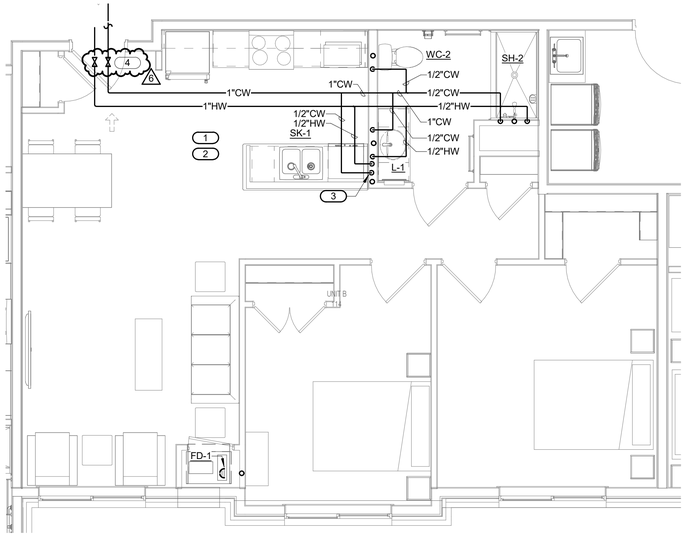
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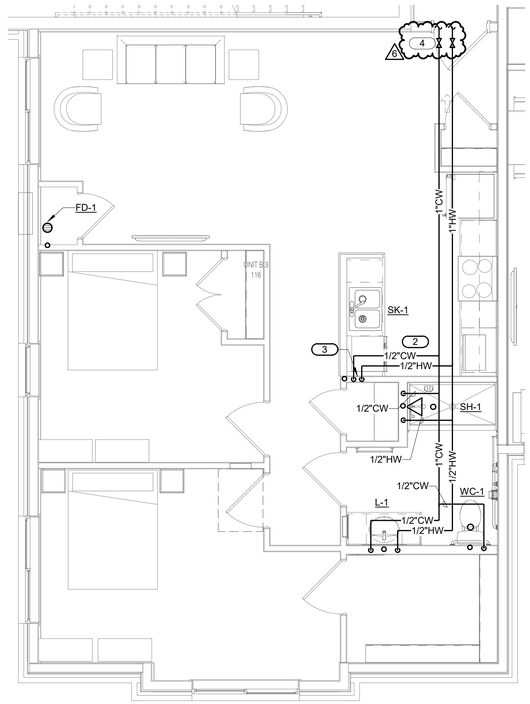
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PROJECT #22007630.00



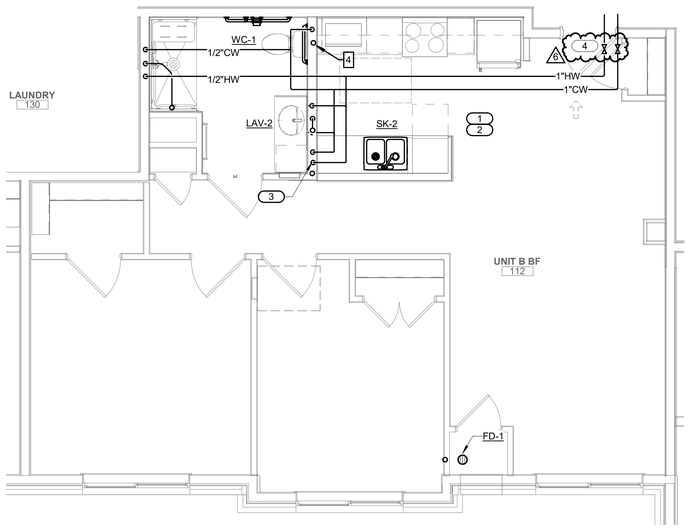

## 1 UNIT B TYP. ENLARGED PLAN - PLUMBING

1/4" = 1'-0"




## 3 UNIT B.3 TYP. ENLARGED PLAN - PLUMBING

1/4" = 1'-0"




## 2 UNIT B-BF TYP. ENLARGED PLAN - PLUMBING

1/4" = 1'-0"

**SHEET NOTES:**

1. PROVIDE 1/4" COLDWATER CONNECTION TO EACH REFRIGERATOR.
2. PROVIDE 1/2" HOTWATER CONNECTION WITH A TEE AND AN ANGLE STOP TO THE DISHWASHER.
3. PROVIDE SAN CONNECTION FROM SK-1 TO DISHWASHER.
4. PROVIDE CEILING ACCESS PANEL FOR UNIT CW AND HW ISOLATION VALVES.

**KEYNOTES:** (#)

1. NOT USED.
2. REFER TO DETAIL 2/P400 FOR DISWASHER.
3. ROUTE & EXTEND HOT & COLD WATER PIPING TO SINK.

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KEY PLAN

FSP PROJECT NO.
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DRAWING TITLE

PLUMBING UNIT ENLARGED PLAN

DRAWING NUMBER

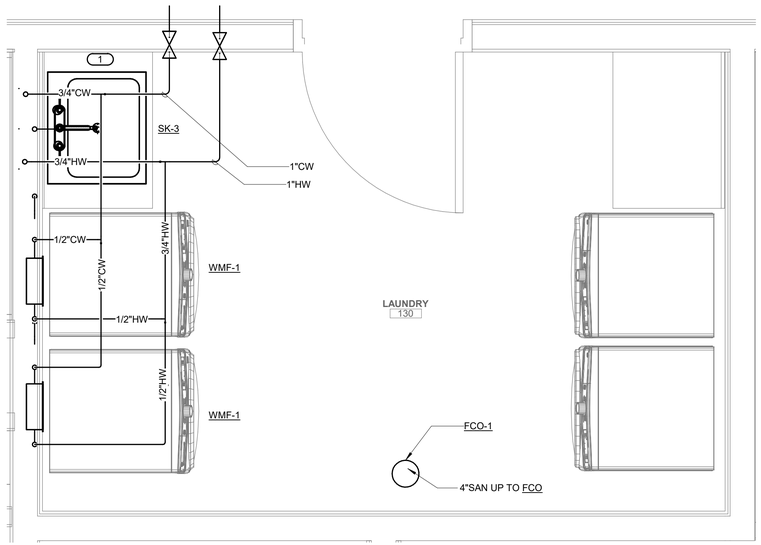
P301

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REF. SCALE IN INCHES

PROJECT #22007630.00




## 1 LAUNDRY TYP. ENLARGED PLAN - PLUMBING

3/4" = 1'-0"

NORTH

**SHEET NOTES:**

1. PROVIDE CEILING ACCESS PANEL FOR UNIT CW AND HW ISOLATION VALVES.

**KEYNOTES:** (#)

1. ROUTE & EXTEND HOT & COLD WATER PIPING TO SINK.

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6/26/2026

MICHIGAN

# 440 W. MARTIN LUTHER KING JR BLVD
# GREYSTONE
## SENIOR LIVING

DETROIT

| DATE | ISSUE |
|---|---|
| 07.11.25 | ADDENDUM #1 |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

PLUMBING LAUNDRY ENLARGED PLAN

DRAWING NUMBER

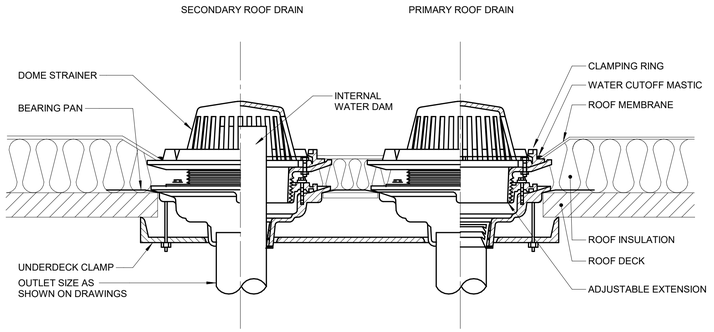
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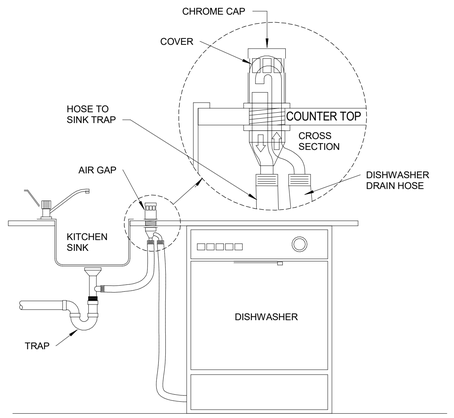
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PROJECT #22007630.00




## 3 ROOF DRAIN
NO SCALE




NOTE:
NO DOMESTIC DISHWASHING MACHINE SHALL BE DIRECTLY CONNECTED TO A DRAINAGE SYSTEM OR FOOD WASTE DISPOSER WITHOUT THE USE OF AN APPROVED DISHWASHER AIR GAP FITTING ON THE DISCHARGE SIDE OF THE DISHWASHER MACHINE. LISTED AIR GAPS SHALL BE INSTALLED WITH THE FLOOD-LEVEL (FL) MARKING AT OR ABOVE THE FLOOD LEVEL OF THE SINK OR DRAINBOARD, WHICHEVER IS HIGHER. AIR GAP DEVICE SHALL BE INSTALLED NEXT TO SINK FAUCET AND OUTLET DIRECTED TOWARD SINK BASIN.

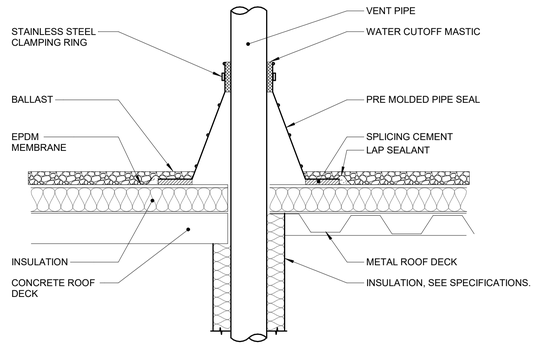
## 2 DISHWASHER AIR GAP
NO SCALE




NOTES:

1. SUMP PUMPS THAT DISCHARGE TO STORM SHALL BE INSTALLED WITH THE TOP OF THE SUMP BASIN 2" ABOVE FLOOR LEVEL A 2" HIGH X4" WIDE CONCRETE CURB AROUND THE PERIMETER OF THE BASIN LID MAY BE USED IN LIEU OF RAISING THE ENTIRE SUMP BASIN.
2. FILL BASIN WITH WATER DURING BACKFILL. BACKFILL AROUND SIDES OF BASIN PER MANUFACTURERS INSTRUCTIONS. COMMONLY ALLOWED BACKFILL MATERIAL INCLUDES CONCRETE OR PEA GRAVEL AND NATURALLY ROUNDED AGGREGATE WITH PARTICLE SIZES BETWEEN 3/8" AND 3/4" IN DIAMETER. MATERIAL SHALL BE FREE FLOWING, COMPACT IN 12" LIFTS.

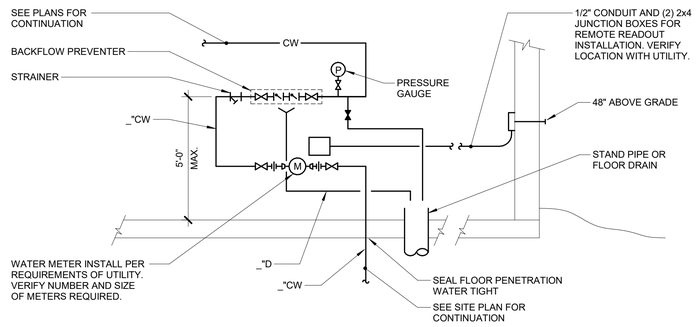
## 6 SUMP/SEWAGE PUMP - SUBMERSED SIMPLEX
NO SCALE




NOTES:

1. VENT PIPE SHALL BE A MINIMUM OF 3" DIAMETER UNLESS NOTED LARGER ON FLOOR PLANS. INCREASERS, IF REQUIRED TO TRANSITION TO THE LARGER VTR SIZE, MUST BE INSTALLED AT LEAST 12 INCHES BELOW THE THERMAL ENVELOPE OF THE BUILDING.
2. EXTEND VENT PIPE AT LEAST 7 FEET ABOVE ROOF LEVEL WHEN ROOF AREA IS INTENDED TO BE USED BY THE GENERAL PUBLIC. THIS INCLUDES PROMENADES, OBSERVATION DECKS, ETC. THIS IS NOT REQUIRED FOR ROOFS THAT ARE ACCESSIBLE BY MAINTENANCE PERSONEL ONLY.

## 5 VENT PIPE FLASHING
NO SCALE




## 4 DOMESTIC WATER ENTRANCE SINGLE METER
NO SCALE

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6/26/2026

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

# GREYSTONE
## SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

PLUMBING DETAILS

DRAWING NUMBER

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PROJECT #22007630.00

RISER LINE TYPES:

SAN = ————

VENT = - - - - - -




WATER CLOSETS(4 FLOORS)

1




LAVS (4 FLOORS)

2

L-1 = L-2




SHOWERS ADA (4 FLOORS)

3

SH-1 = SH-2




SINKS (4 FLOORS)

4

SK-1 = SK-2




CLOTHES WASHER (4 FLOORS)

5




WATER CLOSETS(3 FLOORS)

6




LAVS (3 FLOORS)

7

L-1 = L-2




SHOWERS (3 FLOORS)

8

SH-1 = SH-2




SINKS (3 FLOORS)

9

SK-1 = SK-2




NOT USED

10




MOP BASIN (3 FLOORS)

11

# 1 WASTE RISER DIAGRAM

NO SCALE


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DRAWING TITLE

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DRAWING NUMBER

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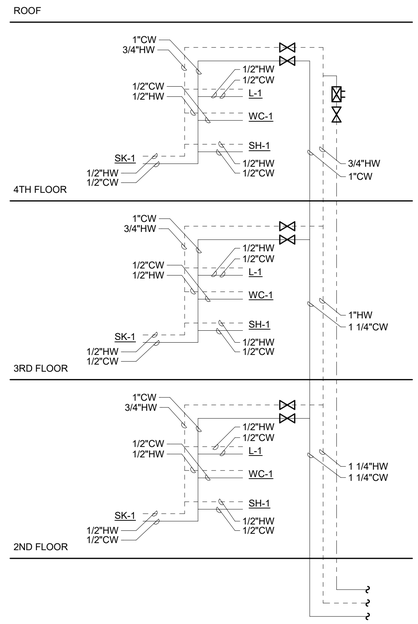


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CW(PER ROOM) WSFU = 4.7
HW(PER ROOM) WSFU = 2.5

1 BEDROOM UNITS WITH WATER CLOSET, LAV, SHOWER, AND SINK

## 1 WATER RISER DIAGRAM

NO SCALE

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KEY PLAN

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PROJECT #22007630.00

# PLUMBING MATERIAL LIST

| TAG NAME | DESCRIPTION | MANUFACTURER AND MODEL |
|---|---|---|
| SK-3 | SINGLE BOWL DROP-IN SINK,ADA COMPLIANT,ACCESSIBLE,SELF-RIMMING SINGLE COMPARTMENT WITH FAUCET DECK AND OVERFLOW, 22 GAUGE TYPE 300 STAINLESS STEEL, 25"" (SIDE-TO-SIDE) x 21-1/4"" (FRONT-TO-BACK) OVERALL SIZE, 25"" x 21-1/4"" x 5-3/8"" DEEP BOWL, COMPLETELY UNDERCOATED, 3-1/2"" DIAMETER DRAIN OUTLET LOCATION REAR-CENTERED RIGHT IN BOWL.<br><br>SINK TRIM - SPECIALTY FAUCETS,TWO HANDLE LAUNDRY FAUCET ,DUCK MOUNTED,2 OR 3 HOLE SINK ,4"" CENTERSET<br><br>ACCESSORIES - OFFSET 1-1/2"" 17 GAUGE CHROME-PLATED BRASS TAILPIECE AND P-TRAP, QUARTER-TURN BALL VALVE TYPE 3/8"" CHROME-PLATED BRASS ANGLE SUPPLIES WITH LOOSE KEY STOPS, CHROME-PLATED SOFT COPPER SUPPLY LINES.<br><br>INSULATION KIT - PRE-MANUFACTURED FOR P-TRAP, STOP VALVES, AND SUPPLY LINES. | SINK - DAYTON(GE12521),ADA/ICC A117.1(COMPLIANT)<br><br>SINK FAUCET-DELTA(SPECIALTY FAUCETS,TWO HANDLE LAUNDRY FAUCET)(2133LF) ICC/ANSI A117.1(COMPLIANT) |
| WC-1 | WATER CLOSET - FLOOR MOUNTED, TANK TYPE, PRESSURE ASSISTED, SIPHON JET, WHITE VITREOUS CHINA, CLOSE COUPLED, ELONGATED BOWL, BOLT CAPS, 12" ROUGH-IN, CHROME PLATED TRIP LEVER, 1.28 GALLONS PER FLUSH WATER SENSE LABELED.<br><br>SEAT - WHITE, EXTRA HEAVY, OPEN FRONT, INJECTION MOLDED SOLID ANTI-MICROBIAL PLASTIC, SELF-SUSTAINING HINGE, STAINLESS STEEL OR PLATED STEEL POSTS AND NUTS.<br><br>ACCESSORIES - QUARTER-TURN 3/8" CHROME-PLATED HEAVY BRASS ANGLE SUPPLY WITH STOP, CHROME-PLATED SOFT COPPER SUPPLY LINE.<br><br>TOP OF SEAT SHALL BE AT 16"-17" ABOVE FINISHED FLOOR. VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS. | WATER CLOSET - KOHLER (K-3575), AMERICAN STANDARD (), GERBER (), ZURN ()<br><br>SEAT - SAME AS WATER CLOSET MANUFACTURER |
| WC-2 | | |
| WH-1 | WATER HEATER - GAS FIRED, CONDENSING, VERTICAL, MINIMUM 94% EFFICIENT, SEALED COMBUSTION, METAL CABINET, BAKED ENAMEL FINISH, ASME STAMPED GLASS-LINED STEEL OR STAINLESS STEEL TANK, 160 PSI WORKING PRESSURE, FIBERGLASS OR FOAM INSULATION, BRASS WATER CONNECTIONS AND DRAIN VALVE, ASME APPROVED T&P RELIEF VALVE, MULTIPLE MAGNESIUM ANODE RODS, VENT PIPING KIT, HIGH TEMPERATURE GAS SHUT OFF, AUTOMATIC WATER THERMOSTAT, BUILT-IN GAS REGULATING VALVE, ADJUSTABLE TEMPERATURE RANGE, 3-YEAR WARRANTY, UL LISTED, COMPLIANT TO NAECA, ASHRAE 90.1 AND ASHRAE 90A.<br><br>119 GALLON CAPACITY, 399,900 BTUH INPUT NATURAL GAS, 920 GPH RECOVERY AT 100°F RISE.<br>RECOVERY AT 100°F RISE. PROVIDE AN EMERGENCY STOP SWITCH LOCATED NEAR THE EXIT DOOR AND WIRING BACK TO THE WATER HEATER MEETING THE REQUIREMENTS OF ASME CSD-1.<br><br>ELECTRICAL REQUIREMENTS - 120V CIRCUIT FOR BLOWER AND CONTROLS, HARD-WIRED<br><br>SET WATER TEMPERATURE AT 140°F. SET SUPPLY GAS PRESSURE AT 14" W.C.<br><br>CONDENSATE DRAIN NEUTRALIZATION TANK - RATED FOR MAXIMUM 4,000 MBH WATER HEATER AND 32 GPH CONDENSATE FLOW, POLYPROPYLENE RECTANGULAR TANK, 1"FNPT INLET AND OUTLET, REMOVABLE ACCESS COVER FOR CLEANING AND PELLET REPLACEMENT, 12.5 LBS PH NEUTRALIZING PELLETS. | A.O. SMITH (CYCLONE MXI BTH), BOCK (OT SERIES), BRADFORD WHITE (EF SERIES), HTP (PHOENIX PLUS), PVI (CONQUEST), RHEEM (GHE), STATE (SUF), LOCHINVAR (SWR SERIES)<br><br>NEUTRALIZATION TANK - JUM BOILER WORKS (NB-4), NUTRASAFE (GN4T) |
| WH-2 | WATER HEATER - GAS FIRED, CONDENSING, VERTICAL, MINIMUM 94% EFFICIENT, SEALED COMBUSTION, METAL CABINET, BAKED ENAMEL FINISH, ASME STAMPED GLASS-LINED STEEL OR STAINLESS STEEL TANK, 160 PSI WORKING PRESSURE, FIBERGLASS OR FOAM INSULATION, BRASS WATER CONNECTIONS AND DRAIN VALVE, ASME APPROVED T&P RELIEF VALVE, MULTIPLE MAGNESIUM ANODE RODS, VENT PIPING KIT, HIGH TEMPERATURE GAS SHUT OFF, AUTOMATIC WATER THERMOSTAT, BUILT-IN GAS REGULATING VALVE, ADJUSTABLE TEMPERATURE RANGE, 3-YEAR WARRANTY, UL LISTED, COMPLIANT TO NAECA, ASHRAE 90.1 AND ASHRAE 90A.<br><br>119 GALLON CAPACITY, 399,900 BTUH INPUT NATURAL GAS, 920 GPH RECOVERY AT 100°F RISE.<br>RECOVERY AT 100°F RISE. PROVIDE AN EMERGENCY STOP SWITCH LOCATED NEAR THE EXIT DOOR AND WIRING BACK TO THE WATER HEATER MEETING THE REQUIREMENTS OF ASME CSD-1.<br><br>ELECTRICAL REQUIREMENTS - 120V CIRCUIT FOR BLOWER AND CONTROLS, HARD-WIRED<br><br>SET WATER TEMPERATURE AT 140°F. SET SUPPLY GAS PRESSURE AT 14" W.C.<br><br>CONDENSATE DRAIN NEUTRALIZATION TANK - RATED FOR MAXIMUM 4,000 MBH WATER HEATER AND 32 GPH CONDENSATE FLOW, POLYPROPYLENE RECTANGULAR TANK, 1"FNPT INLET AND OUTLET, REMOVABLE ACCESS COVER FOR CLEANING AND PELLET REPLACEMENT, 12.5 LBS PH NEUTRALIZING PELLETS. | A.O. SMITH (CYCLONE MXI BTH), BOCK (OT SERIES), BRADFORD WHITE (EF SERIES), HTP (PHOENIX PLUS), PVI (CONQUEST), RHEEM (GHE), STATE (SUF), LOCHINVAR (SWR SERIES)<br><br>NEUTRALIZATION TANK - JUM BOILER WORKS (NB-4), NUTRASAFE (GN4T) |
| WM-1 | WATER METER - COORDINATE REQUIREMENTS WITH LOCAL UTILITY. | NEPTUNE, BADGER, HERSEY |
| WMF-1 | WASHING MACHINE FIXTURE - PVC/PLASTIC ENCLOSURE, 2" CENTER DRAIN AND TRAP (LOCATED 18"-30" BELOW BOX) . INLET STRAINER, SCREEN OR SEDIMENT BASKET, TWO QUARTER-TURN ANGLE VALVES WITH 1/2" THREADED OUTLETS AND INTEGRAL WATER HAMMER ARRESTORS. | OATEY (38000 SERIES), WATER-TITE (4700 HA SERIES), GUY GRAY |
| YCO-1 | YARD CLEANOUT - ROUND, DURA-COATED CAST IRON, SIZE AS LISTED ON DRAWINGS, DOUBLE FLANGED HOUSING, HEAVY DUTY SECURED SCORIATED DURA-COATED CAST IRON COVER, LIFTING DEVICE, BRONZE CLEANOUT PLUG WITH GAS/WATER-TIGHT SEAL. | ZURN (Z1474), SMITH (4261), WADE (8401), JOSAM (58680), WATTS (CO-300-MF), MIFAB (C1300-MF) |

# PLUMBING MATERIAL LIST

| TAG NAME | DESCRIPTION | MANUFACTURER AND MODEL |
|---|---|---|
| MB-1 | MOP BASIN - PRECAST TERRAZZO, 24"x24"x12", STAINLESS STEEL INTEGRAL DRAIN WITH REMOVABLE STRAINER, 3" OUTLET, CONTINUOUS STAINLESS STEEL CAP ON ALL EDGES.<br><br>TRIM - EXPOSED TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, SINGLE WING HANDLES, 1/4 TURN CERAMIC DISC CARTRIDGE, 3/4" HOSE THREAD SPOUT WITH ASSE 1053 RATED INTEGRAL VACUUM BREAKER, WALL BRACE, PAIL HOOK, CHECK STOPS OR INLINE CHECK VALVES TO PREVENT THERMAL CROSSOVER. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874.<br><br>ACCESSORIES - MOP HANGER, HOSE AND HOSE BRACKET, TRAP ONE 24" WIDE STAINLESS STEEL WALL GUARD. | MOP BASIN - FIAT (TSB), ACORN (TSH), CREATIVE INDUSTRIES (MC), WILLIAMS (SB)<br><br>TRIM - DELTA (28C2383), AMERICAN STANDARD (8344.012), CHICAGO FAUCETS (897-CP), MOEN (8124), SPEAKMAN (SC-5812), SYMMONS (S-2490), ZURN (Z841M1-XL)<br><br>[VACUUM BREAKER - WATTS (8A), OR APPROVED EQUAL] |
| RD-1 | ROOF DRAIN - CAST IRON BODY, SECURED CAST IRON DOME, 4" ROUND, BOTTOM OUTLET, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, ADJUSTABLE EXTENSION TO MATCH INSULATION THICKNESS, OUTLET SIZE AS LISTED ON DRAWINGS. | ZURN (Z-100), SMITH (1010), WADE (3000), JOSAM (21500), WATTS (RD-300), MIFAB (R1200), SUN (RD4000), FROET (200C) |
| RD-2 | ROOF DRAIN - CAST IRON BODY, SECURED CAST IRON DOME, 4" ROUND, BOTTOM] OUTLET, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, ADJUSTABLE EXTENSION TO MATCH INSULATION THICKNESS, OUTLET SIZE AS LISTED ON DRAWINGS. | ZURN (Z-100), SMITH (1010), WADE (3000), JOSAM (21500), WATTS (RD-300), MIFAB (R1200), SUN (RD4000), FROET (200C) |
| RDO-1 | ROOF DRAIN OUTLET - LAMBS TONGUE DOWNSPOUT NOZZLE, BRONZE BODY, INTEGRAL ANCHORING FLANGE, REMOVABLE STAINLESS STEEL SCREEN, OUTLET SIZE AS LISTED ON DRAWINGS. | ZURN (Z-199), SMITH (1770), WADE (3940), JOSAM (25010), WATTS (RD-940), MIFAB (R1940), SUN (RD4500) |
| SH-1 | SHOWER - ONE PIECE ROLL-IN UNIT, REINFORCED FIBERGLASS CONSTRUCTION, WHITE ACRYLIC FINISH, 63"x38" (NOMINAL), SLIP-RESISTANT FLOOR, 2" FLOOR DRAIN, STAINLESS STEEL TRENCH DRAIN STYLE GRATE.<br><br>SHOWER VALVE - SINGLE HANDLE PRESSURE BALANCED MIXING FAUCET, BRASS OR BRONZE CONSTRUCTION, WASHERLESS DESIGN, OFF-COLD-HOT TEMPERATURE RANGE INDICATOR DIAL, MATTE BLACK CAST METAL LEVER HANDLE, INTEGRAL CHECK STOPS, ADJUSTABLE TEMPERATURE LIMIT STOP. ASSE 1016 LISTED.<br><br>ACCESSORIES - HAND HELD SHOWER WITH ON/OFF CONTROL AND NON-POSITIVE SHUT OFF, 69" MATTE BLACK METAL HOSE, MATTE BLACK BRASS SWIVEL CONNECTOR, 30" MATTE BLACK MOUNTING RAIL, MATTE BLACK BRASS SUPPLY ELBOW FLANGE, MATTE BLACK IN-LINE VACUUM BREAKER WITH MATTE BLACK PIPING AND FLANGES.<br><br>INSTALL ALL CONTROLS BETWEEN 38" AND 48" ABOVE FINISHED FLOOR IN COMPLIANCE WITH LATEST ADA STANDARDS. INSTALL BOTTOM OF SHOWERHEAD AT 72" ABOVE FINISHED FLOOR. MAXIMUM FLOW TO BE 1.75 GPM WATERSENSE LABELED. SET SAFETY LIMIT STOP TO 110 DEGREE F DISCHARGE.<br><br>ACCESSORIES - 1" DIAMETER STAINLESS STEEL CURTAIN ROD, COMMERCIAL GRADE VINYL SHOWER CURTAIN.<br><br>UNIT SHALL BE RECESSED IN SUB-FLOOR TO ELIMINATE ANY CURB AT FINISHED FLOOR LEVEL. IN COMPLIANCE WITH LATEST ASTM F-446, ANSI A117.1, AND ADA STANDARDS. MOUNT SHOWER CURTAIN ROD AS HIGH AS POSSIBLE. | SHOWER - BEST BATH (LBS26337A75FTB.V3), OASIS (), AQUARIUS (), AQUA BATH (), AQUATIC ()<br><br>SHOWER VALVE - MOEN (3558EP & UT2902EP/NH), AMERICAN STANDARD (), DELTA () |
| SH-2 | SHOWER - ACCESSIBLE ONE PIECE ROLL-IN UNIT, REINFORCED FIBERGLASS CONSTRUCTION, WHITE ACRYLIC FINISH, 63"x38" (NOMINAL), SLIP-RESISTANT FLOOR, 2" FLOOR DRAIN, STAINLESS STEEL TRENCH DRAIN STYLE GRATE.<br><br>SHOWER VALVE - ACCESSIBLE, SINGLE HANDLE PRESSURE BALANCED MIXING FAUCET, BRASS OR BRONZE CONSTRUCTION, WASHERLESS DESIGN, OFF-COLD-HOT TEMPERATURE RANGE INDICATOR DIAL, MATTE BLACK CAST METAL LEVER HANDLE, INTEGRAL CHECK STOPS, ADJUSTABLE TEMPERATURE LIMIT STOP. ASSE 1016 LISTED.<br><br>ACCESSORIES - HAND HELD SHOWER WITH ON/OFF CONTROL AND NON-POSITIVE SHUT OFF, 69" MATTE BLACK METAL HOSE, MATTE BLACK BRASS SWIVEL CONNECTOR, 30" MATTE BLACK MOUNTING RAIL, MATTE BLACK BRASS SUPPLY ELBOW FLANGE, MATTE BLACK IN-LINE VACUUM BREAKER WITH MATTE BLACK PIPING AND FLANGES.<br><br>INSTALL ALL CONTROLS BETWEEN 38" AND 48" ABOVE FINISHED FLOOR IN COMPLIANCE WITH LATEST ADA STANDARDS. INSTALL BOTTOM OF SHOWERHEAD AT 72" ABOVE FINISHED FLOOR. MAXIMUM FLOW TO BE 1.75 GPM WATERSENSE LABELED. SET SAFETY LIMIT STOP TO 110 DEGREE F DISCHARGE.<br><br>ACCESSORIES - FOLD DOWN PHENOLIC SEAT, 1 1/2" 18 GAUGE TYPE 304 STAINLESS STEEL HORIZONTAL GRAB BAR ON BACK WALL AND END WALLS, 1" DIAMETER STAINLESS STEEL CURTAIN ROD, COMMERCIAL GRADE VINYL SHOWER CURTAIN.<br><br>GRAB BAR SHALL BE MOUNTED WITH STAINLESS STEEL NUTS AND BOLTS AND FASTENED FROM THE BACKSIDE OF THE UNIT WITH MINIMUM 3"x3" METAL PLATES. UNIT SHALL BE RECESSED IN SUB-FLOOR TO ELIMINATE ANY CURB AT FINISHED FLOOR LEVEL. IN COMPLIANCE WITH LATEST ASTM F-446, ANSI A117.1, AND ADA STANDARDS. MOUNT SHOWER CURTAIN ROD AS HIGH AS POSSIBLE. | SHOWER - BEST BATH (LBS26337A75FTB.V3), OASIS (), AQUARIUS (), AQUA BATH (), AQUATIC ()<br><br>SHOWER VALVE - MOEN (3558EP & UT2902EP/NH), AMERICAN STANDARD (), DELTA () |
| SK-1 | EQUAL DOUBLE BOWL DROP-IN SINK - ACCESSIBLE, SELF-RIMMING DOUBLE COMPARTMENT WITH FAUCET DECK, 20 GAUGE TYPE 300 STAINLESS STEEL WITH A ELITE STAIN FINISH, COMPLETELY UNDERCOATED, 33"" (SIDE-TO-SIDE) x 22"" (FRONT-TO-BACK) OVERALL SIZE, EACH COMPARTMENT 14"" x 15-3/4"" x 7-7/8"" DEEP, 3-1/2"" DIAMETER DRAIN OUTLET LOCATION CENTERED IN EACH BOWL, REMOVABLE TYPE 300 STAINLESS STEEL BASKET STRAINERS WITH NEOPRENE STOPPERS.<br><br>SINK TRIM - SINGLE HANDLE PULL-DOWN FAUCET, DIAMOND COATED CERAMIC CARTRIDGE , 1 OR 3 HOLE MOUNT,,RED/BLUE INDICATOR MARKINGS,DUEL INTEGRAL CHECK VALVES IN SPRAYER.<br><br>MAXIMUM FLOW TO BE 1.8 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M.0.5 GPM IN COMPLIANCE WITH PROJECT WATER CONSERVATION REQUIREMENTS. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AND ESCUTCHEON PLATE AS REQUIRED.<br><br>ACCESSORIES - 1-1/2"" 17 GAUGE CHROME-PLATED BRASS TAILPIECE AND P-TRAP, QUARTER-TURN BALL VALVE TYPE 3/8"" CHROME-PLATED BRASS ANGLE SUPPLIES WITH LOOSE KEY STOPS, CHROME-PLATED SOFT COPPER SUPPLY LINES.<br>INSULATION KIT - PRE-MANUFACTURED FOR P-TRAP, STOP VALVES, AND SUPPLY LINES.<br><br>GARBAGE DISPOSER - CONTINUOUS FEED, SINGLE DIRECTION, CORROSION PROTECTION SHIELD, SERVICE WRENCH, STAINLESS STEEL GRINDING ELEMENTS, MANUALLY RESET OVERLOAD PROTECTION, FULL 5 YEAR WARRANTY. | SINK - DAYTON(DSEW4023322)<br><br>SINK FAUCET - MOEN (5925 SERIES) SINGLE HANDLE PULL DOWN |
| SK-2 | EQUAL DOUBLE BOWL DROP-IN SINK /ADA COMPLIANT, ACCESSIBLE, SELF-RIMMING DOUBLE COMPARTMENT WITH FAUCET DECK, 22 GAUGE TYPE 300 STAINLESS STEEL WITH A SATAIN FINISH, COMPLETELY UNDERCOATED, 33"" (SIDE-TO-SIDE) x21-1/4"" (FRONT-TO-BACK) OVERALL SIZE OF EACH COMPARTMENT 14"" x 14"" x 5-1/4"" DEEP, 3-1/2"" DIAMETER DRAIN OUTLET LOCATION REAR-CENTERED REAR IN EACH BOWL, REMOVABLE TYPE 300 STAINLESS STEEL BASKET STRAINERS WITH NEOPRENE STOPPERS.<br><br>SINK TRIM - SINGLE HANDLE PULL DOWN FAUCET, DIAMOND COATED CERAMIC CARTRIDGE, 1 OR 3 HOLE INSTALLATION,RED/BLUE INDICATOR MARKINGS,DUEL INTEGRAL CHECK VALVES IN SPRAYER<br><br>MAXIMUM FLOW TO BE 1.8 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M.0.5 GPM IN COMPLIANCE WITH PROJECT WATER CONSERVATION REQUIREMENTS (LEED).] FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AND ESCUTCHEON PLATE AS REQUIRED.<br><br>ACCESSORIES - 1-1/2"" 17 GAUGE CHROME-PLATED BRASS TAILPIECE AND P-TRAP, QUARTER-TURN BALL VALVE TYPE 3/8"" CHROME-PLATED BRASS ANGLE SUPPLIES WITH LOOSE KEY STOPS, CHROME-PLATED SOFT COPPER SUPPLY LINES.<br>INSULATION KIT - PRE-MANUFACTURED FOR P-TRAP, STOP VALVES, AND SUPPLY LINES.<br><br>GARBAGE DISPOSER - CONTINUOUS FEED, SINGLE DIRECTION, CORROSION PROTECTION SHIELD, SERVICE WRENCH, STAINLESS STEEL GRINDING ELEMENTS, MANUALLY RESET OVERLOAD PROTECTION, FULL 5 YEAR WARRANTY. | SINK - DAYTON(GE23321),ADA/ICC A117.1(COMPLIANT)<br><br>SINK FAUCET - MOEN (5925 SERIES) SINGLE HANDLE PULL DOWN |

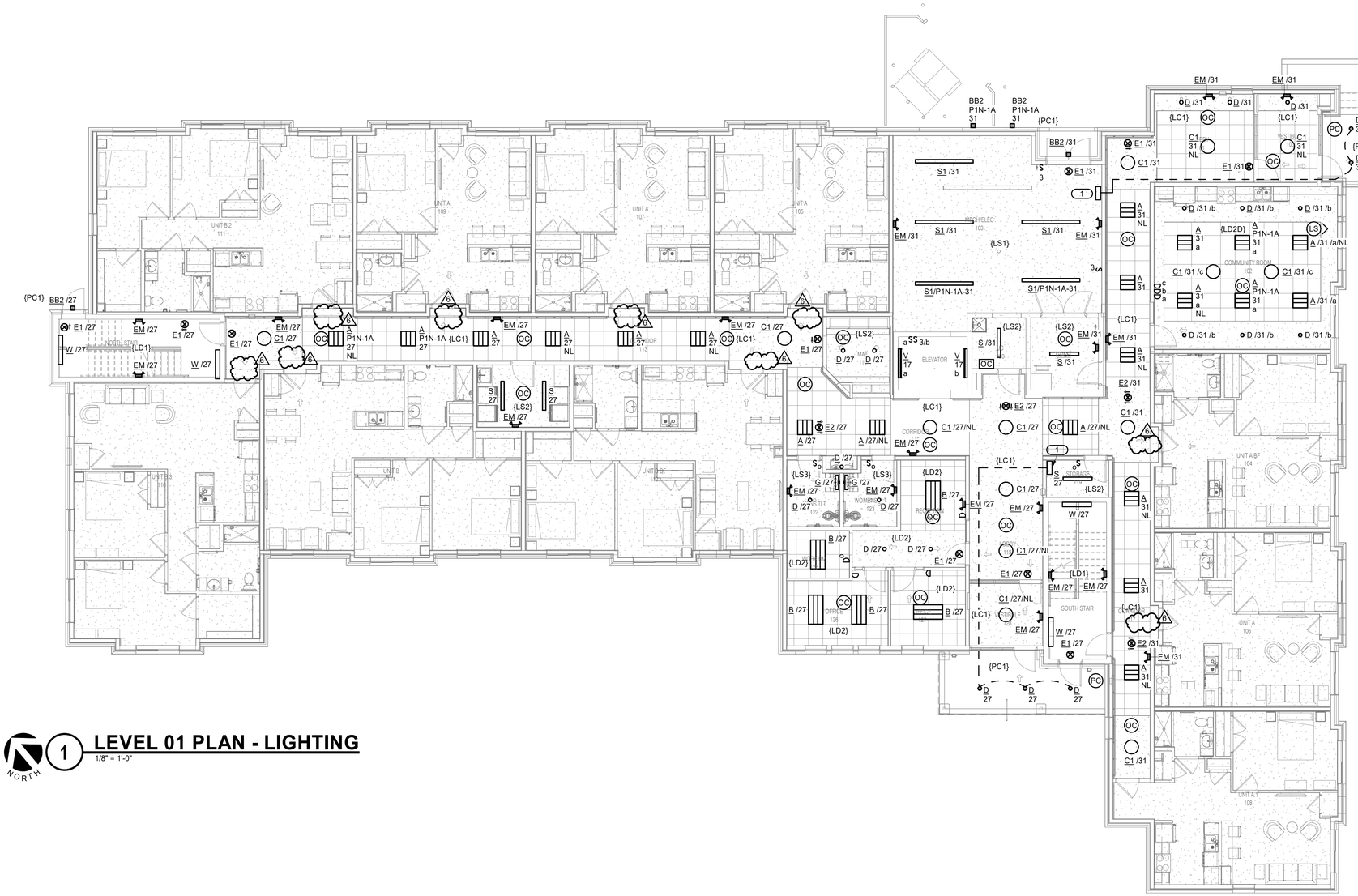
# PLUMBING MATERIAL LIST

| TAG NAME | DESCRIPTION | MANUFACTURER AND MODEL |
|---|---|---|
| EWC-1 | ELECTRIC WATER COOLER - WALL HUNG, BI-LEVEL UNITS, ADA COMPLIANT WITH MATCHING STAINLESS STEEL APRON INSTALLED UNDER UPPER UNIT, 18 GAUGE STAINLESS STEEL CABINETS AND NON-SPLASH BASINS WITH STAINLESS STEEL FINISH, STREAM PROJECTORS WITH PROTECTIVE HOODS, PUSH BAR OR LEVER OPERATING CONTROLS ON FRONT AND BOTH SIDES, BUILT-IN FLOW REGULATOR, PLASTIC P-TRAP ASSEMBLY, ADJUSTABLE THERMOSTAT, MOUNTING ACCESSORIES, TANK DRAIN AND ANGLE STOPS, HERMETIC COMPRESSOR TO OPERATE ON HFC-134a REFRIGERANT. COMPLIANT TO LATEST ANSI A117.1 AND ADA STANDARDS. UNIT SHALL COMPLY WITH FEDERAL ACT S.3874.<br><br>BOTTLE FILLING STATION - UNIT MOUNTED, STAINLESS STEEL CONSTRUCTION AND FINISH, INTEGRAL DRAIN, SENSOR OPERATED WITH AUTOMATIC SHUTOFF, REPLACEABLE LEAD-CHLORINE-TASTE-ODOR WATER FILTER, BOTTLE COUNTER, FILTER REPLACEMENT INDICATOR.<br><br>UNIT SHALL PROVIDE 8.0 GPH OF WATER FROM 80°F TO 50°F AT 90°F AMBIENT. WATER SYSTEM SHALL BE OF LEAD FREE CONSTRUCTION. TANK SHALL BE TESTED TO 125 PSIG.<br><br>ORIFICE SHALL BE AT 36" (MAXIMUM) ABOVE FINISHED FLOOR ON LOWER UNIT AND 40" ABOVE FINISHED FLOOR ON UPPER UNIT. BOTTOM OF APRON SHALL BE 27" ABOVE FLOOR ON LOWER UNIT IN COMPLIANCE WITH LATEST ADA STANDARDS.<br><br>ELECTRICAL REQUIREMENTS - 1/5 HP MOTOR, 120V-1 PHASE, CORD AND PLUG, PLAIN RECEPTACLE MOUNTED WITHIN EWC LOWER ENCLOSURE, GFCI BREAKER. | ELECTRIC WATER COOLER -ELKAY (LZST), MURDOCK (A172), HALSEY TAYLOR (HTHB-HAC8BLSS-WF) |
| FCO-1 | FLOOR CLEANOUT - ADJUSTABLE, CAST IRON HOUSING, ANCHOR FLANGE, TAPERED THREAD PLUG, ROUND SECURED GALVANIZED TOP. | [Use following for galvanized top] ZURN (Z1400), JOSAM (55000), MIFAB (C1100), SMITH (4000), WADE (6000), WATTS (CO-200)<br><br>[Use following for stainless steel top] ZURN (Z1400), JOSAM (55000), MIFAB (C1100), SMITH, WADE, WATTS (CO-1200) |
| FD-1 | FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 5" ROUND, 2" BOTTOM OUTLET, FLASHING COLLAR.<br><br>TRAP SEAL - 2", PLASTIC HOUSING WITH FLEXIBLE DIAPHRAGM, SEALING GASKETS, RECLOSES AND SEALS WHEN DISCHARGE IS COMPLETED, ASSE 1072. | FLOOR DRAIN - ZURN (Z-415), SMITH (2005), WADE (1100), JOSAM (30000), WATTS (FD-100), MIFAB (F1100), SUN (FD1000)<br><br>TRAP SEAL - SURE SEAL (SS), PROVENT (TRAP GUARD), SMITH (QUAD CLOSE), GREEN DRAIN, MIFAB (MI-GARD) |
| HB-2 | HOSE BIBB - FREEZELESS ROOF HYDRANT, ONE PIECE VARIABLE FLOW PLUNGER WITH ROD GUIDE, BUILT-IN STORAGE RESERVOIR AND VENTURI SYSTEM TO EVACUATE WATER AND ALLOW DRAIN BACK OPERATION FOR FREEZE PROOF WINTERIZATION WITHOUT A DRAIN CONNECTION, CAST IRON FLANGED HYDRANT SUPPORT WITH UNDER-DECK FLANGE, WELL SEAL BETWEEN SUPPORT AND HYDRANT PIPE WITH EDPM BOOT COVER.<br><br>PROVIDE WITH ASSE 1052 OR 1057 APPROVED, FIELD TESTABLE, DOUBLE CHECK VALVE BACK FLOW PREVENTER WITH 3/4" THREADED HOSE CONNECTION AT HYDRANT OUTLET. | WOODFORD (SRH-MS), PRIER (), FREEZE FLOW () |
| L-1 | LAVATORY - COUNTER TOP MOUNTED, OVAL, SELF-RIMMING, WHITE VITREOUS CHINA, 20"x17", FAUCET HOLES ON 4" CENTERS.<br><br>LAVATORY TRIM - SINGLE HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, CONVENTIONAL SPOUT WITH AERATOR FLOW OUTLET, WASHERLESS PUSH-PULL LEVER HANDLE WITH SUPPLIES AT 4" CENTERS SINGLE HOLE, CERAMIC DISC CARTRIDGE, POP-UP DRAIN WITH 1-1/4" 17 GAUGE TAILPIECE.<br><br>MAXIMUM FLOW TO BE 0.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AS REQUIRED.<br><br>MIXING VALVE - POINT-OF-USE ANTI-SCALD THERMOSTATIC MIXING VALVE ARRANGEMENT FOR TEMPERED WATER CONTROL, ALL BRONZE/BRASS CONSTRUCTION, ROUGH FINISH, UNION/THREADED INLETS WITH STRAINERS, COMBINATION CHECK STOPS OR SEPARATE SUPPLY CHECK VALVES AND SHUT OFF VALVES.<br><br>ACCESSORIES - QUARTER-TURN 3/8" CHROME PLATED HEAVY BRASS ANGLE SUPPLY LOOSE KEY STOPS, CHROME PLATED SOFT COPPER SUPPLY LINES, 1-1/4" 17 GAUGE CAST BRASS P-TRAP. | LAVATORY - AMERICAN STANDARD (0476.028), GERBER (12-844), KOHLER (K-2196-4), SLOAN (SS-3002), TOTO (LT501), ZURN (Z5114)<br><br>LAVATORY TRIM -DELTA (22C331), AMERICAN STANDARD (7385), CHICAGO FAUCET (420), MOEN (8414), SPEAKMAN (S-3551), SYMMONS (S-20), ZURN (Z7440-XL) |
| L-2 | LAVATORY - COUNTER TOP MOUNTED, OVAL, SELF-RIMMING, WHITE VITREOUS CHINA, 20"x17", FAUCET HOLES ON 4" CENTERS.<br><br>LAVATORY TRIM - SINGLE HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, CONVENTIONAL SPOUT WITH AERATOR FLOW OUTLET, WASHERLESS PUSH-PULL LEVER HANDLE WITH SUPPLIES AT 4" CENTERS SINGLE HOLE, CERAMIC DISC CARTRIDGE, POP-UP DRAIN WITH 1-1/4" 17 GAUGE TAILPIECE.<br><br>MAXIMUM FLOW TO BE 0.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AS REQUIRED.<br><br>MIXING VALVE - POINT-OF-USE ANTI-SCALD THERMOSTATIC MIXING VALVE ARRANGEMENT FOR TEMPERED WATER CONTROL, ALL BRONZE/BRASS CONSTRUCTION, ROUGH FINISH, UNION/THREADED INLETS WITH STRAINERS, COMBINATION CHECK STOPS OR SEPARATE SUPPLY CHECK VALVES AND SHUT OFF VALVES.<br><br>INSULATION KIT - PRE-MANUFACTURED FOR P-TRAP, STOP VALVES, AND SUPPLY LINES.<br><br>ACCESSORIES - QUARTER-TURN 3/8"" CHROME PLATED HEAVY BRASS ANGLE SUPPLY LOOSE KEY STOPS, CHROME PLATED SOFT COPPER SUPPLY LINES, 1-1/4"" 17 GAUGE CAST BRASS P-TRAP. | LAVATORY - AMERICAN STANDARD (0476.028), GERBER (12-844), KOHLER (K-2196-4), SLOAN (SS-3002), TOTO (LT501), ZURN (Z5114)<br><br>LAVATORY TRIM -DELTA (22C331), AMERICAN STANDARD (7385), CHICAGO FAUCET (420), MOEN (8414), SPEAKMAN (S-3551), SYMMONS (S-20), ZURN (Z7440-XL)<br><br>INSULATION KIT - TRUEBRO (LAV-GUARD), BROCAR PRODUCTS (TRAP WRAP), MCGUIRE (PROWRAP), PLUMBEREX (PRO-EXTREME) |
| L-3 | LAVATORY - COUNTER TOP MOUNTED, OVAL, SELF-RIMMING, WHITE VITREOUS CHINA, 20"x17", FAUCET HOLES ON 4" CENTERS.<br><br>LAVATORY TRIM - LAVATORY TRIM - SINGLE HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, CONVENTIONAL SPOUT WITH AERATOR FLOW OUTLET], WASHERLESS PUSH-PULL LEVER HANDLE WITH SUPPLIES AT 4"" CENTERS [SINGLE HOLE], CERAMIC DISC CARTRIDGE, [PERFORATED GRID STRAINER][POP-UP DRAIN] WITH 1-1/4"" 17 GAUGE TAILPIECE.<br><br>MAXIMUM FLOW TO BE 0.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AS REQUIRED.<br><br>MIXING VALVE - POINT-OF-USE ANTI-SCALD THERMOSTATIC MIXING VALVE ARRANGEMENT FOR TEMPERED WATER CONTROL, ALL BRONZE/BRASS CONSTRUCTION, ROUGH FINISH, UNION/THREADED INLETS WITH STRAINERS, COMBINATION CHECK STOPS OR SEPARATE SUPPLY CHECK VALVES AND SHUT OFF VALVES.<br><br>INSULATION KIT - PRE-MANUFACTURED FOR P-TRAP, STOP VALVES, AND SUPPLY LINES.<br><br>ACCESSORIES - QUARTER-TURN 3/8"" CHROME PLATED HEAVY BRASS ANGLE SUPPLY LOOSE KEY STOPS, CHROME PLATED SOFT COPPER SUPPLY LINES, 1-1/4"" 17 GAUGE CAST BRASS P-TRAP.<br><br>ARMAFLEX WITH TAPE IS NOT ACCEPTABLE IN LIEU OF INSULATION KIT. | LAVATORY - AMERICAN STANDARD (0476.028), GERBER (12-844), KOHLER (K-2196-4), SLOAN (SS-3002), TOTO (LT501), ZURN (Z5114)<br><br>DELTA (22C331), AMERICAN STANDARD (7385), CHICAGO FAUCET (420), MOEN (8414), SPEAKMAN (S-3551), SYMMONS (S-20), ZURN (Z7440-XL)<br><br>[INSULATION KIT - TRUEBRO (LAV-GUARD), BROCAR PRODUCTS (TRAP WRAP), MCGUIRE (PROWRAP), PLUMBEREX (PRO-EXTREME) |

# PIPE INSULATION SCHEDULE (PLUMBING)

GENERAL NOTES:
1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS. VALUES LISTED BELOW ARE BASED ON ASHRAE / IECC REQUIREMENTS.
2. TYPE A INSULATION IS NOT ALLOWED IN NON-AIR CONDITIONED SPACES, SUCH AS MECHANICAL ROOMS, EXTERIOR, ATTICS, ETC.
3. TYPE B INSULATION GREATER THAN 1" THICK SHALL BE INSTALLED USING MULTIPLE LAYERS OF 3/4" OR 1" WITH STAGGERED SEAMS.
4. TYPE E IS NOT ALLOWED IN RETURN AIR PLENUMS, UNLESS LISTED AND LABELED AS 25/50 RATED PER ASTM E84/UL723
5. TYPE G 4" SHALL BE INSTALLED IN TWO (2) 2" LAYERS WITH STAGGERED SEAMS.
6. PROVIDE RIGID INSERT AT HANGERS, EITHER PRE-MANUFACTURED COUPLINGS (REFER TO PIPE HANGER AND SUPPORTS SPECIFICATIONS) OR TYPE C, D, OR E INSULATION. SEE SPEC. FOR MORE DETAILS.
7. DIRECT BUIRED PIPING SHALL ONLY USE TYPE C OR TYPE E. REDUCTION IN THICKNESS FOR DIRECT BURED PIPING IS ALLOWED PER ASHRAE / IECC AS APPLICABLE.

| PIPE SYSTEM | INSULATION TYPE | INSULATION THICKNESS PER NOMINAL PIPE OR TUBE SIZE | | | | | NOTES | HIDE |
|---|---|---|---|---|---|---|---|---|
| | | < 1" | 1" TO < 1.5" | 1.5" TO < 4" | 4" TO < 8" | ≥ 8" | | |
| 22 PLUMBING - OTHER | | | | | | | | |
| MISC RELIEF VENTS, INTAKES, AND DISCHARGES | A (GlsFbr), B (Elasto), E (Plyiso), F (Phenol) | 0.5" | 0.5" | 1" | 1" | 1" | APPLY INSULATION ONLY WITHIN 10' OF EXTERIOR PENETRATION ON COMPRESSOR INTAKES, VACUUM DISCHARGES, VENT/RELIEF LINES, ETC. | |
| 22 PLUMBING - WASTE | | | | | | | | |
| D - DRAIN - PLUMBING | A (GlsFbr), B (Elasto), E (Plyiso), F (Phenol) | 0.5" | 0.5" | 1" | 1" | 1" | APPLY INSULATION ONLY TO LOW TEMP DRAINS (55 DEG AND LOWER IE: COOLING COIL CONDENSATE, ICE MACHINE DRAINS, ETC.) | |
| SAN - SANITARY DRAINAGE | A (GlsFbr), B (Elasto), E (Plyiso), F (Phenol) | 0.5" | 0.5" | 1" | 1" | 1" | APPLY INSULATION ONLY TO FLOOR DRAIN BODY, P-TRAP




1 **LEVEL 01 PLAN - LIGHTING**
1/8" = 1'-0"

NORTH

**SHEET NOTES:**

A. CIRCUIT ALL NORMAL POWER LIGHTING ON THIS FLOOR TO PANEL P1N-1A, UNLESS NOTED OTHERWISE.
B. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
C. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS. MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
D. SEE ARCHITECTURAL ELEVATIONS AND DETAILS FOR EXACT LOCATIONS OF DEVICES, THESE SHALL TAKE PRECEDENCE OVER ANY INDICATION IN ELECTRICAL CONSTRUCTION DOCUMENTS.
E. CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE AND DESIGN INTENT. ACTUAL CIRCUITS IN PANELS TO BE COORDINATED IN FIELD. PROVIDE TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
F. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.

**KEYNOTES:** (#)

1. PROVIDE MICRO-INVERTER IN INTERIOR CEILING SPACE SERVING EXTERIOR DOWNLIGHTS FOR EGRESS. MICRO-INVERTER SHALL HAVE 90-MINUTE BATTERY BACKUP CAPACITY.


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Anthony J VanSant
License No. 6201312803
LICENSED PROFESSIONAL ENGINEER

SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

**440 W. MARTIN LUTHER KING JR BLVD**
**GREYSTONE**
**SENIOR LIVING**
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

LEVEL 01 PLAN - LIGHTING

DRAWING NUMBER

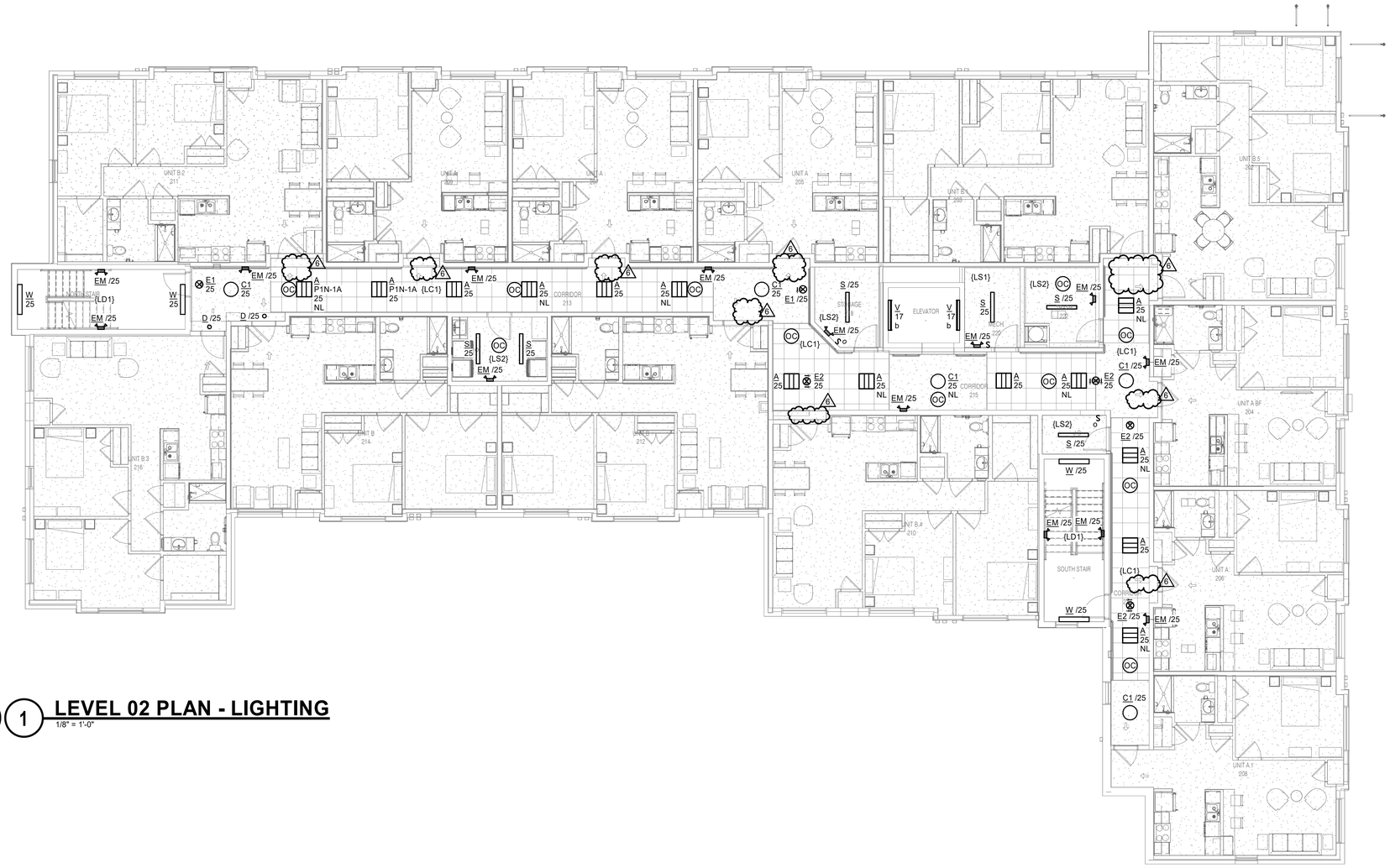
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0 1 2 3
REF. SCALE IN INCHES
PROJECT #220070630.00




## 1 LEVEL 02 PLAN - LIGHTING

1/8" = 1'-0"

NORTH

**SHEET NOTES:**

A. CIRCUIT ALL NORMAL POWER LIGHTING ON THIS FLOOR TO PANEL P1N-1A, UNLESS NOTED OTHERWISE.
B. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
C. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS. MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
D. SEE ARCHITECTURAL ELEVATIONS AND DETAILS FOR EXACT LOCATIONS OF DEVICES, THESE SHALL TAKE PRECEDENCE OVER ANY INDICATION IN ELECTRICAL CONSTRUCTION DOCUMENTS.
E. CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE AND DESIGN INTENT, ACTUAL CIRCUITS IN PANELS TO BE COORDINATED IN FIELD. PROVIDE TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
F. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.

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LICENSE EXP: 08/09/2027

**440 W. MARTIN LUTHER KING JR BLVD**
**GREYSTONE**
**SENIOR LIVING**
**DETROIT MICHIGAN**

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

LEVEL 02 PLAN - LIGHTING

DRAWING NUMBER

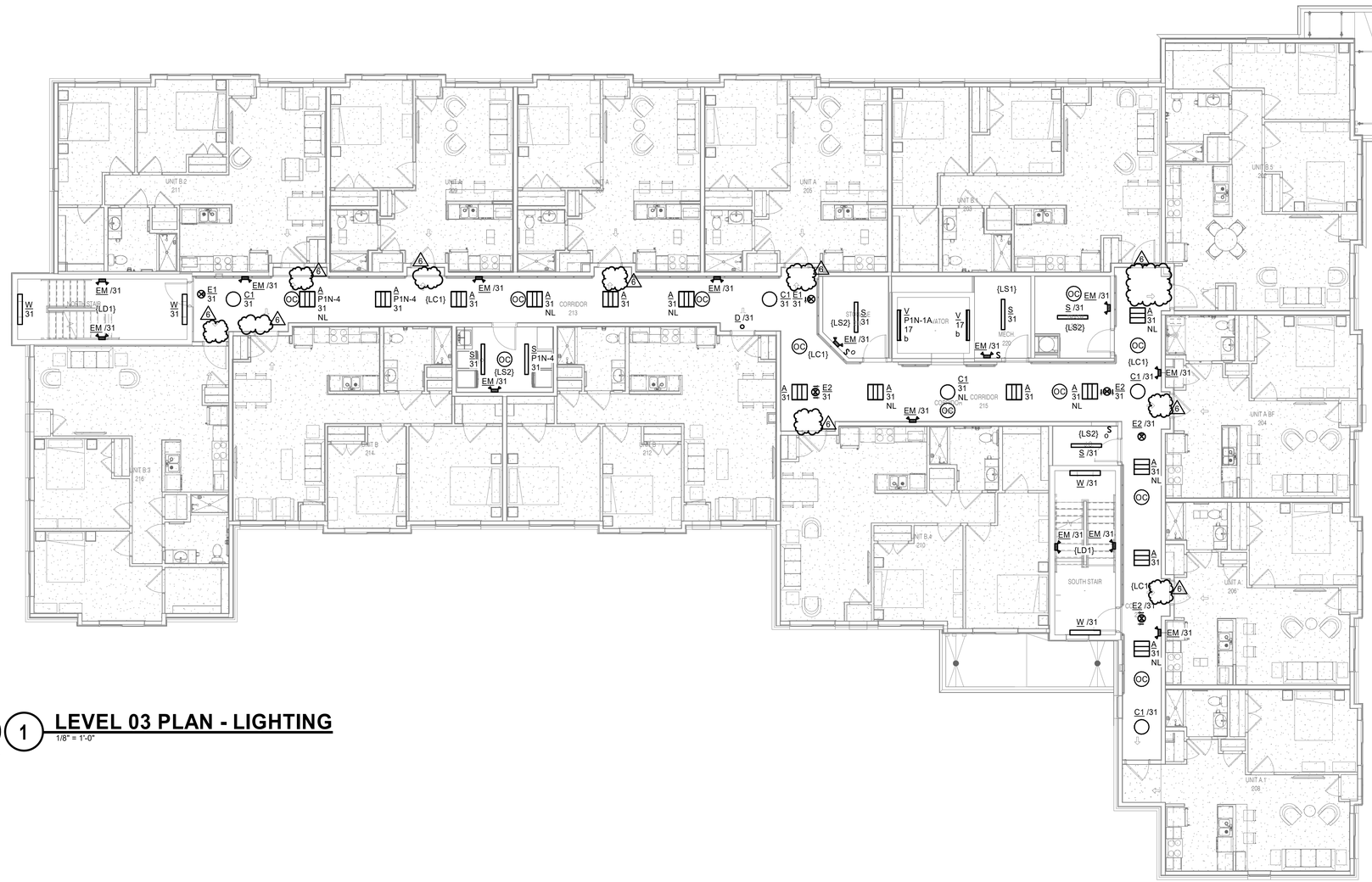
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PROJECT #220070630.00




## LEVEL 03 PLAN - LIGHTING

1/8" = 1'-0"

**SHEET NOTES:**

A. CIRCUIT ALL NORMAL POWER LIGHTING ON THIS FLOOR TO PANEL P1N-4, UNLESS NOTED OTHERWISE.
B. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
C. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS. MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
D. SEE ARCHITECTURAL ELEVATIONS AND DETAILS FOR EXACT LOCATIONS OF DEVICES, THESE SHALL TAKE PRECEDENCE OVER ANY INDICATION IN ELECTRICAL CONSTRUCTION DOCUMENTS.
E. CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE AND DESIGN INTENT, ACTUAL CIRCUITS IN PANELS TO BE COORDINATED IN FIELD. PROVIDE TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
F. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.

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ARCHITECTS AND PLANNERS

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License No. 6201312803
LICENSED PROFESSIONAL ENGINEER

SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
GREYSTONE
SENIOR LIVING
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
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| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

LEVEL 03 PLAN - LIGHTING

DRAWING NUMBER

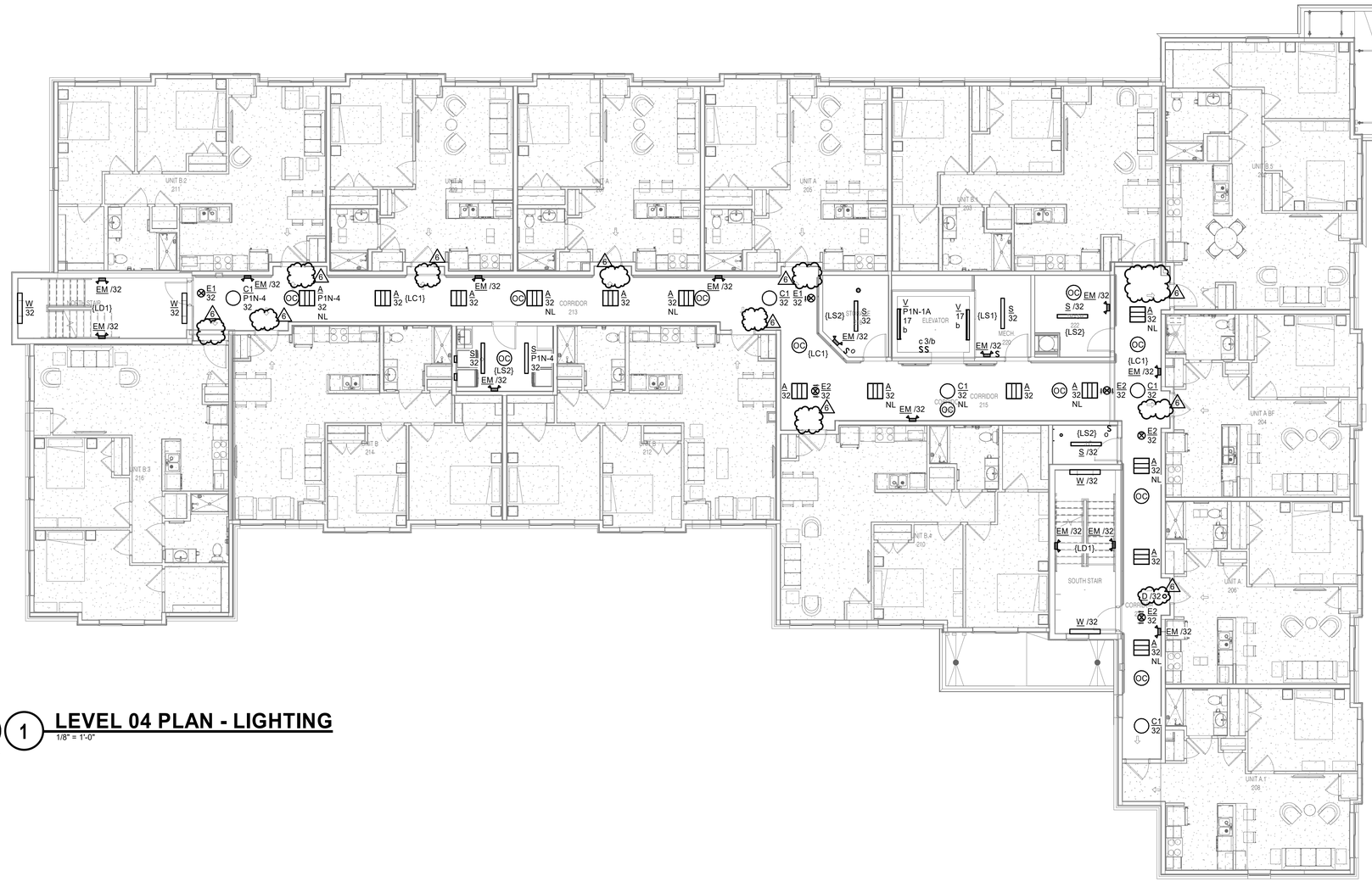
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PROJECT #22007630.00




## 1 LEVEL 04 PLAN - LIGHTING

1/8" = 1'-0"

NORTH

**SHEET NOTES:**

A. CIRCUIT ALL NORMAL POWER LIGHTING ON THIS FLOOR TO PANEL P1N-4, UNLESS NOTED OTHERWISE.
B. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
C. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS. MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
D. SEE ARCHITECTURAL ELEVATIONS AND DETAILS FOR EXACT LOCATIONS OF DEVICES, THESE SHALL TAKE PRECEDENCE OVER ANY INDICATION IN ELECTRICAL CONSTRUCTION DOCUMENTS.
E. CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE AND DESIGN INTENT, ACTUAL CIRCUITS IN PANELS TO BE COORDINATED IN FIELD. PROVIDE TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
F. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.


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SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

# GREYSTONE
## SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
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KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

LEVEL 04 PLAN - LIGHTING

DRAWING NUMBER

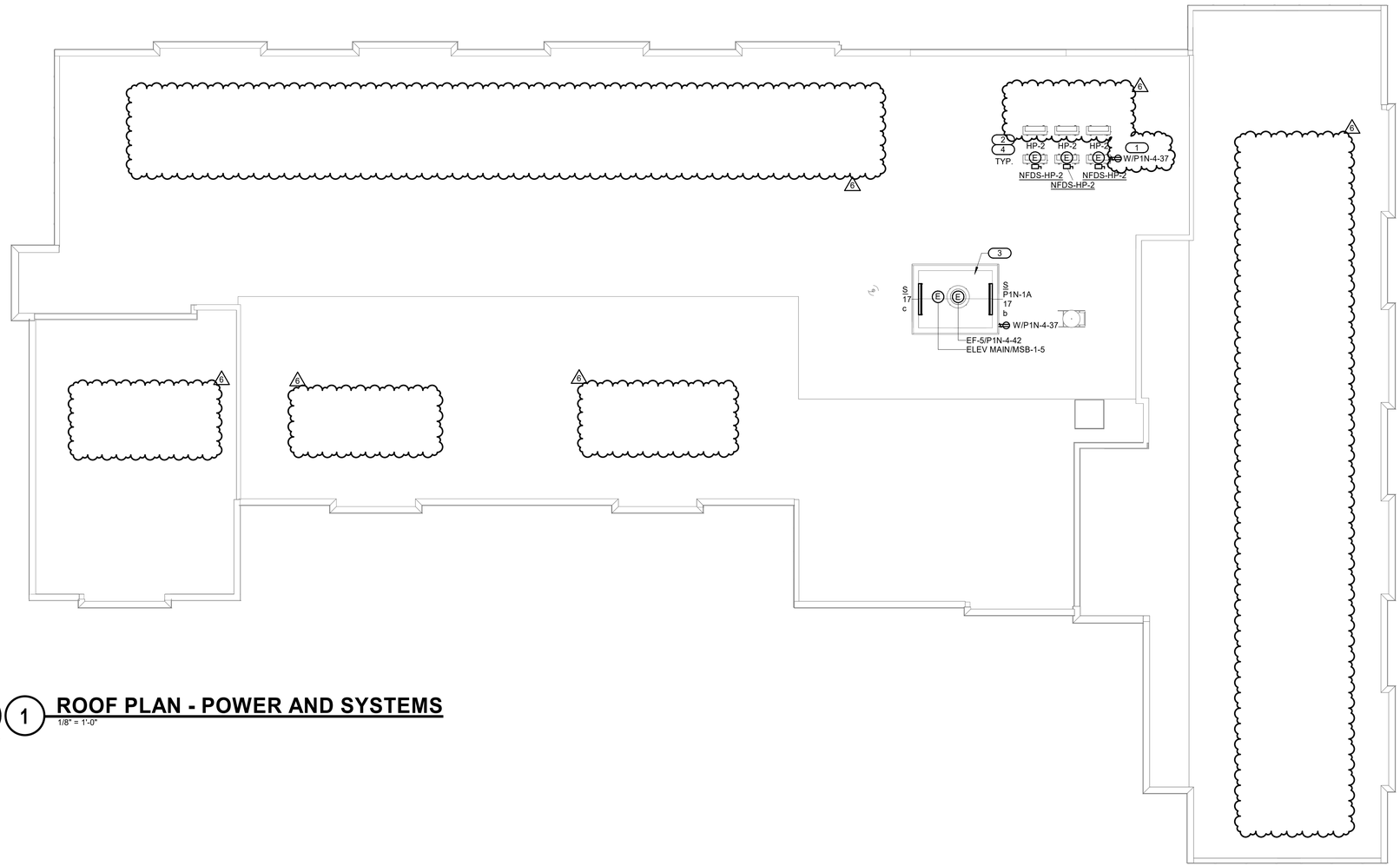
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REF. SCALE IN INCHES
PROJECT #220007630.00




NORTH

## 1 ROOF PLAN - POWER AND SYSTEMS

1/8" = 1'-0"

**SHEET NOTES:**

A. CIRCUIT ALL ROOF TOP RECEPTACLES TO PANEL P1N-4, UNLESS NOTED OTHERWISE.
B. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
C. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS, MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
D. SEE ARCHITECTURAL ELEVATIONS AND DETAILS FOR EXACT LOCATIONS OF DEVICES, THESE SHALL TAKE PRECEDENCE OVER ANY INDICATION IN ELECTRICAL CONSTRUCTION DOCUMENTS.
E. CIRCUIT NUMBERS ARE SHOWN FOR DESIGN INTENT, ACTUAL CIRCUITS IN PANELS MAY VARY, COORDINATE IN FIELD. PROVIDE UPDATED TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
F. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.
G. DUPLEX RECEPTACLE OUTLETS SHALL BE 20 AMP RATED DEVICES. 15 AMP RATED DEVICES SHALL NOT BE USED.
H. REFER TO MECHANICAL/ELECTRICAL SCHEDULE FOR EQUIPMENT CONNECTIONS AND CIRCUIT INFORMATION.

**KEYNOTES:** (#)

1. PROVIDE GFCI RECEPTACLE WITHIN 25' OF ALL ROOFTOP HVAC EQUIPMENT. PROVIDE WEATHERPROOF IN-USE COVER. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
2. PROVIDE CONNECTION TO MECHANICAL EQUIPMENT. CONNECT EQUIPMENT SERVING DWELLING UNITS TO RESPECTIVE UNIT LOAD CENTER IN DWELLING UNIT. OUTDOOR UNIT SERVES INDOOR UNIT. COORDINATE WITH MECHANICAL CONTRACTOR AND REFER TO MECHANICAL SCHEDULES.
3. COORDINATE LOCATION OF DEVICES WITH ELEVATOR CONTRACTOR. REFER TO 5/E401.
4. VERIFY SPLIT SYSTEM DISCONNECTING MEANS REQUIREMENTS WITH AHJ. ALL EXTERIOR DISCONNECTS SHALL HAVE NEMA 3R ENCLOSURE.

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MICHIGAN

# 440 W. MARTIN LUTHER KING JR BLVD

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KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ROOF PLAN - ELECTRICAL

DRAWING NUMBER

E215

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REF. SCALE IN INCHES

PROJECT #22007630.00

# PANEL UNIT A

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A MLO (6)
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | | | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | | | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | | | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | | | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRIDOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | | | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | | | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | | | | | | | | | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | | | 10 | -- | 8 | 2 | 35 A | HP-1 | 16 | (6) |
| | 17 | SPARE | 20 A | 1 | | | | | | | | | 1 | 20 A | SPARE | 18 | |
| | 19 | SPACE | -- | 1 | | | | | | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | | | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | | | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | | | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | | | | | | 2 | 30 A | SPD | 28 | |
| | 29 | SPACE | -- | 1 | | | | | | | | | | | | 30 | |

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT A

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 590SQ-FT @ 3 VA /SQ-FT | 1770 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 15943 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 1893 VA | 100% | 1893 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 3610 VA | 65% | 2347 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 3610 VA |

(6)

TOTALS WITHOUT NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 15943 VA | 100% | 15943 VA |
| HVAC LOAD SUBTOTAL: | 3610 VA | 100% | 3610 VA |
| TOTAL UNDIVERSIFIED LOAD: | 19553 VA 120/208V, 1Φ 3W | | |

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 5943 VA | 40% | 2377 VA |
| GREATEST OF HVAC LOAD: | 4240 VA | 100% | 4240 VA |
| TOTAL DIVERSIFIED LOAD: | 16617 VA 80 A @ 120/208V, 1Φ 3W | | |

**KEYNOTES:** (#)

1. PROVIDE COUNTERTOP POP-UP TAMPER-RESISTANT RECEPTACLE AT THIS LOCATION. CIRCUIT DOWNSTREAM OF GFCI RECEPTACLE FOR PROTECTION. COORDINATE INSTALLATION WITH CABINETRY.
2. COORDINATE MOUNTING HEIGHT OF RANGE HOOD RECEPTACLE WITH ARCHITECT. COORDINATE WITH MILLWORK.
3. PROVIDE DISPOSAL SWITCH 6" BELOW COUNTERTOP WITHIN CABINETRY FOR PENINSULA MOUNTED SINKS. COORDINATE WITH MILLWORK.
4. PROVIDE PULL STRING FOR EMERGENCY CALL DEVICE. COORDINATE WITH TECHNOLOGY INSTALLER.
5. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE REQUIRED FIRE ALARM NOTIFICATION DEVICES, AND DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE EQUAL TO EDWARDS SIGNALING 7005-G5. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING. VERIFY EXACT UNITS WITH ARCHITECTURAL DRAWINGS.
6. UNIT MEDIA DISTRIBUTION PANEL PROVIDED BY OWNER'S LV SYSTEMS VENDOR. COORDINATE OUTLET HEIGHT WITH ENCLOSURE. PROVIDE DUPLEX GFCI RECEPTACLE, DATA AND COAXIAL CABLE MANAGEMENT AND DISTRIBUTION BLOCKS/SPLITTERS WITHIN BY OWNER'S LV SYSTEMS VENDOR. CONNECTIONS SHALL BE SUFFICIENT FOR ALL OUTLETS AND DEVICES. ENCLOSURES SHALL NOT BE MOUNTED IN A FIRE-RATED WALL.

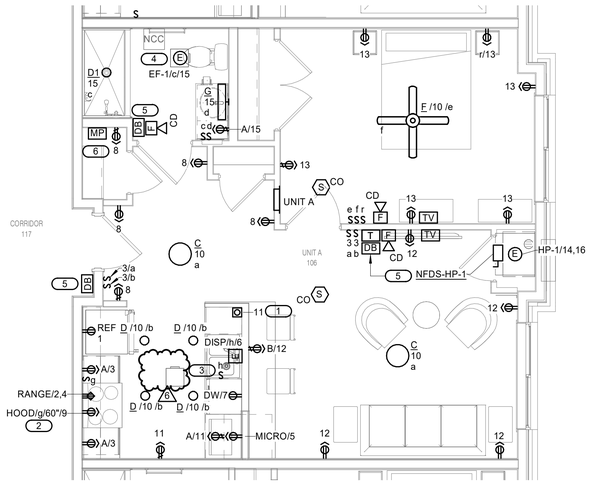
**SHEET NOTES:**

A. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
B. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS, MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
C. CIRCUIT NUMBERS ARE SHOWN FOR DESIGN INTENT, ACTUAL CIRCUITS IN PANELS MAY VARY, COORDINATE IN FIELD, PROVIDE UPDATED TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
D. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.
E. DUPLEX RECEPTACLE OUTLETS SHALL BE 20 AMP RATED DEVICES. 15 AMP RATED DEVICES SHALL NOT BE USED.

**UNIT PLAN NOTES:**

A. ALL RECEPTACLES SHALL BE OF TAMPER RESISTANT TYPE PER NFPA 70, ART. 406.12.
B. NOTIFICATION APPLIANCES SHALL BE MOUNTED WITHIN 16 FEET OF THE PILLOW. THEY SHALL HAVE A SOUND LEVEL OF AT LEAST 15dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL, OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, OR HAVE A SOUND LEVEL OF AT LEAST 75dB, WHICHEVER IS GREATER, AS MEASURED AT THE PILLOW LEVEL PER NFPA 72, ART. 18.4.5 * 18.5.5.7
C. PROVIDE EACH SLEEPING UNIT WITH A NOTIFICATION DEVICE THAT PRODUCES A LOW FREQUENCY ALARM SIGNAL OF 520Hz.
D. CO AND SMOKE DETECTORS SHALL NOT BE MOUNTED WITHIN 36" HORIZONTAL PATH FROM THE EDGE OF A CEILING FAN PER NFPA 72, ART. 29.8.3.4.
E. RECEPTACLE FOR RANGE (LABELED AS 'RANGE'). PROVIDE NEMA 14-50R RECEPTACLE. CONTRACTOR SHALL PROVIDE MATCHING CORD & PLUG.
F. ELECTRICAL CONTRACTOR SHALL COORDINATE MECHANICAL EQUIPMENT DISCONNECT WITH MECHANICAL SCHEDULE. CONTRACTOR SHALL FIELD COORDINATE PLACEMENT OF DISCONNECT IN ORDER TO ADHERE TO NFPA 70, ART. 110.26. ELECTRICAL DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
G. IN ALL ACCESSIBLE UNITS, MOUNT PANEL SO THAT THE CENTERLINE OF THE TOPMOST OPERABLE BREAKER IS +48" A.F.F.. COORDINATE EXACT REQUIREMENTS WITH LOCAL AHJ.
H. COMBINATION HORN STROBES SHALL BE REQUIRED IN HEARING IMPAIRED UNITS ONLY UNLESS REQUIRED OTHERWISE BY THE LOCAL AHJ. REFER TO ARCHITECTURAL PLANS FOR HEARING IMPAIRED UNITS.
I. PROVIDE ADDITIONAL STROBE DEVICES IN LAUNDRY AND BATHROOMS FOR HEARING IMPAIRED RESIDENTS. REFER TO ARCHITECTURAL PLANS FOR REQUIRED ADA HEARING IMPAIRED UNITS.
J. IN HEARING & VISUALLY IMPAIRED UNITS PROVIDE DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING.
K. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE COMBINATION CO/SMOKE DETECTORS WITH INTEGRAL LED STROBE.
L. WALL OUTLETS SHALL NOT OCCUR IN SAME WALL CAVITY OF ADJACENT SLEEPING UNIT, TYPICAL.
M. DATA DEVICES SHALL BE MOUNTED AT THE SAME MOUNTING HEIGHT AS ADJACENT RECEPTACLE.
N. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL AND INTERIORS DRAWINGS PRIOR TO ROUGH-IN. FOR TV RECEPTACLE MOUNTING, REFER TO ARCHITECTURAL ELEVATIONS.
O. REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING FIXTURES, AND DEVICE LOCATIONS. CONTACT ARCHITECT IF DEVICES ARE NOT SHOWN, TO CONFIRM LOCATION AND ALIGNMENT.
P. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING LIGHT SWITCHES. ALL LIGHT SWITCHES ARE TO BE INSTALLED ON STRIKE SIDE OF DOOR.
Q. CONTRACTOR SHALL VERIFY RECEPTACLE NEMA CONFIGURATIONS AND PLUG OR DIRECT CONNECTION REQUIREMENTS WITH FINAL APPLIANCE SELECTIONS PRIOR TO PROCUREMENT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.

(6)




## 1 UNIT A PLAN - ELECTRICAL

1/4" = 1'-0"


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SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

MICHIGAN

440 W. MARTIN LUTHER KING JR BLVD

DETROIT

GREYSTONE

SENIOR LIVING

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|---|---|
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| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E300


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REF. SCALE IN INCHES
PROJECT #22007630.00

# PANEL UNIT A1

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A MLO (6)
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRIDOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | -- | 8 | 2 | 35 A | HP-1 | 16 | |
| | 17 | SPARE | 20 A | 1 | | | | · | · | | | | 1 | 20 A | SPARE | 18 | |
| | 19 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | · | · | | | | 2 | 30 A | SPD | 28 | |
| | 29 | SPACE | -- | 1 | | | | · | · | | | | | | | 30 | |

(6)

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT A.1

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 623SQ-FT @ 3 VA /SQ-FT | 1869 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 16042 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 1893 VA | 100% | 1893 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 3610 VA | 65% | 2347 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 3610 VA |

(5)

TOTALS WITHOUT NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 16042 VA | 100% | 16042 VA |
| HVAC LOAD SUBTOTAL: | 3610 VA | 100% | 3610 VA |

TOTAL UNDIVERSIFIED LOAD: 19652 VA 120/208V, 1Φ 3W

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 6042 VA | 40% | 2417 VA |
| GREATEST OF HVAC LOAD: | 4240 VA | 100% | 4240 VA |

TOTAL DIVERSIFIED LOAD: 16656 VA 80 A @ 120/208V, 1Φ 3W

**KEYNOTES:** (#)

1. PROVIDE COUNTERTOP POP-UP TAMPER-RESISTANT RECEPTACLE AT THIS LOCATION. CIRCUIT DOWNSTREAM OF GFCI RECEPTACLE FOR PROTECTION. COORDINATE INSTALLATION WITH CABINETRY.
2. COORDINATE MOUNTING HEIGHT OF RANGE HOOD RECEPTACLE WITH ARCHITECT. COORDINATE WITH MILLWORK.
3. PROVIDE DISPOSAL SWITCH 6" BELOW COUNTERTOP WITHIN CABINETRY FOR PENINSULA MOUNTED SINKS. COORDINATE WITH MILLWORK.
4. PROVIDE PULL STRING FOR EMERGENCY CALL DEVICE. COORDINATE WITH TECHNOLOGY INSTALLER.
5. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE REQUIRED FIRE ALARM NOTIFICATION DEVICES, AND DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE EQUAL TO EDWARDS SIGNALING 7005-G5. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING. VERIFY EXACT UNITS WITH ARCHITECTURAL DRAWINGS. UNIT MEDIA DISTRIBUTION PANEL PROVIDED BY OWNER'S LV SYSTEMS VENDOR. COORDINATE OUTLET HEIGHT WITH ENCLOSURE. PROVIDE DUPLEX GFCI RECEPTACLE, DATA AND COAXIAL CABLE MANAGEMENT AND DISTRIBUTION BLOCKS/SPLITTERS WITHIN BY OWNER'S LV SYSTEMS VENDOR. CONNECTIONS SHALL BE SUFFICIENT FOR ALL OUTLETS AND DEVICES. ENCLOSURES SHALL NOT BE MOUNTED IN A FIRE-RATED WALL.

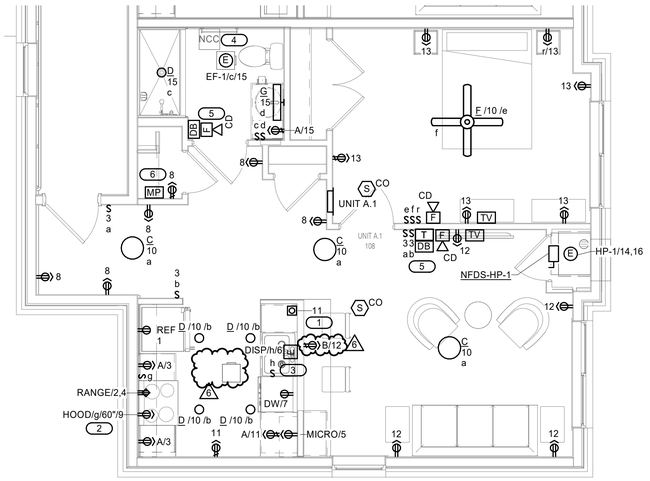
**SHEET NOTES:**

A. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
B. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS, MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
C. CIRCUIT NUMBERS ARE SHOWN FOR DESIGN INTENT, ACTUAL CIRCUITS IN PANELS MAY VARY, COORDINATE IN FIELD, PROVIDE UPDATED TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
D. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.
E. DUPLEX RECEPTACLE OUTLETS SHALL BE 20 AMP RATED DEVICES. 15 AMP RATED DEVICES SHALL NOT BE USED.

**UNIT PLAN NOTES:**

A. ALL RECEPTACLES SHALL BE OF TAMPER RESISTANT TYPE PER NFPA 70, ART. 406.12.
B. NOTIFICATION APPLIANCES SHALL BE MOUNTED WITHIN 16 FEET OF THE PILLOW. THEY SHALL HAVE A SOUND LEVEL OF AT LEAST 15dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL, OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, OR HAVE A SOUND LEVEL OF AT LEAST 75dB, WHICHEVER IS GREATER, AS MEASURED AT THE PILLOW LEVEL PER NFPA 72, ART. 18.4.5 * 18.5.5.7
C. PROVIDE EACH SLEEPING UNIT WITH A NOTIFICATION DEVICE THAT PRODUCES A LOW FREQUENCY ALARM SIGNAL OF 520Hz.
D. CO AND SMOKE DETECTORS SHALL NOT BE MOUNTED WITHIN 36" HORIZONTAL PATH FROM THE EDGE OF A CEILING FAN PER NFPA 72, ART. 29.8.3.4.
E. RECEPTACLE FOR RANGE (LABELED AS 'RANGE'). PROVIDE NEMA 14-50R RECEPTACLE. CONTRACTOR SHALL PROVIDE MATCHING CORD & PLUG.
F. ELECTRICAL CONTRACTOR SHALL COORDINATE MECHANICAL EQUIPMENT DISCONNECT WITH MECHANICAL SCHEDULE. CONTRACTOR SHALL FIELD COORDINATE PLACEMENT OF DISCONNECT IN ORDER TO ADHERE TO NFPA 70, ART. 110.26. ELECTRICAL DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
G. IN ALL ACCESSIBLE UNITS, MOUNT PANEL SO THAT THE CENTERLINE OF THE TOPMOST OPERABLE BREAKER IS +48" A.F.F.. COORDINATE EXACT REQUIREMENTS WITH LOCAL AHJ.
H. COMBINATION HORN STROBES SHALL BE REQUIRED IN HEARING IMPAIRED UNITS ONLY UNLESS REQUIRED OTHERWISE BY THE LOCAL AHJ. REFER TO ARCHITECTURAL PLANS FOR HEARING IMPAIRED UNITS.
I. PROVIDE ADDITIONAL STROBE DEVICES IN LAUNDRY AND BATHROOMS FOR HEARING IMPAIRED RESIDENTS. REFER TO ARCHITECTURAL PLANS FOR REQUIRED ADA HEARING IMPAIRED UNITS.
J. IN HEARING & VISUALLY IMPAIRED UNITS PROVIDE DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING.
K. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE COMBINATION CO/SMOKE DETECTORS WITH INTEGRAL LED STROBE.
L. WALL OUTLETS SHALL NOT OCCUR IN SAME WALL CAVITY OF ADJACENT SLEEPING UNIT, TYPICAL.
M. DATA DEVICES SHALL BE MOUNTED AT THE SAME MOUNTING HEIGHT AS ADJACENT RECEPTACLE.
N. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL AND INTERIORS DRAWINGS PRIOR TO ROUGH-IN. FOR TV RECEPTACLE MOUNTING, REFER TO ARCHITECTURAL ELEVATIONS.
O. REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING FIXTURES, AND DEVICE LOCATIONS. CONTACT ARCHITECT IF DEVICES ARE NOT SHOWN, TO CONFIRM LOCATION AND ALIGNMENT.
P. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING LIGHT SWITCHES. ALL LIGHT SWITCHES ARE TO BE INSTALLED ON STRIKE SIDE OF DOOR.
Q. CONTRACTOR SHALL VERIFY RECEPTACLE NEMA CONFIGURATIONS AND PLUG OR DIRECT CONNECTION REQUIREMENTS WITH FINAL APPLIANCE SELECTIONS PRIOR TO PROCUREMENT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.

(6)




## 1 UNIT A.1 PLAN - ELECTRICAL

1/4" = 1'-0"


FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS
550 E. NINE MILE ROAD
FERNDALE, MICHIGAN, 48220
PHONE 248.543.4100 FAX 248.543.4141



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SEAL

STATE OF MICHIGAN — LICENSED PROFESSIONAL ENGINEER
Anthony J VanSant
License No. 6201312803
SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
GREYSTONE
SENIOR LIVING
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E301


IMEG
www.imegcorp.com
3001 BROADWAY STREET NE
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0 1 2 3
REF. SCALE IN INCHES
PROJECT #22007630.00

# PANEL UNIT A BF

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A M.L.O. 6
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | - | - | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | - | - | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRIDOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | - | - | | | | | | | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | - | - | 10 | -- | 8 | 2 | 35 A | HP-1 | 16 | |
| | 17 | SPARE | 20 A | 1 | | | | - | - | | | | 1 | 20 A | SPARE | 18 | |
| | 19 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | - | - | | | | | | | 28 | |
| | 29 | SPACE | -- | 1 | | | | - | - | | | | 2 | 30 A | SPD | 30 | |

6

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT A BF

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 591SQ-FT @ 3 VA /SQ-FT | 1773 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 15946 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 1893 VA | 100% | 1893 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 3610 VA | 65% | 2347 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 3610 VA |

6

TOTALS WITHOUT NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 15946 VA | 100% | 15946 VA |
| HVAC LOAD SUBTOTAL: | 3610 VA | 100% | 3610 VA |

TOTAL UNDIVERSIFIED LOAD: 19556 VA 120/208V, 1Φ 3W

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 5946 VA | 40% | 2378 VA |
| GREATEST OF HVAC LOAD: | 4240 VA | 100% | 4240 VA |

TOTAL DIVERSIFIED LOAD: 16618 VA 80 A @ 120/208V, 1Φ 3W

**KEYNOTES:** (#)

1. PROVIDE COUNTERTOP POP-UP TAMPER-RESISTANT RECEPTACLE AT THIS LOCATION. CIRCUIT DOWNSTREAM OF GFCI RECEPTACLE FOR PROTECTION. COORDINATE INSTALLATION WITH CABINETRY.
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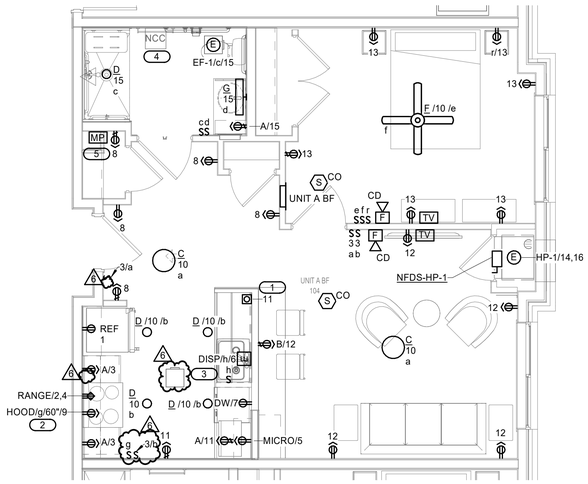
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H. COMBINATION HORN STROBES SHALL BE REQUIRED IN HEARING IMPAIRED UNITS ONLY UNLESS REQUIRED OTHERWISE BY THE LOCAL AHJ. REFER TO ARCHITECTURAL PLANS FOR HEARING IMPAIRED UNITS.
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R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.

6




## 1 UNIT A BF PLAN - ELECTRICAL

1/4" = 1'-0"


FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

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Anthony J VanSant
License No. 6201312803
LICENSED PROFESSIONAL ENGINEER

SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
GREYSTONE
SENIOR LIVING
DETROIT MICHIGAN

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E302


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3001 BROADWAY STREET NE
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0 1 2 3
REF. SCALE IN INCHES
PROJECT #22007630.00

# PANEL UNIT B

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A MCB
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | - | - | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | - | - | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRIDOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | - | - | | | | | | | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | - | - | 10 | -- | 6 | 2 | 50 A | HP-2 | 16 | 1 |
| 2 | 17 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | - | - | | | | 1 | 20 A | SPARE | 18 | |
| | 19 | SPARE | 20 A | 1 | | | | - | - | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | - | - | | | | 2 | 30 A | SPD | 28 | |
| | 29 | SPACE | -- | 1 | | | | - | - | | | | | | | 30 | |

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT B

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 850SQ-FT @ 3 VA /SQ-FT | 2550 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 16723 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 2579 VA | 100% | 2579 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 5410 VA | 65% | 3517 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 5410 VA |

TOTALS WITHOUT NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 16723 VA | 100% | 16723 VA |
| HVAC LOAD SUBTOTAL: | 5410 VA | 100% | 5410 VA |

TOTAL UNDIVERSIFIED LOAD: 22133 VA 120/208V, 1Φ 3W

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 6723 VA | 40% | 2689 VA |
| GREATEST OF HVAC LOAD: | 6096 VA | 100% | 6096 VA |

TOTAL DIVERSIFIED LOAD: 18785 VA 90 A @ 120/208V, 1Φ 3W

**KEYNOTES:** (#)

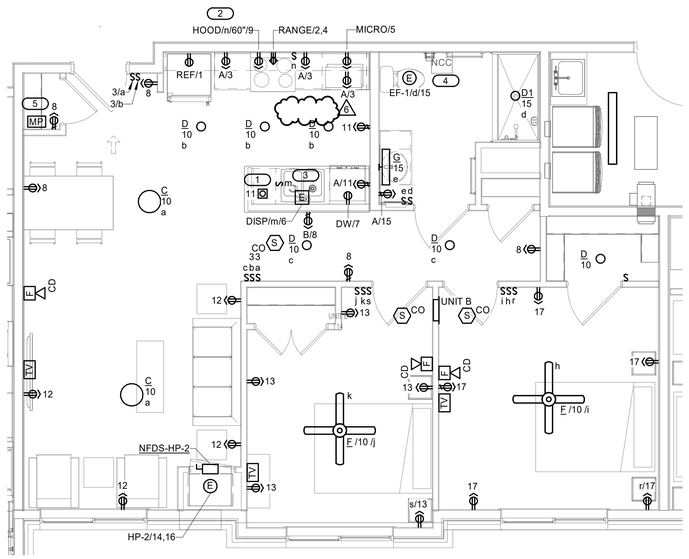
1. PROVIDE COUNTERTOP POP-UP TAMPER-RESISTANT RECEPTACLE AT THIS LOCATION. CIRCUIT DOWNSTREAM OF GFCI RECEPTACLE FOR PROTECTION. COORDINATE INSTALLATION WITH CABINETRY.
2. COORDINATE MOUNTING HEIGHT OF RANGE HOOD RECEPTACLE WITH ARCHITECT. COORDINATE WITH MILLWORK.
3. PROVIDE DISPOSAL SWITCH 6" BELOW COUNTERTOP WITHIN CABINETRY FOR PENINSULA MOUNTED SINKS. COORDINATE WITH MILLWORK.
4. PROVIDE PULL STRING FOR EMERGENCY CALL DEVICE. COORDINATE WITH TECHNOLOGY INSTALLER.
5. UNIT MEDIA DISTRIBUTION PANEL PROVIDED BY OWNER'S LV SYSTEMS VENDOR. COORDINATE OUTLET HEIGHT WITH ENCLOSURE. PROVIDE DUPLEX GFCI RECEPTACLE, DATA AND COAXIAL CABLE MANAGEMENT AND DISTRIBUTION BLOCKS/SPLITTERS WITHIN BY OWNER'S LV SYSTEMS VENDOR. CONNECTIONS SHALL BE SUFFICIENT FOR ALL OUTLETS AND DEVICES. ENCLOSURES SHALL NOT BE MOUNTED IN A FIRE-RATED WALL.

**SHEET NOTES:**

A. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
B. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS, MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
C. CIRCUIT NUMBERS ARE SHOWN FOR DESIGN INTENT, ACTUAL CIRCUITS IN PANELS MAY VARY, COORDINATE IN FIELD, PROVIDE UPDATED TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
D. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.
E. DUPLEX RECEPTACLE OUTLETS SHALL BE 20 AMP RATED DEVICES. 15 AMP RATED DEVICES SHALL NOT BE USED.

**UNIT PLAN NOTES:**

A. ALL RECEPTACLES SHALL BE OF TAMPER RESISTANT TYPE PER NFPA 70, ART. 406.12.
B. NOTIFICATION APPLIANCES SHALL BE MOUNTED WITHIN 16 FEET OF THE PILLOW. THEY SHALL HAVE A SOUND LEVEL OF AT LEAST 15dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL, OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, OR HAVE A SOUND LEVEL OF AT LEAST 75dB, WHICHEVER IS GREATER, AS MEASURED AT THE PILLOW LEVEL PER NFPA 72, ART. 18.4.5 * 18.5.5.7
C. PROVIDE EACH SLEEPING UNIT WITH A NOTIFICATION DEVICE THAT PRODUCES A LOW FREQUENCY ALARM SIGNAL OF 520Hz.
D. CO AND SMOKE DETECTORS SHALL NOT BE MOUNTED WITHIN 36" HORIZONTAL PATH FROM THE EDGE OF A CEILING FAN PER NFPA 72, ART. 29.8.3.4.
E. RECEPTACLE FOR RANGE (LABELED AS 'RANGE'). PROVIDE NEMA 14-50R RECEPTACLE. CONTRACTOR SHALL PROVIDE MATCHING CORD & PLUG.
F. ELECTRICAL CONTRACTOR SHALL COORDINATE MECHANICAL EQUIPMENT DISCONNECT WITH MECHANICAL SCHEDULE. CONTRACTOR SHALL FIELD COORDINATE PLACEMENT OF DISCONNECT IN ORDER TO ADHERE TO NFPA 70, ART. 110.26. ELECTRICAL DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
G. IN ALL ACCESSIBLE UNITS, MOUNT PANEL SO THAT THE CENTERLINE OF THE TOPMOST OPERABLE BREAKER IS >48" A.F.F.. COORDINATE EXACT REQUIREMENTS WITH LOCAL AHJ.
H. COMBINATION HORN STROBES SHALL BE REQUIRED IN HEARING IMPAIRED UNITS ONLY UNLESS REQUIRED OTHERWISE BY THE LOCAL AHJ. REFER TO ARCHITECTURAL PLANS FOR HEARING IMPAIRED UNITS.
I. PROVIDE ADDITIONAL STROBE DEVICES IN LAUNDRY AND BATHROOMS FOR HEARING IMPAIRED RESIDENTS. REFER TO ARCHITECTURAL PLANS FOR REQUIRED ADA HEARING IMPAIRED UNITS.
J. IN HEARING & VISUALLY IMPAIRED UNITS PROVIDE DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING.
K. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE COMBINATION CO/SMOKE DETECTORS WITH INTEGRAL LED STROBE.
L. WALL OUTLETS SHALL NOT OCCUR IN SAME WALL CAVITY OF ADJACENT SLEEPING UNIT, TYPICAL.
M. DATA DEVICES SHALL BE MOUNTED AT THE SAME MOUNTING HEIGHT AS ADJACENT RECEPTACLE.
N. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL AND INTERIORS DRAWINGS PRIOR TO ROUGH-IN. FOR TV RECEPTACLE MOUNTING, REFER TO ARCHITECTURAL ELEVATIONS.
O. REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING FIXTURES, AND DEVICE LOCATIONS. CONTACT ARCHITECT IF DEVICES ARE NOT SHOWN, TO CONFIRM LOCATION AND ALIGNMENT.
P. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING LIGHT SWITCHES. ALL LIGHT SWITCHES ARE TO BE INSTALLED ON STRIKE SIDE OF DOOR.
Q. CONTRACTOR SHALL VERIFY RECEPTACLE NEMA CONFIGURATIONS AND PLUG OR DIRECT CONNECTION REQUIREMENTS WITH FINAL APPLIANCE SELECTIONS PRIOR TO PROCUREMENT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.




## 1 UNIT B PLAN - ELECTRICAL

1/4" = 1'-0"


FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

550 E. NINE MILE ROAD
FERNDALE, MICHIGAN, 48220
PHONE 248.543.4100 FAX 248.543.4141



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SEAL

STATE OF MICHIGAN
Anthony J VanSant
License No. 6201312803
LICENSED PROFESSIONAL ENGINEER

SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

GREYSTONE
SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E303


IMEG
www.imegcorp.com
3001 BROADWAY STREET NE
SUITE 601
MINNEAPOLIS, MN 55413
P: 612.540.5000



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0 1 2 3
REF. SCALE IN INCHES
PROJECT #22007630.00

# PANEL UNIT B.1

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A MCB
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRIDOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | -- | 6 | 2 | 50 A | HP-2 | 16 | |
| 2 | 17 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | · | · | | | | 1 | 20 A | SPARE | 18 | |
| | 19 | SPARE | 20 A | 1 | | | | · | · | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | · | · | | | | 2 | 30 A | SPD | 28 | |
| | 29 | SPACE | -- | 1 | | | | · | · | | | | | | | 30 | |

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT B.1

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 857SQ-FT @ 3 VA /SQ-FT | 2571 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 16744 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 2579 VA | 100% | 2579 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 5410 VA | 65% | 3517 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 5410 VA |

TOTALS WITHOUT NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 16744 VA | 100% | 16744 VA |
| HVAC LOAD SUBTOTAL: | 5410 VA | 100% | 5410 VA |

TOTAL UNDIVERSIFIED LOAD: 22154 VA 120/208V, 1Φ 3W

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 6744 VA | 40% | 2698 VA |
| GREATEST OF HVAC LOAD: | 6096 VA | 100% | 6096 VA |

TOTAL DIVERSIFIED LOAD: 18793 VA 90 A @ 120/208V, 1Φ 3W

**KEYNOTES:** (#)

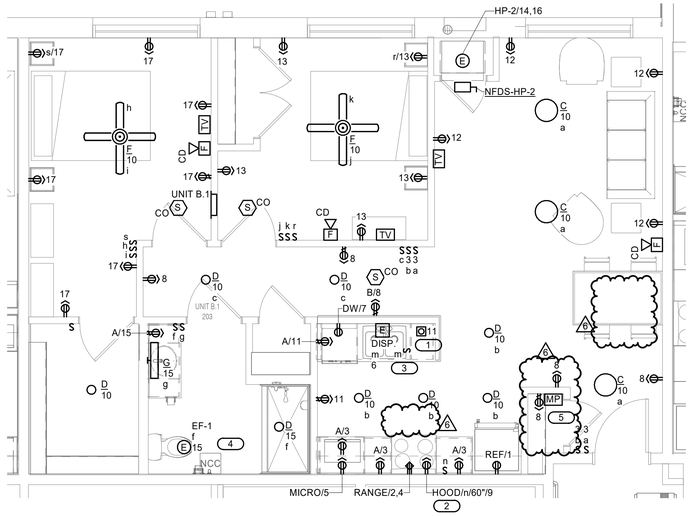
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L. WALL OUTLETS SHALL NOT OCCUR IN SAME WALL CAVITY OF ADJACENT SLEEPING UNIT, TYPICAL.
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R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.




## 1 UNIT B.1 PLAN - ELECTRICAL

1/4" = 1'-0"


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Anthony J VanSant
License No. 6201312803

SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

GREYSTONE
SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E304


IMEG
3001 BROADWAY STREET NE
SUITE 601
MINNEAPOLIS, MN 55413
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0 1 2 3
REF. SCALE IN INCHES
PROJECT #22007630.00

# PANEL UNIT B.2

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A MCB
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | - | - | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | - | - | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRIDOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | - | - | | | | | | | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | - | - | 10 | -- | 6 | 2 | 50 A | HP-2 | 16 | |
| 2 | 17 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | - | - | | | | 1 | 20 A | SPARE | 18 | |
| | 19 | SPARE | 20 A | 1 | | | | - | - | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | - | - | | | | 2 | 30 A | SPD | 28 | |
| | 29 | SPACE | -- | 1 | | | | - | - | | | | | | | 30 | |

6

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT B.2

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 865SQ-FT @ 3 VA /SQ-FT | 2595 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 16768 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 2579 VA | 100% | 2579 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 5410 VA | 65% | 3517 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 5410 VA |

6

TOTALS WITHOUT NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 16768 VA | 100% | 16768 VA |
| HVAC LOAD SUBTOTAL: | 5410 VA | 100% | 5410 VA |

TOTAL UNDIVERSIFIED LOAD: 22178 VA 120/208V, 1Φ 3W

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 6768 VA | 40% | 2707 VA |
| GREATEST OF HVAC LOAD: | 6096 VA | 100% | 6096 VA |

TOTAL DIVERSIFIED LOAD: 18803 VA 90 A @ 120/208V, 1Φ 3W

**KEYNOTES:** (#)

1. PROVIDE COUNTERTOP POP-UP TAMPER-RESISTANT RECEPTACLE AT THIS LOCATION. CIRCUIT DOWNSTREAM OF GFCI RECEPTACLE FOR PROTECTION. COORDINATE INSTALLATION WITH CABINETRY.
2. COORDINATE MOUNTING HEIGHT OF RANGE HOOD RECEPTACLE WITH ARCHITECT. COORDINATE WITH MILLWORK.
3. PROVIDE DISPOSAL SWITCH 6" BELOW COUNTERTOP WITHIN CABINETRY FOR PENINSULA MOUNTED SINKS. COORDINATE WITH MILLWORK.
4. PROVIDE PULL STRING FOR EMERGENCY CALL DEVICE. COORDINATE WITH TECHNOLOGY INSTALLER.
5. UNIT MEDIA DISTRIBUTION PANEL PROVIDED BY OWNER'S LV SYSTEMS VENDOR. COORDINATE OUTLET HEIGHT WITH ENCLOSURE. PROVIDE DUPLEX GFCI RECEPTACLE, DATA AND COAXIAL CABLE MANAGEMENT AND DISTRIBUTION BLOCKS/SPLITTERS WITHIN BY OWNER'S LV SYSTEMS VENDOR. CONNECTIONS SHALL BE SUFFICIENT FOR ALL OUTLETS AND DEVICES. ENCLOSURES SHALL NOT BE MOUNTED IN A FIRE-RATED WALL.

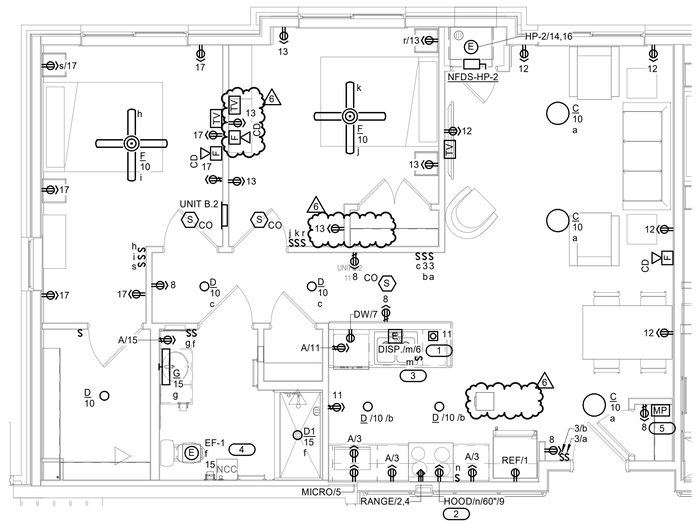
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B. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS, MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
C. CIRCUIT NUMBERS ARE SHOWN FOR DESIGN INTENT, ACTUAL CIRCUITS IN PANELS MAY VARY, COORDINATE IN FIELD, PROVIDE UPDATED TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
D. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.
E. DUPLEX RECEPTACLE OUTLETS SHALL BE 20 AMP RATED DEVICES. 15 AMP RATED DEVICES SHALL NOT BE USED.

**UNIT PLAN NOTES:**

A. ALL RECEPTACLES SHALL BE OF TAMPER RESISTANT TYPE PER NFPA 70, ART. 406.12.
B. NOTIFICATION APPLIANCES SHALL BE MOUNTED WITHIN 16 FEET OF THE PILLOW. THEY SHALL HAVE A SOUND LEVEL OF AT LEAST 15dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL, OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, OR HAVE A SOUND LEVEL OF AT LEAST 75dB, WHICHEVER IS GREATER, AS MEASURED AT THE PILLOW LEVEL PER NFPA 72, ART. 18.4.5 * 18.5.5.7
C. PROVIDE EACH SLEEPING UNIT WITH A NOTIFICATION DEVICE THAT PRODUCES A LOW FREQUENCY ALARM SIGNAL OF 520Hz.
D. CO AND SMOKE DETECTORS SHALL NOT BE MOUNTED WITHIN 36" HORIZONTAL PATH FROM THE EDGE OF A CEILING FAN PER NFPA 72, ART. 29.8.3.4.
E. RECEPTACLE FOR RANGE (LABELED AS 'RANGE'). PROVIDE NEMA 14-50R RECEPTACLE. CONTRACTOR SHALL PROVIDE MATCHING CORD & PLUG.
F. ELECTRICAL CONTRACTOR SHALL COORDINATE MECHANICAL EQUIPMENT DISCONNECT WITH MECHANICAL SCHEDULE. CONTRACTOR SHALL FIELD COORDINATE PLACEMENT OF DISCONNECT IN ORDER TO ADHERE TO NFPA 70, ART. 110.26. ELECTRICAL DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
G. IN ALL ACCESSIBLE UNITS, MOUNT PANEL SO THAT THE CENTERLINE OF THE TOPMOST OPERABLE BREAKER IS ≯48" A.F.F.. COORDINATE EXACT REQUIREMENTS WITH LOCAL AHJ.
H. COMBINATION HORN STROBES SHALL BE REQUIRED IN HEARING IMPAIRED UNITS ONLY UNLESS REQUIRED OTHERWISE BY THE LOCAL AHJ. REFER TO ARCHITECTURAL PLANS FOR HEARING IMPAIRED UNITS.
I. PROVIDE ADDITIONAL STROBE DEVICES IN LAUNDRY AND BATHROOMS FOR HEARING IMPAIRED RESIDENTS. REFER TO ARCHITECTURAL PLANS FOR REQUIRED ADA HEARING IMPAIRED UNITS.
J. IN HEARING & VISUALLY IMPAIRED UNITS PROVIDE DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING.
K. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE COMBINATION CO/SMOKE DETECTORS WITH INTEGRAL LED STROBE.
L. WALL OUTLETS SHALL NOT OCCUR IN SAME WALL CAVITY OF ADJACENT SLEEPING UNIT, TYPICAL.
M. DATA DEVICES SHALL BE MOUNTED AT THE SAME MOUNTING HEIGHT AS ADJACENT RECEPTACLE.
N. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL AND INTERIORS DRAWINGS PRIOR TO ROUGH-IN. FOR TV RECEPTACLE MOUNTING, REFER TO ARCHITECTURAL ELEVATIONS.
O. REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING FIXTURES, AND DEVICE LOCATIONS. CONTACT ARCHITECT IF DEVICES ARE NOT SHOWN, TO CONFIRM LOCATION AND ALIGNMENT.
P. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING LIGHT SWITCHES. ALL LIGHT SWITCHES ARE TO BE INSTALLED ON STRIKE SIDE OF DOOR.
Q. CONTRACTOR SHALL VERIFY RECEPTACLE NEMA CONFIGURATIONS AND PLUG OR DIRECT CONNECTION REQUIREMENTS WITH FINAL APPLIANCE SELECTIONS PRIOR TO PROCUREMENT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.

6




## 1 UNIT B.2 PLAN - ELECTRICAL

1/4" = 1'-0"


FSP FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

550 E. NINE MILE ROAD
FERNDALE, MICHIGAN, 48220
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STATE OF MICHIGAN
Anthony J VanSant
License No. 6201312803
LICENSED PROFESSIONAL ENGINEER

SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

# GREYSTONE
## SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E305


IMEG
3001 BROADWAY STREET NE
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0 1 2 3
REF. SCALE IN INCHES

PROJECT #22007630.00

# PANEL UNIT B.3

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A MCB
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRDIOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | -- | 6 | 2 | 50 A | HP-2 | 16 | |
| 2 | 17 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | 20 A | SPARE | 18 | |
| | 19 | SPARE | 20 A | 1 | | | | · | · | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | · | · | | | | 2 | 30 A | SPD | 28 | |
| | 29 | SPACE | -- | 1 | | | | · | · | | | | | | | 30 | |

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT B.3

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 915SQ-FT @ 3 VA /SQ-FT | 2745 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 16918 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 2579 VA | 100% | 2579 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 5410 VA | 65% | 3517 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 5410 VA |

TOTALS WITHOUT NEC DIVERSITIES:

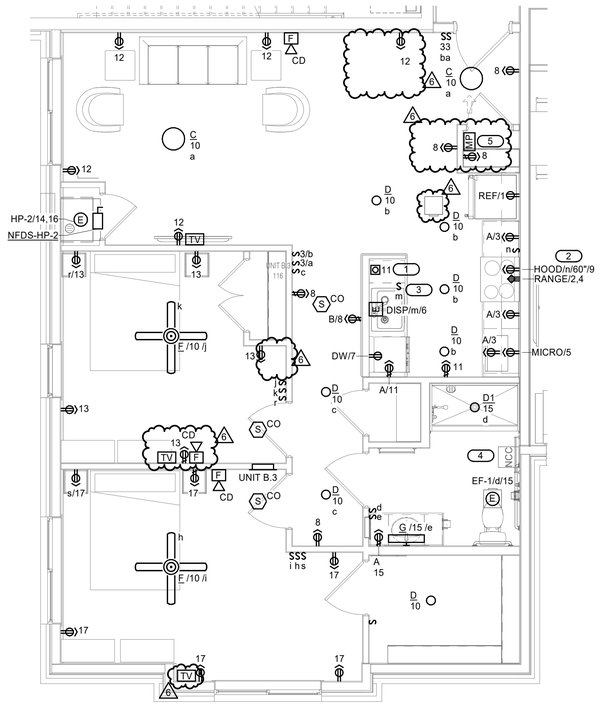
| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 16918 VA | 100% | 16918 VA |
| HVAC LOAD SUBTOTAL: | 5410 VA | 100% | 5410 VA |

TOTAL UNDIVERSIFIED LOAD: 22328 VA 120/208V, 1Φ 3W

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 6918 VA | 40% | 2767 VA |
| GREATEST OF HVAC LOAD: | 6096 VA | 100% | 6096 VA |

TOTAL DIVERSIFIED LOAD: 18863 VA 91 A @ 120/208V, 1Φ 3W




## 1 UNIT B.3 PLAN - ELECTRICAL

1/4" = 1'-0"

**KEYNOTES:** (#)

1. PROVIDE COUNTERTOP POP-UP TAMPER-RESISTANT RECEPTACLE AT THIS LOCATION. CIRCUIT DOWNSTREAM OF GFCI RECEPTACLE FOR PROTECTION. COORDINATE INSTALLATION WITH CABINETRY.
2. COORDINATE MOUNTING HEIGHT OF RANGE HOOD RECEPTACLE WITH ARCHITECT. COORDINATE WITH MILLWORK.
3. PROVIDE DISPOSAL SWITCH 6" BELOW COUNTERTOP WITHIN CABINETRY FOR PENINSULA MOUNTED SINKS. COORDINATE WITH MILLWORK.
4. PROVIDE PULL STRING FOR EMERGENCY CALL DEVICE. COORDINATE WITH TECHNOLOGY INSTALLER.
5. UNIT MEDIA DISTRIBUTION PANEL PROVIDED BY OWNER'S LV SYSTEMS VENDOR. COORDINATE OUTLET HEIGHT WITH ENCLOSURE. PROVIDE DUPLEX GFCI RECEPTACLE, DATA AND COAXIAL CABLE MANAGEMENT AND DISTRIBUTION BLOCKS/SPLITTERS WITHIN BY OWNER'S LV SYSTEMS VENDOR. CONNECTIONS SHALL BE SUFFICIENT FOR ALL OUTLETS AND DEVICES. ENCLOSURES SHALL NOT BE MOUNTED IN A FIRE-RATED WALL.

**SHEET NOTES:**

A. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
B. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS, MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
C. CIRCUIT NUMBERS ARE SHOWN FOR DESIGN INTENT, ACTUAL CIRCUITS IN PANELS MAY VARY, COORDINATE IN FIELD, PROVIDE UPDATED TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
D. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.
E. DUPLEX RECEPTACLE OUTLETS SHALL BE 20 AMP RATED DEVICES. 15 AMP RATED DEVICES SHALL NOT BE USED.

**UNIT PLAN NOTES:**

A. ALL RECEPTACLES SHALL BE OF TAMPER RESISTANT TYPE PER NFPA 70, ART. 406.12.
B. NOTIFICATION APPLIANCES SHALL BE MOUNTED WITHIN 16 FEET OF THE PILLOW. THEY SHALL HAVE A SOUND LEVEL OF AT LEAST 15dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL, OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, OR HAVE A SOUND LEVEL OF AT LEAST 75dB, WHICHEVER IS GREATER, AS MEASURED AT THE PILLOW LEVEL PER NFPA 72, ART. 18.4.5 * 18.5.5.7
C. PROVIDE EACH SLEEPING UNIT WITH A NOTIFICATION DEVICE THAT PRODUCES A LOW FREQUENCY ALARM SIGNAL OF 520Hz.
D. CO AND SMOKE DETECTORS SHALL NOT BE MOUNTED WITHIN 36" HORIZONTAL PATH FROM THE EDGE OF A CEILING FAN PER NFPA 72, ART. 29.8.3.4.
E. RECEPTACLE FOR RANGE (LABELED AS 'RANGE'). PROVIDE NEMA 14-50R RECEPTACLE. CONTRACTOR SHALL PROVIDE MATCHING CORD & PLUG.
F. ELECTRICAL CONTRACTOR SHALL COORDINATE MECHANICAL EQUIPMENT DISCONNECT WITH MECHANICAL SCHEDULE. CONTRACTOR SHALL FIELD COORDINATE PLACEMENT OF DISCONNECT IN ORDER TO ADHERE TO NFPA 70, ART. 110.26. ELECTRICAL DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
G. IN ALL ACCESSIBLE UNITS, MOUNT PANEL SO THAT THE CENTERLINE OF THE TOPMOST OPERABLE BREAKER IS ≤48" A.F.F.. COORDINATE EXACT REQUIREMENTS WITH LOCAL AHJ.
H. COMBINATION HORN STROBES SHALL BE REQUIRED IN HEARING IMPAIRED UNITS ONLY UNLESS REQUIRED OTHERWISE BY THE LOCAL AHJ. REFER TO ARCHITECTURAL PLANS FOR HEARING IMPAIRED UNITS.
I. PROVIDE ADDITIONAL STROBE DEVICES IN LAUNDRY AND BATHROOMS FOR HEARING IMPAIRED RESIDENTS. REFER TO ARCHITECTURAL PLANS FOR REQUIRED ADA HEARING IMPAIRED UNITS.
J. IN HEARING & VISUALLY IMPAIRED UNITS PROVIDE DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING.
K. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE COMBINATION CO/SMOKE DETECTORS WITH INTEGRAL LED STROBE.
L. WALL OUTLETS SHALL NOT OCCUR IN SAME WALL CAVITY OF ADJACENT SLEEPING UNIT, TYPICAL.
M. DATA DEVICES SHALL BE MOUNTED AT THE SAME MOUNTING HEIGHT AS ADJACENT RECEPTACLE.
N. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL AND INTERIORS DRAWINGS PRIOR TO ROUGH-IN. FOR TV RECEPTACLE MOUNTING, REFER TO ARCHITECTURAL ELEVATIONS.
O. REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING FIXTURES, AND DEVICE LOCATIONS. CONTACT ARCHITECT IF DEVICES ARE NOT SHOWN, TO CONFIRM LOCATION AND ALIGNMENT.
P. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING LIGHT SWITCHES. ALL LIGHT SWITCHES ARE TO BE INSTALLED ON STRIKE SIDE OF DOOR.
Q. CONTRACTOR SHALL VERIFY RECEPTACLE NEMA CONFIGURATIONS AND PLUG OR DIRECT CONNECTION REQUIREMENTS WITH FINAL APPLIANCE SELECTIONS PRIOR TO PROCUREMENT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.


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SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
DETROIT
MICHIGAN

GREYSTONE
SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E306


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0 1 2 3
REF. SCALE IN INCHES
PROJECT #22007630.00

# PANEL UNIT B.4

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A MCB
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRIDOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | -- | 6 | 2 | 50 A | HP-2 | 16 | |
| 2 | 17 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | · | · | | | | 1 | 20 A | SPARE | 18 | |
| | 19 | SPARE | 20 A | 1 | | | | · | · | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | · | · | | | | 2 | 30 A | SPD | 28 | |
| | 29 | SPACE | -- | 1 | | | | · | · | | | | | | | 30 | |

6

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT B.4

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 910SQ-FT @ 3 VA /SQ-FT | 2730 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 16903 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 2579 VA | 100% | 2579 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 5410 VA | 65% | 3517 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 5410 VA |

6

TOTALS WITHOUT NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 16903 VA | 100% | 16903 VA |
| HVAC LOAD SUBTOTAL: | 5410 VA | 100% | 5410 VA |
| TOTAL UNDIVERSIFIED LOAD: | 22313 VA 120/208V, 1Φ 3W | | |

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 6903 VA | 40% | 2761 VA |
| GREATEST OF HVAC LOAD: | 6096 VA | 100% | 6096 VA |
| TOTAL DIVERSIFIED LOAD: | 18857 VA 91 A @ 120/208V, 1Φ 3W | | |

**KEYNOTES:** (#)

1. PROVIDE COUNTERTOP POP-UP TAMPER-RESISTANT RECEPTACLE AT THIS LOCATION. CIRCUIT DOWNSTREAM OF GFCI RECEPTACLE FOR PROTECTION. COORDINATE INSTALLATION WITH CABINETRY.
2. COORDINATE MOUNTING HEIGHT OF RANGE HOOD RECEPTACLE WITH ARCHITECT. COORDINATE WITH MILLWORK.
3. PROVIDE DISPOSAL SWITCH 6" BELOW COUNTERTOP WITHIN CABINETRY FOR PENINSULA MOUNTED SINKS. COORDINATE WITH MILLWORK.
4. PROVIDE PULL STRING FOR EMERGENCY CALL DEVICE. COORDINATE WITH TECHNOLOGY INSTALLER.
5. UNIT MEDIA DISTRIBUTION PANEL PROVIDED BY OWNER'S LV SYSTEMS VENDOR. COORDINATE OUTLET HEIGHT WITH ENCLOSURE. PROVIDE DUPLEX GFCI RECEPTACLE, DATA AND COAXIAL CABLE MANAGEMENT AND DISTRIBUTION BLOCKS/SPLITTERS WITHIN BY OWNER'S LV SYSTEMS VENDOR. CONNECTIONS SHALL BE SUFFICIENT FOR ALL OUTLETS AND DEVICES. ENCLOSURES SHALL NOT BE MOUNTED IN A FIRE-RATED WALL.

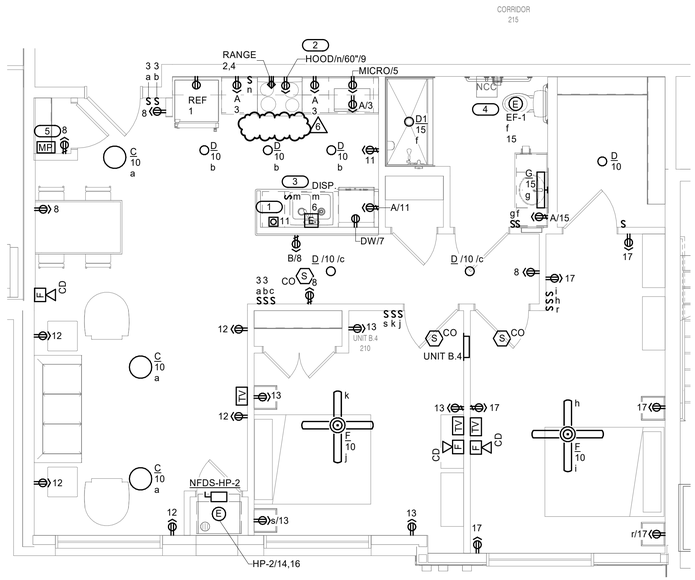
**SHEET NOTES:**

A. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
B. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS, MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
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**UNIT PLAN NOTES:**

A. ALL RECEPTACLES SHALL BE OF TAMPER RESISTANT TYPE PER NFPA 70, ART. 406.12.
B. NOTIFICATION APPLIANCES SHALL BE MOUNTED WITHIN 16 FEET OF THE PILLOW. THEY SHALL HAVE A SOUND LEVEL OF AT LEAST 15dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL, OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, OR HAVE A SOUND LEVEL OF AT LEAST 75dB, WHICHEVER IS GREATER, AS MEASURED AT THE PILLOW LEVEL PER NFPA 72, ART. 18.4.5 * 18.5.5.7
C. PROVIDE EACH SLEEPING UNIT WITH A NOTIFICATION DEVICE THAT PRODUCES A LOW FREQUENCY ALARM SIGNAL OF 520Hz.
D. CO AND SMOKE DETECTORS SHALL NOT BE MOUNTED WITHIN 36" HORIZONTAL PATH FROM THE EDGE OF A CEILING FAN PER NFPA 72, ART. 29.8.3.4.
E. RECEPTACLE FOR RANGE (LABELED AS 'RANGE'). PROVIDE NEMA 14-50R RECEPTACLE. CONTRACTOR SHALL PROVIDE MATCHING CORD & PLUG.
F. ELECTRICAL CONTRACTOR SHALL COORDINATE MECHANICAL EQUIPMENT DISCONNECT WITH MECHANICAL SCHEDULE. CONTRACTOR SHALL FIELD COORDINATE PLACEMENT OF DISCONNECT IN ORDER TO ADHERE TO NFPA 70, ART. 110.26. ELECTRICAL DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
G. IN ALL ACCESSIBLE UNITS, MOUNT PANEL SO THAT THE CENTERLINE OF THE TOPMOST OPERABLE BREAKER IS >48" A.F.F.. COORDINATE EXACT REQUIREMENTS WITH LOCAL AHJ.
H. COMBINATION HORN STROBES SHALL BE REQUIRED IN HEARING IMPAIRED UNITS ONLY UNLESS REQUIRED OTHERWISE BY THE LOCAL AHJ. REFER TO ARCHITECTURAL PLANS FOR HEARING IMPAIRED UNITS.
I. PROVIDE ADDITIONAL STROBE DEVICES IN LAUNDRY AND BATHROOMS FOR HEARING IMPAIRED RESIDENTS. REFER TO ARCHITECTURAL PLANS FOR REQUIRED ADA HEARING IMPAIRED UNITS.
J. IN HEARING & VISUALLY IMPAIRED UNITS PROVIDE DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING.
K. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE COMBINATION CO/SMOKE DETECTORS WITH INTEGRAL LED STROBE.
L. WALL OUTLETS SHALL NOT OCCUR IN SAME WALL CAVITY OF ADJACENT SLEEPING UNIT, TYPICAL.
M. DATA DEVICES SHALL BE MOUNTED AT THE SAME MOUNTING HEIGHT AS ADJACENT RECEPTACLE.
N. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL AND INTERIORS DRAWINGS PRIOR TO ROUGH-IN. FOR TV RECEPTACLE MOUNTING, REFER TO ARCHITECTURAL ELEVATIONS.
O. REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING FIXTURES, AND DEVICE LOCATIONS. CONTACT ARCHITECT IF DEVICES ARE NOT SHOWN, TO CONFIRM LOCATION AND ALIGNMENT.
P. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING LIGHT SWITCHES. ALL LIGHT SWITCHES ARE TO BE INSTALLED ON STRIKE SIDE OF DOOR.
Q. CONTRACTOR SHALL VERIFY RECEPTACLE NEMA CONFIGURATIONS AND PLUG OR DIRECT CONNECTION REQUIREMENTS WITH FINAL APPLIANCE SELECTIONS PRIOR TO PROCUREMENT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.

6




## 1 UNIT B.4 PLAN - ELECTRICAL

1/4" = 1'-0"


FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS
550 E. NINE MILE ROAD
FERNDALE, MICHIGAN, 48220
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SEAL

STATE OF MICHIGAN
Anthony J VanSant
License No. 6201312803
LICENSED PROFESSIONAL ENGINEER

SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

MICHIGAN

440 W. MARTIN LUTHER KING JR BLVD

DETROIT

GREYSTONE

SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E307


IMEG
www.imegcorp.com
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0 1 2 3
REF. SCALE IN INCHES
PROJECT #22007630.00

# PANEL UNIT B.5

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A MCB
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRIDOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | · | · | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | · | · | | | | | | | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | · | · | 10 | -- | 6 | 2 | 50 A | HP-2 | 16 | |
| 2 | 17 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | · | · | | | | 1 | 20 A | SPARE | 18 | |
| | 19 | SPARE | 20 A | 1 | | | | · | · | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | · | · | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | · | · | | | | 2 | 30 A | SPD | 28 | |
| | 29 | SPACE | -- | 1 | | | | · | · | | | | | | | 30 | |

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT B.5

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 864SQ-FT @ 3 VA /SQ-FT | 2592 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 16765 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 2579 VA | 100% | 2579 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 5410 VA | 65% | 3517 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 5410 VA |

TOTALS WITHOUT NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 16765 VA | 100% | 16765 VA |
| HVAC LOAD SUBTOTAL: | 5410 VA | 100% | 5410 VA |
| TOTAL UNDIVERSIFIED LOAD: | 22175 VA 120/208V, 1Φ 3W | | |

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 6765 VA | 40% | 2706 VA |
| GREATEST OF HVAC LOAD: | 6096 VA | 100% | 6096 VA |
| TOTAL DIVERSIFIED LOAD: | 18802 VA 90 A @ 120/208V, 1Φ 3W | | |

**KEYNOTES:** (#)

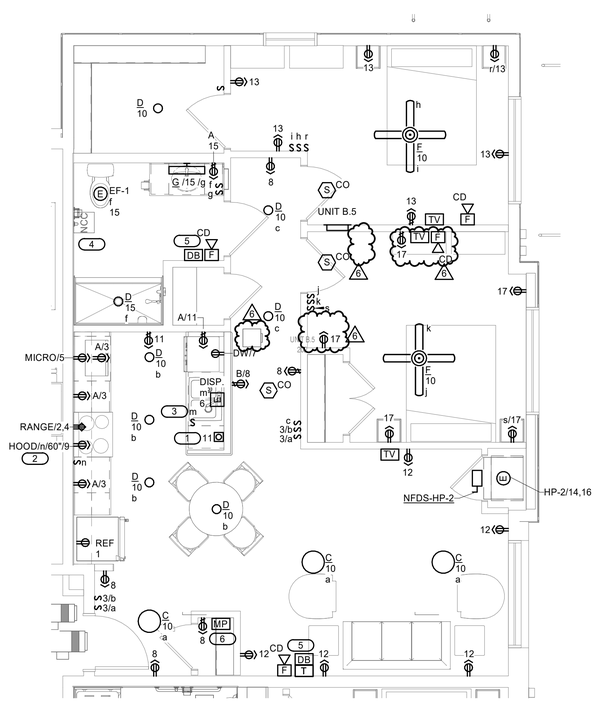
1. PROVIDE COUNTERTOP POP-UP TAMPER-RESISTANT RECEPTACLE AT THIS LOCATION. CIRCUIT DOWNSTREAM OF GFCI RECEPTACLE FOR PROTECTION. COORDINATE INSTALLATION WITH CABINETRY.
2. COORDINATE MOUNTING HEIGHT OF RANGE HOOD RECEPTACLE WITH ARCHITECT. COORDINATE WITH MILLWORK.
3. PROVIDE DISPOSAL SWITCH 6" BELOW COUNTERTOP WITHIN CABINETRY FOR PENINSULA MOUNTED SINKS. COORDINATE WITH MILLWORK.
4. PROVIDE PULL STRING FOR EMERGENCY CALL DEVICE. COORDINATE WITH TECHNOLOGY INSTALLER.
5. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE REQUIRED FIRE ALARM NOTIFICATION DEVICES, AND DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE EQUAL TO EDWARDS SIGNALING 7005-G5. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING. VERIFY EXACT UNITS WITH ARCHITECTURAL DRAWINGS.
6. UNIT MEDIA DISTRIBUTION PANEL PROVIDED BY OWNER'S LV SYSTEMS VENDOR. COORDINATE OUTLET HEIGHT WITH ENCLOSURE. PROVIDE DUPLEX GFCI RECEPTACLE, DATA AND COAXIAL CABLE MANAGEMENT AND DISTRIBUTION BLOCKS/SPLITTERS WITHIN BY OWNER'S LV SYSTEMS VENDOR. CONNECTIONS SHALL BE SUFFICIENT FOR ALL OUTLETS AND DEVICES. ENCLOSURES SHALL NOT BE MOUNTED IN A FIRE-RATED WALL.

**SHEET NOTES:**

A. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
B. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS, MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
C. CIRCUIT NUMBERS ARE SHOWN FOR DESIGN INTENT, ACTUAL CIRCUITS IN PANELS MAY VARY, COORDINATE IN FIELD, PROVIDE UPDATED TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
D. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.
E. DUPLEX RECEPTACLE OUTLETS SHALL BE 20 AMP RATED DEVICES. 15 AMP RATED DEVICES SHALL NOT BE USED.

**UNIT PLAN NOTES:**

A. ALL RECEPTACLES SHALL BE OF TAMPER RESISTANT TYPE PER NFPA 70, ART. 406.12.
B. NOTIFICATION APPLIANCES SHALL BE MOUNTED WITHIN 16 FEET OF THE PILLOW. THEY SHALL HAVE A SOUND LEVEL OF AT LEAST 15dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL, OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, OR HAVE A SOUND LEVEL OF AT LEAST 75dB, WHICHEVER IS GREATER, AS MEASURED AT THE PILLOW LEVEL PER NFPA 72, ART. 18.4.5 * 18.5.5.7
C. PROVIDE EACH SLEEPING UNIT WITH A NOTIFICATION DEVICE THAT PRODUCES A LOW FREQUENCY ALARM SIGNAL OF 520Hz.
D. CO AND SMOKE DETECTORS SHALL NOT BE MOUNTED WITHIN 36" HORIZONTAL PATH FROM THE EDGE OF A CEILING FAN PER NFPA 72, ART. 29.8.3.4.
E. RECEPTACLE FOR RANGE (LABELED AS 'RANGE'). PROVIDE NEMA 14-50R RECEPTACLE. CONTRACTOR SHALL PROVIDE MATCHING CORD & PLUG.
F. ELECTRICAL CONTRACTOR SHALL COORDINATE MECHANICAL EQUIPMENT DISCONNECT WITH MECHANICAL SCHEDULE. CONTRACTOR SHALL FIELD COORDINATE PLACEMENT OF DISCONNECT IN ORDER TO ADHERE TO NFPA 70, ART. 110.26. ELECTRICAL DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
G. IN ALL ACCESSIBLE UNITS, MOUNT PANEL SO THAT THE CENTERLINE OF THE TOPMOST OPERABLE BREAKER IS +48" A.F.F.. COORDINATE EXACT REQUIREMENTS WITH LOCAL AHJ.
H. COMBINATION HORN STROBES SHALL BE REQUIRED IN HEARING IMPAIRED UNITS ONLY UNLESS REQUIRED OTHERWISE BY THE LOCAL AHJ. REFER TO ARCHITECTURAL PLANS FOR HEARING IMPAIRED UNITS.
I. PROVIDE ADDITIONAL STROBE DEVICES IN LAUNDRY AND BATHROOMS FOR HEARING IMPAIRED RESIDENTS. REFER TO ARCHITECTURAL PLANS FOR REQUIRED ADA HEARING IMPAIRED UNITS.
J. IN HEARING & VISUALLY IMPAIRED UNITS PROVIDE DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING.
K. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE COMBINATION CO/SMOKE DETECTORS WITH INTEGRAL LED STROBE.
L. WALL OUTLETS SHALL NOT OCCUR IN SAME WALL CAVITY OF ADJACENT SLEEPING UNIT, TYPICAL.
M. DATA DEVICES SHALL BE MOUNTED AT THE SAME MOUNTING HEIGHT AS ADJACENT RECEPTACLE.
N. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL AND INTERIORS DRAWINGS PRIOR TO ROUGH-IN. FOR TV RECEPTACLE MOUNTING, REFER TO ARCHITECTURAL ELEVATIONS.
O. REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING FIXTURES, AND DEVICE LOCATIONS. CONTACT ARCHITECT IF DEVICES ARE NOT SHOWN, TO CONFIRM LOCATION AND ALIGNMENT.
P. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING LIGHT SWITCHES. ALL LIGHT SWITCHES ARE TO BE INSTALLED ON STRIKE SIDE OF DOOR.
Q. CONTRACTOR SHALL VERIFY RECEPTACLE NEMA CONFIGURATIONS AND PLUG OR DIRECT CONNECTION REQUIREMENTS WITH FINAL APPLIANCE SELECTIONS PRIOR TO PROCUREMENT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.




## 1 UNIT B.5 PLAN - ELECTRICAL

1/4" = 1'-0"


FSP FUSCO, SHAFFER & PAPPAS, INC.
ARCHITECTS AND PLANNERS

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Anthony J VanSant
License No. 6201312803
SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

# GREYSTONE
## SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E308


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www.imegcorp.com
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0 1 2 3
REF. SCALE IN INCHES
PROJECT #20007630.00

# PANEL UNIT B BF

**MOUNTING:** RECESSED
**ENCLOSURE:** NEMA 1

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 125 A MCB
**VOLTS:** 120/208 Single
**PHASE:** 1
**WIRE:** 3

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | A | B | WIRE SIZE G | N | H | OCPD P | AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | REFRIGERATOR | 20 A | 1 | 12 | 12 | 12 | - | - | 10 | 6 | 6 | 2 | 50 A | RANGE | 2 | |
| 2 | 3 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | - | - | | | | | | | 4 | 1 |
| 3 | 5 | MICROWAVE | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | GARBAGE DISPOSAL | 6 | 3 |
| 3 | 7 | DISHWASHER | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | RECEPTS. ENTRY/CORRIDOR | 8 | 2 |
| 3 | 9 | RANGE HOOD | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | LIGHTING | 10 | 2 |
| 2 | 11 | RECEPTS. SMALL APPLIANCE | 20 A | 1 | 12 | 12 | 12 | - | - | 12 | 12 | 12 | 1 | 20 A | RECEPTS. LIVING ROOM | 12 | 2 |
| 2 | 13 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | - | - | 10 | -- | 6 | 2 | 50 A | HP-2 | 14 | |
| 2 | 15 | BATHROOM | 20 A | 1 | 12 | 12 | 12 | - | - | | | | | | | 16 | |
| 2 | 17 | RECEPTS. BEDROOM | 20 A | 1 | 12 | 12 | 12 | - | - | | | | 1 | 20 A | SPARE | 18 | |
| | 19 | SPARE | 20 A | 1 | | | | - | - | | | | 1 | -- | SPACE | 20 | |
| | 21 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 22 | |
| | 23 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 24 | |
| | 25 | SPACE | -- | 1 | | | | - | - | | | | 1 | -- | SPACE | 26 | |
| | 27 | SPACE | -- | 1 | | | | - | - | | | | 2 | 30 A | SPD | 28 | |
| | 29 | SPACE | -- | 1 | | | | - | - | | | | | | | 30 | |

**REFER TO UNIT LOAD CALCULATIONS FOR LOAD SUMMARY**

**CIRCUIT KEY NOTES: 1. GFCI BREAKER 2. AFCI BREAKER 3. GFCI/AFCI BREAKER**

# LOAD CALC. UNIT: UNIT B BF

GENERAL LOADS:

| DESCRIPTION | (#) LOAD | SUBTOTAL |
|---|---|---|
| GENERAL LIGHTING & RCPT: | 847SQ-FT @ 3 VA /SQ-FT | 2541 VA |
| SMALL APPLIANCE: | (2) 1500 VA | 3000 VA |
| LAUNDRY LOAD: | (0) 0 VA | 0 VA |
| ELEC. OVEN: | (1) 8000 VA | 8000 VA |
| MICROWAVE: | (1) 1200 VA | 1200 VA |
| DISHWASHER: | (1) 800 VA | 800 VA |
| DISPOSAL: | (1) 1173 VA | 1173 VA |
| GENERAL LOAD SUBTOTAL: | | 16714 VA |

MECHANICAL LOADS:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP COMPRESSOR: | 2579 VA | 100% | 2579 VA |
| NEC 220.82 (C) (3): | | | |
| HEAT PUMP SUPP. HEATER: | 5410 VA | 65% | 3517 VA |
| MECHANICAL LOAD SUBTOTAL: | | | 5410 VA |

TOTALS WITHOUT NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL LOAD SUBTOTAL: | 16714 VA | 100% | 16714 VA |
| HVAC LOAD SUBTOTAL: | 5410 VA | 100% | 5410 VA |

TOTAL UNDIVERSIFIED LOAD: 22124 VA 120/208V, 1Φ 3W

TOTALS WITH NEC DIVERSITIES:

| DESCRIPTION | LOAD | DEMAND FACTOR | SUBTOTAL |
|---|---|---|---|
| GENERAL FIRST 10 KVA: | 10000 VA | 100% | 10000 VA |
| GENERAL OVER 10 KVA: | 6714 VA | 40% | 2686 VA |
| GREATEST OF HVAC LOAD: | 6096 VA | 100% | 6096 VA |

TOTAL DIVERSIFIED LOAD: 18781 VA 90 A @ 120/208V, 1Φ 3W

**KEYNOTES:** (#)

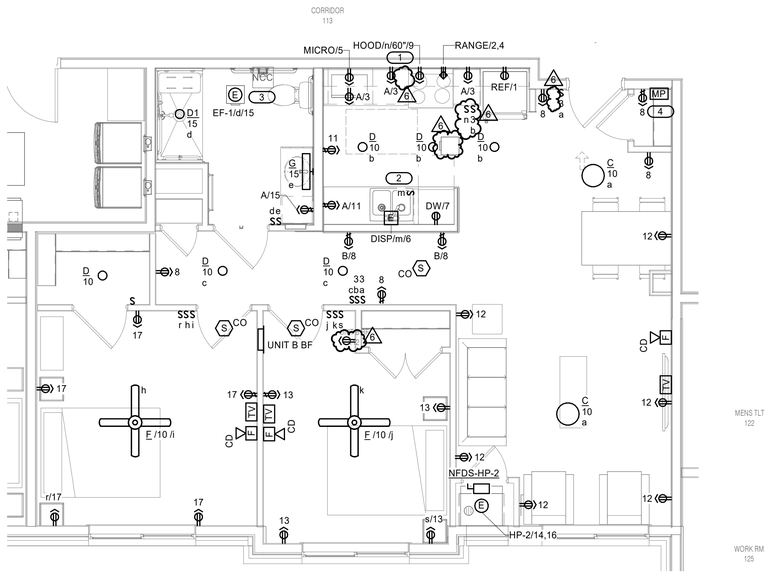
1. COORDINATE MOUNTING HEIGHT OF RANGE HOOD RECEPTACLE WITH ARCHITECT. COORDINATE WITH MILLWORK.
2. PROVIDE DISPOSAL SWITCH 6" BELOW COUNTERTOP WITHIN CABINETRY FOR PENINSULA MOUNTED SINKS. COORDINATE WITH MILLWORK.
3. PROVIDE PULL STRING FOR EMERGENCY CALL DEVICE. COORDINATE WITH TECHNOLOGY INSTALLER.
4. UNIT MEDIA DISTRIBUTION PANEL PROVIDED BY OWNER'S LV SYSTEMS VENDOR. COORDINATE OUTLET HEIGHT WITH ENCLOSURE. PROVIDE DUPLEX GFCI RECEPTACLE, DATA AND COAXIAL CABLE MANAGEMENT AND DISTRIBUTION BLOCKS/SPLITTERS WITHIN BY OWNER'S LV SYSTEMS VENDOR. CONNECTIONS SHALL BE SUFFICIENT FOR ALL OUTLETS AND DEVICES. ENCLOSURES SHALL NOT BE MOUNTED IN A FIRE-RATED WALL.

**SHEET NOTES:**

A. PROVIDE GREEN EQUIPMENT GROUND WIRE IN BRANCH CIRCUIT AND FEEDER CONDUITS.
B. WIRING SHALL BE PROVIDED TO DEVICES SHOWN, UNLESS OTHERWISE INDICATED ON DRAWINGS, MINIMUM WIRING SIZE SHALL BE #12 AWG. AMPACITY, DERATING AND CONDUIT FILL SHALL BE AS REQUIRED BY THE N.E.C., EACH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
C. CIRCUIT NUMBERS ARE SHOWN FOR DESIGN INTENT, ACTUAL CIRCUITS IN PANELS MAY VARY, COORDINATE IN FIELD, PROVIDE UPDATED TYPEWRITTEN DIRECTORY IN EACH PANELBOARD, BALANCE LOADS BETWEEN PHASES.
D. CONDUITS SHALL BE SUPPORTED AND SECURED WITH SPECIFIED FITTINGS AND DEVICES. TIE-WIRE SHALL NOT BE USED.
E. DUPLEX RECEPTACLE OUTLETS SHALL BE 20 AMP RATED DEVICES. 15 AMP RATED DEVICES SHALL NOT BE USED.

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C. PROVIDE EACH SLEEPING UNIT WITH A NOTIFICATION DEVICE THAT PRODUCES A LOW FREQUENCY ALARM SIGNAL OF 520Hz.
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E. RECEPTACLE FOR RANGE (LABELED AS 'RANGE'). PROVIDE NEMA 14-50R RECEPTACLE. CONTRACTOR SHALL PROVIDE MATCHING CORD & PLUG.
F. ELECTRICAL CONTRACTOR SHALL COORDINATE MECHANICAL EQUIPMENT DISCONNECT WITH MECHANICAL SCHEDULE. CONTRACTOR SHALL FIELD COORDINATE PLACEMENT OF DISCONNECT IN ORDER TO ADHERE TO NFPA 70, ART. 110.26. ELECTRICAL DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
G. IN ALL ACCESSIBLE UNITS, MOUNT PANEL SO THAT THE CENTERLINE OF THE TOPMOST OPERABLE BREAKER IS >48" A.F.F.. COORDINATE EXACT REQUIREMENTS WITH LOCAL AHJ.
H. COMBINATION HORN STROBES SHALL BE REQUIRED IN HEARING IMPAIRED UNITS ONLY UNLESS REQUIRED OTHERWISE BY THE LOCAL AHJ. REFER TO ARCHITECTURAL PLANS FOR HEARING IMPAIRED UNITS.
I. PROVIDE ADDITIONAL STROBE DEVICES IN LAUNDRY AND BATHROOMS FOR HEARING IMPAIRED RESIDENTS. REFER TO ARCHITECTURAL PLANS FOR REQUIRED ADA HEARING IMPAIRED UNITS.
J. IN HEARING & VISUALLY IMPAIRED UNITS PROVIDE DOOR BELL SYSTEM WITH AUDIO/VISUAL DEVICE. PROVIDE ALL NECESSARY HARDWARE AND CONTROL WIRING.
K. IN HEARING & VISUALLY IMPAIRED UNITS, PROVIDE COMBINATION CO/SMOKE DETECTORS WITH INTEGRAL LED STROBE.
L. WALL OUTLETS SHALL NOT OCCUR IN SAME WALL CAVITY OF ADJACENT SLEEPING UNIT, TYPICAL.
M. DATA DEVICES SHALL BE MOUNTED AT THE SAME MOUNTING HEIGHT AS ADJACENT RECEPTACLE.
N. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL AND INTERIORS DRAWINGS PRIOR TO ROUGH-IN. FOR TV RECEPTACLE MOUNTING, REFER TO ARCHITECTURAL ELEVATIONS.
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P. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING LIGHT SWITCHES. ALL LIGHT SWITCHES ARE TO BE INSTALLED ON STRIKE SIDE OF DOOR.
Q. CONTRACTOR SHALL VERIFY RECEPTACLE NEMA CONFIGURATIONS AND PLUG OR DIRECT CONNECTION REQUIREMENTS WITH FINAL APPLIANCE SELECTIONS PRIOR TO PROCUREMENT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
R. RECEPTACLES INDICATED TO BE CONTROLLED VIA SWITCH SHALL ONLY SWITCH HALF OF RECEPTACLE. HALF OF RECEPTACLE SHALL REMAIN ON AT ALL TIMES FOR COMPLIANCE WITH NEC ARTICLE 210.52.




## 1 UNIT B BF PLAN - ELECTRICAL

1/4" = 1'-0"


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SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

GREYSTONE
SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL UNIT ENLARGED PLANS

DRAWING NUMBER

E309


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REF. SCALE IN INCHES
PROJECT #22007630.00

## ELECTRICAL - RISER DIAGRAM NOTES:

1. THE RISER DIAGRAM IS INTENDED TO CONVEY THE COMPONENTS OF THE ELECTRICAL DISTRIBUTION SYSTEM. REFER TO ELECTRICAL DRAWINGS, DETAILS, DISTRIBUTION / PANEL / EQUIPMENT / EQUIPMENT CONNECTION SCHEDULES, AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. SHORT CIRCUIT CURRENT RATINGS (SCCR) FOR EQUIPMENT ARE MINIMUM REQUIREMENTS FOR BUSS BRACING AND DEVICE RATING. ALL EQUIPMENT SHALL BE FULLY RATED UNLESS SPECIFICALLY NOTED AS SERIES RATED.
3. TRANSFER SWITCHES (SCCR) RATINGS ARE INTENDED AS WITHSTAND AND CLOSE RATINGS (WCR).
4. THE BASIS OF DESIGN: THE CONTRACTOR SHALL BE RESPONSIBLE FOR DERATING AND SIZING CONDUCTORS AND CONDUITS TO EQUAL OR EXCEED AMPACITY OF THE BASIS OF DESIGN CIRCUITS WHEN ALTERNATIVE METHODS OR MATERIALS OTHER THAN THE BASIS OF DESIGN ARE APPLIED.
   a. RACEWAY: EMT UNLESS OTHERWISE NOTED
   b. FEEDER CHARACTERISTICS: ALL CURRENT CARRYING CONDUCTORS SHALL BE COPPER UNLESS NOTED OTHERWISE. CONDUCTOR SIZES ARE BASED ON AMERICAN WIRE GAUGE AWG AND KCMIL THOUSANDS OF CIRCULAR MIL. REFER TO SPECIFCIATION SECTION 25 05 13 WIRE AND CABLE FOR ADDITIONAL INFORMATION
   c. GROUNDING AND BONDING CONDUCTORS SHALL BE COPPER.
   d. CONDUCTORS (MOTORS): COPPER
   e. [AL] INDICATES ALUMINUM CONDUCTOR
   f. [BLANK] OR [CU] INDICATES COPPER CONDUCTOR
   g. [CI] INDICATES CIRCUIT INTEGRITY CIRCUIT. FEEDER ROUTED OUTSIDE BUILDING OR 2 HOUR FIRE RATED.
5. PROVIDE GROUNDING ELECTRODE AND BONDING SYSTEM PER CODE REQUIREMENTS. PROVIDE THE FOLLOWING MINIMUM CONNECTIONS AND COMPONENTS. REFER TO SPECIFICATION SECTION 26 05 26 GROUNDING AND BONDING AND DETAILS WHEN APPLICABLE:
   a. ELECTRICAL GROUND FIELD
   b. CONCRETE-ENCASED GROUNDING ELECTRODE (UFER)
   c. METALLIC WATER MAIN
   d. BUILDING STEEL, EFFECTIVELY GROUNDED
   e. INTERSYSTEM BONDING TERMINAL [IBT]
   f. GROUND RING ENCIRCLING STRUCTURE
6. DRY TYPE TRANSFORMER AND SEPARATELY DERIVED SYSTEMS. PROVIDE GROUNDING ELECTRODE CONDUCTOR FOR SEPARATELY DERIVED SYSTEM. ROUTE TO STRUCTURAL BUILDING STEEL WHEN AVAILABLE. OTHERWISE ROUTE TO MAIN GROUNDING ELECTRODE SYSTEM.
7. PROVIDE O.Z. GEDNEY OR EQUAL GROUND BUSHING FOR ALL SERVICE AND FEEDER RACEWAYS BONDED TO GROUND BUS WITH CONDUCTOR SIZED TO MAXIMUM FEEDER GROUND CAPACITY.
8. CONDUCTORS AND GROUND SIZES ON THE LINE AND LOAD SIDES OF ALL DISCONNECT SWITCHES SHALL BE IDENTICAL UNLESS NOTED OTHERWISE.
9. REFER TO COVER SHEET FOR ADDITIONAL EQUIPMENT TAG INFORMATION (SPD-#, M-#, ETC).
10. REFER TO GROUNDING ELECTRODE SYSTEM AND BONDING DETAILS
    a. EGC – EQUIPMENT GROUNDING CONDUCTOR
    b. GEC – GROUNDING ELECTRODE CONDUCTOR
    c. SSBJ – SUPPLY SIDE BONDING JUMPER
11. CIRCUIT BREAKER CHARACTERISTICS AND ACCESSORIES:
    a. [CB] INDICATES CIRCUIT BREAKER
    b. [FU] INDICATES FUSED SWITCH
    c. [NF] INDICATES NON-FUSED SWITCH
    d. [MLO] INDICATES MAIN LUG ONLY
    e. [MCB] INDICATES MAIN CIRCUIT BREAKER
    f. [LSIG] INDICATES FEATURES PROVIDED WITH SOLID STATE CIRCUIT BREAKER [LONG TIME (W/DELAY), SHORT TIME (W/DELAY), INSTANTANEOUS, GROUND FAULT]
    g. [LSIA] INDICATES FEATURES PROVIDED WITH SOLID STATE CIRCUIT BREAKER [LONG TIME (W/DELAY), SHORT TIME (W/DELAY), INSTANTANEOUS, GROUND FAULT ALARM (NO GROUND FAULT TRIP)].
12. BRANCH PANEL KEY:
    a. *A = ARC FAULT CIRCUIT INTERRUPT
    b. *G = GROUND FAULT CIRCUIT INTERRUPT
    c. *S = SHUNT TRIP

## ELECTRICAL UTILITY NOTES:

ELECTRICAL CONTRACTOR WILL FURNISH & INSTALL:
1. SECONDARY CONDUIT FROM MAIN DISTRUBUTION SWITCHBOARD.
2. SECONDARY TERMINATION LUGS.

UTILITY WILL FURNISH AND INSTALL:
1. SECONDARY CONDUIT, CONDUCTORS, AND TERMINATIONS FROM UTILITY 120/208V DUCT SYSTEM TO CONDUIT STUBBED TO PROPERTY LINE BY CONTRACTOR.

UTILITY WILL FURNISH & CONTRACTOR WILL INSTALL:
1. METERING CURRENT TRANSFORMERS AND STANDARD METER SOCKET.

CONTACT:
DTE ENERGY
DANTE PALMIERI
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313-235-9078

## ELECTRICAL DISTRIBUTION SCHEDULE

| ITEM | VOLTAGE | MAINS RATING / XFMR RATING | FEEDER: UPSTREAM OCPD OR TERMINATION | FEEDER: WIRE AND RACEWAY | CONNECTED LOAD | ESTIMATED DEMAND LOAD | CONNECTED CURRENT | ESTIMATED DEMAND CURRENT | ESTIMATED ISC | SCCR | VOLTAGE DROP: FEEDERS: FEEDER VOLTAGE DROP | VOLTAGE DROP: FEEDERS: UPSTREAM FEEDERS VOLTAGE DROP | VOLTAGE DROP: FEEDERS: TOTAL FEEDER VOLTAGE DROP | VOLTAGE DROP: BRANCH CIRCUITS: MAX BRANCH VOLTAGE DROP | VOLTAGE DROP: BRANCH CIRCUITS: TOTAL VOLTAGE DROP AT MAX BRANCH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSB-1 | 120/208V, 3Ø4W | 2,000 A MCB | 2,000 A | (6) SETS OF 4#400 EACH IN 3" C. | 1366.56 kVA | 573.84 kVA | 3,793.2 A | 1,592.8 A | 62.12 kA | 65 kA | | | | 1.18% | 1.18% |
| P1N-1A | 120/208V, 3Ø4W | 200 A MLO | 200 A MCB | 4#3/0 & 1#6 EGC IN 2" C. | 59.61 kVA | 41.80 kVA | 165.5 A | 116 A | 21.47 kA | 42 kA | 0.52% | | 0.52% | 2.96% | 3.48% |
| P1N-1B | 120/208V, 3Ø4W | 600 A MLO | 600 A MCB | (2) SETS OF 4#350 & 1#1 EGC EACH IN 2 1/2" C. | 130.89 kVA | 130.89 kVA | 363.3 A | 363.3 A | 37.11 kA | 42 kA | 0.49% | | 0.49% | 2.51% | 3.00% |
| P1N-4 | 120/208V, 3Ø4W | 400 A MCB | 400 A MCB | 4#600 & 1#3 EGC IN 3 1/2" C. | 110.16 kVA | 98.62 kVA | 305.8 A | 273.8 A | 20.79 kA | 42 kA | 0.88% | | 0.88% | 2.91% | 3.79% |
| MC-1 | 120/208V, 3Ø4W | 1,000 A MLO | 1,000 A MCB | (3) SETS OF 4#400 & 1#2/0 EGC EACH IN 2" C. | 1024.84 kVA | 266.46 kVA | 2,844.7 A | 739.6 A | 48.19 kA | 65 kA | 0.23% | | 0.23% | 2.90% | 3.92% |

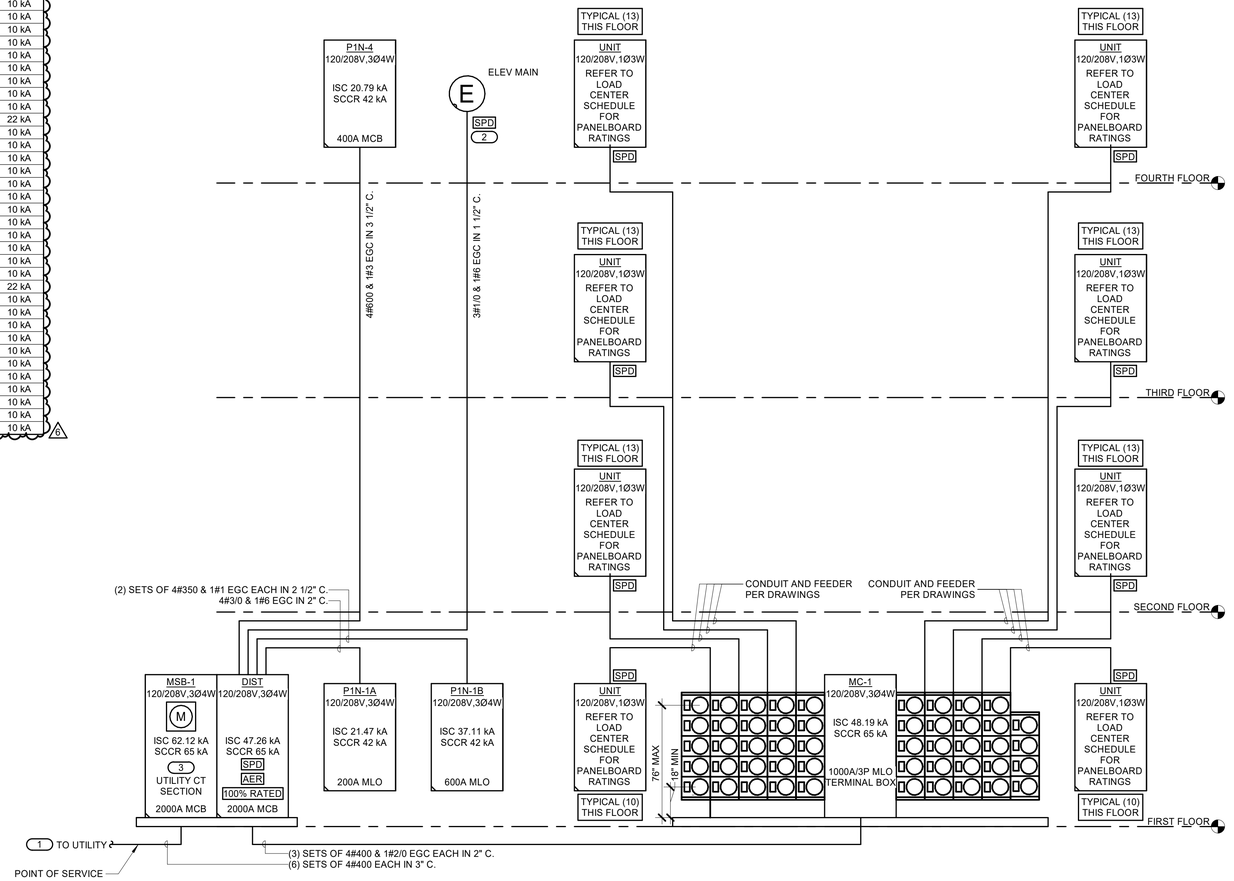
## RESIDENTIAL LOAD CENTER SCHEDULE

| UNIT TYPE | UNIT NUMBER | CIRCUIT INFORMATION: FED FROM | CIRCUIT INFORMATION: CIRCUIT NUMBER | MAINS | VOLTAGE | PHASES | WIRE AND RACEWAY | SCCR |
|---|---|---|---|---|---|---|---|---|
| UNIT A BF | 104 | MC-1 | 1,3 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A | 105 | MC-1 | 2,4 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 22 kA |
| UNIT A | 106 | MC-1 | 5,7 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A | 107 | MC-1 | 6,8 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A.1 | 108 | MC-1 | 9,11 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT A | 109 | MC-1 | 10,12 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B.2 | 111 | MC-1 | 13,15 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B BF | 112 | MC-1 | 14,16 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B | 114 | MC-1 | 17,19 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B.3 | 116 | MC-1 | 18,20 | 125 A MLO | 208 V | 1 | 3#2/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B.5 | 202 | MC-1 | 21,23 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B.1 | 203 | MC-1 | 22,24 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 22 kA |
| UNIT A BF | 204 | MC-1 | 25,27 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A | 205 | MC-1 | 26,28 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A | 206 | MC-1 | 29,31 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A | 207 | MC-1 | 30,32 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A.1 | 208 | MC-1 | 33,35 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT A | 209 | MC-1 | 34,36 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B.4 | 210 | MC-1 | 37,39 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B.3 | 211 | MC-1 | 38,40 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B | 212 | MC-1 | 41,43 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B | 214 | MC-1 | 42,44 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B.3 | 216 | MC-1 | 45,47 | 125 A MLO | 208 V | 1 | 3#2/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B.5 | 302 | MC-1 | 46,48 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B.1 | 303 | MC-1 | 49,51 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 22 kA |
| UNIT A BF | 304 | MC-1 | 50,52 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A | 305 | MC-1 | 53,55 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A | 306 | MC-1 | 54,56 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT A | 307 | MC-1 | 57,59 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A.1 | 308 | MC-1 | 58,60 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT A | 309 | MC-1 | 61,63 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B.4 | 310 | MC-1 | 62,64 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B.2 | 311 | MC-1 | 65,67 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B | 312 | MC-1 | 66,68 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B | 314 | MC-1 | 69,71 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B.3 | 316 | MC-1 | 70,72 | 125 A MLO | 208 V | 1 | 3#2/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B.5 | 402 | MC-1 | 73,75 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B.1 | 403 | MC-1 | 74,76 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 22 kA |
| UNIT A BF | 404 | MC-1 | 77,79 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A | 405 | MC-1 | 78,80 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A | 406 | MC-1 | 81,83 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT A | 407 | MC-1 | 82,84 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT A.1 | 408 | MC-1 | 85,87 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT A | 409 | MC-1 | 86,88 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B.4 | 410 | MC-1 | 89,91 | 125 A MLO | 208 V | 1 | 3#1 & 1#6 EGC IN 1 1/4" C. | 10 kA |
| UNIT B.2 | 411 | MC-1 | 90,92 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B | 412 | MC-1 | 93,95 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B | 414 | MC-1 | 94,96 | 125 A MLO | 208 V | 1 | 3#1/0 & 1#4 EGC IN 1 1/2" C. | 10 kA |
| UNIT B.3 | 416 | MC-1 | 97,99 | 125 A MLO | 208 V | 1 | 3#3/0 & 1#3 EGC IN 2" C. | 10 kA |

6

**KEYNOTES:** (#)

1. PROVIDE FOUR 4" SCHEDULE 80 PVC CONDUIT FROM MAIN SWITCH BOARD TO PROPERTY LINE FOR CONNECTION TO UTILITY DUCT BANK. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO INSTALLATION.
2. ELEVATOR SURGE PROTECTION DEVICE SPECIFIED AND PROVIDED BY ELEVATOR MANUFACTURERS.
3. LOCATE MAIN SERVICE METER ON THE EXTERIOR OF THE BUILDING. VERIFY EXACT LOCATION AND REQUIREMENTS WITH UTILITY.




## 1 RISER DIAGRAM
NO SCALE


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SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

# GREYSTONE
## SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 10.30.25 | ADDENDUM #4 |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL DIAGRAMS

DRAWING NUMBER

E500


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0 1 2 3
REF. SCALE IN INCHES
PROJECT #2200763O.00

# DISCONNECT AND STARTER SCHEDULE

**NOTE: ALL DISCONNECTS (EXCEPT MANUAL STARTERS) SHALL BE HEAVY DUTY TYPE.**

| | | |
|---|---|---|
| **DISCONNECT TYPE:** | **ACCESSORIES & OPTIONS** | |
| FU - FUSED | SA - STANDARD ACCESSORIES (INCLUDES * ITEMS) | PF - PHASE LOSS PROTECTION (5 HP OR GREATER, 3 PHASE MOTOR) |
| NF - NON-FUSED | *CT - CONTROL TRANSFORMER, FUSED 120V | TO - MELTING THERMAL OVERLOADS (1 PHASE) |
| CB - CIRCUIT BREAKER | *EO - ELECTRONIC OVERLOAD (3 PHASE MOTORS) | TS - 2 SPEED SELECTOR SWITCH IN DOOR |
| | *HA - HAND-OFF-AUTO IN DOOR | GP - GREEN (OFF) PILOT LIGHT IN DOOR |
| **STARTER TYPE:** | *RP - RED (RUN) PILOT LIGHT IN DOOR | FA - 4-CONVERTIBLE AUXILIARY CONTACTS |
| FV - FULL VOLTAGE | *TA - TWO CONVERTIBLE AUXILIARY CONTACTS | EI - ELECTRICAL INTERLOCK (2)-N.O. & (2)-N.C. |
| YD - WYE - DELTA | S/N - INSULATED NEUTRAL ASSEMBLY | SS - START-STOP PUSHBUTTON IN DOOR |
| RE - REVERSING | | HL - HANDLE PADLOCK HASP |
| TW - 2 SPEED, 2 WINDING | | |
| SW - 2 SPEED, 1 WINDING | | |
| RV - REDUCED VOLTAGE AUTOXFMR | | |
| SS - SOLID STATE | | |
| MS - MANUAL STARTER | | |
| MX - MANUAL SWITCH | | |
| FS - FUSED SWITCH | | |
| AMS-ASSEMBLED MOTOR STARTER | | |

| | DISCONNECT TYPE & RATING | | | | | STARTER | | | |
|---|---|---|---|---|---|---|---|---|---|
| ITEM | TYPE | RATING | TRIP RATING | VOLTAGE | POLES | NEMA SIZE | TYPE | ENCLOSURE | COMMENTS |
| FDS-CAB LIGHTS | FU | 15 A | 15 A | 120 V | 1 | | | NEMA 1 | |
| NFDS-DH-2 | NF | 30 A | | 120 V | 1 | | | NEMA 1 | |
| NFDS-DH-2 | NF | 30 A | | 120 V | 1 | | | NEMA 1 | |
| NFDS-DH-2 | NF | 30 A | | 120 V | 1 | | | NEMA 1 | |
| NFDS-DH-1 | NF | 30 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-CP-1 | NF | 30 A | | 208 V | 3 | | | NEMA 1 | |
| NFDS-MAU-1 | NF | 60 A | | 208 V | 3 | | | NEMA 1 | |
| NFDS-MAU-2 | NF | 60 A | | 208 V | 3 | | | NEMA 1 | |
| NFDS-MAU-3 | NF | 60 A | | 208 V | 3 | | | NEMA 1 | |
| NFDS-MAU-4 | NF | 60 A | | 208 V | 3 | | | NEMA 1 | |
| NFDS-HP-1 | NF | 60 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-HP-2 | NF | 60 A | | 208 V | 3 | | | NEMA 1 | |
| NFDS-HP-3 | NF | 30 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-HP-4 | NF | 30 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-HP-5 | NF | 30 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-HP-7 | NF | 30 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-HP-8 | NF | 30 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-EUH-1 | NF | 60 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-EUH-3 | NF | 60 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-EUH-2 | NF | 60 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-EUH-4 | NF | 60 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-EUH-5 | NF | 60 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-EUH-6 | NF | 60 A | | 208 V | 2 | | | NEMA 1 | |
| NFDS-EUH-7 | NF | 60 A | | 208 V | 2 | | | NEMA 1 | |

# ELECTRICAL CONNECTION SCHEDULE

| | MOTORS | | | | | | | | | | DISCONNECT | | CONTROLLER / STARTER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ITEM | QTY | @ | HP | VOLTAGE | APPARENT LOAD | FLA | MCA | MOCP | OCPD | CIRCUIT NUMBER | WIRE AND RACEWAY | BY | TYPE | BY | TYPE | COMMENTS |
| MSB-1 | | | | | | | | | | | | | | | | |
| ELEV MAIN | 1 | @ | 40 | 208 V, 3Ø | 41.07 kVA | 114 A | 143.8 A | 150 A | 150 A | 5 | 3#1/0 & 1#6 EGC IN 1 1/2" C. | | | | | |
| P1N-1A | | | | | | | | | | | | | | | | |
| CAB LIGHT | 0 | - | 0 | 120 V, 1Ø | 0.60 kVA | 5 A | 5 A | 15 A | 15 A | 18 | 2#12 & 1#12 EGC IN 3/4" C. | EC | NF | MFR | | |
| EF-3 | 0 | - | 0 | 120 V, 1Ø | 0.02 kVA | 0.1 A | 0.1 A | 15 A | 20 A | 27 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | PANASONIC WHISPER CONTROL | |
| EF-3 | 0 | - | 0 | 120 V, 1Ø | 0.02 kVA | 0.1 A | 0.1 A | 15 A | 20 A | 27 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | PANASONIC WHISPER CONTROL | |
| EF-4 | 0 | - | 0 | 120 V, 1Ø | 0.01 kVA | 0.1 A | 0.1 A | 15 A | 20 A | 31 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | WALL SWITCH | |
| EF-6 | 0 | - | 0 | 120 V, 1Ø | 0.02 kVA | 0.1 A | 0.1 A | 15 A | 20 A | 31 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | WALL SWITCH | |
| EF-7 | 0 | - | 0 | 120 V, 1Ø | 0.02 kVA | 0.1 A | 0.1 A | 15 A | 15 A | 25 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | WALL SWITCH | |
| P1N-1B | | | | | | | | | | | | | | | | |
| CP-1 | 1 | @ | 5 | 208 V, 3Ø | 6.02 kVA | 16.7 A | 20.9 A | 30 A | 30 A | 29,31,33 | 3#10 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| DH-1 | 0 | - | 0 | 208 V, 1Ø | 3.99 kVA | 19.2 A | 24 A | 30 A | 30 A | 26,28 | 2#10 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| DH-2 | 0 | - | 0 | 120 V, 1Ø | 2.00 kVA | 16.7 A | 20 A | 20 A | 20 A | 30 | 2#10 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-1 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 13,15 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-2 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 1,3 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-2 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 5,7 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-3 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 2,4 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-3 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 6,8 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-4 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 10,12 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-5 | 1 | @ | 0.13 | 208 V, 1Ø | 6.50 kVA | 31.2 A | 39.1 A | 45 A | 50 A | 14,16 | 2#8 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-6 | 1 | @ | 0.13 | 208 V, 1Ø | 6.50 kVA | 31.2 A | 39.1 A | 45 A | 50 A | 17,19 | 2#8 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-7 | 1 | @ | 0.13 | 208 V, 1Ø | 6.50 kVA | 31.2 A | 39.1 A | 45 A | 50 A | 18,20 | 2#8 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| HP-3 | 0 | - | 0 | 208 V, 1Ø | 3.66 kVA | 17.6 A | 22 A | 30 A | 30 A | 25,27 | 2#10 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | 1 |
| HP-4 | 0 | - | 0 | 208 V, 1Ø | 3.66 kVA | 17.6 A | 22 A | 30 A | 30 A | 9,11 | 2#10 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | 1 |
| HP-7 | 0 | - | 0 | 208 V, 1Ø | 3.66 kVA | 17.6 A | 22 A | 30 A | 30 A | 21,23 | 2#10 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | 1 |
| HP-8 | 0 | - | 0 | 208 V, 1Ø | 3.66 kVA | 17.6 A | 22 A | 30 A | 30 A | 22,24 | 2#10 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | 1 |
| MAU-1 | 0 | - | 0 | 208 V, 3Ø | 10.27 kVA | 28.5 A | 35.6 A | 40 A | 40 A | 35,37,39 | 3#8 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| MAU-2 | 0 | - | 0 | 208 V, 3Ø | 10.27 kVA | 28.5 A | 35.6 A | 40 A | 40 A | 36,38,40 | 3#8 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| WH-1 | 0 | - | 0 | 120 V, 1Ø | 0.60 kVA | 5 A | 6.3 A | 15 A | 20 A | 32 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | | MFR | | |
| WH-2 | 0 | - | 0 | 120 V, 1Ø | 0.60 kVA | 5 A | 6.3 A | 15 A | 20 A | 34 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | | MFR | | |
| P1N-4 | | | | | | | | | | | | | | | | |
| DH-2 | 0 | - | 0 | 120 V, 1Ø | 2.00 kVA | 16.7 A | 20 A | 20 A | 20 A | 39 | 2#12 & 1#12 EGC IN 3/4" C. | EC | NF | MFR | | |
| DH-2 | 0 | - | 0 | 120 V, 1Ø | 2.00 kVA | 16.7 A | 20 A | 20 A | 20 A | 40 | 2#12 & 1#12 EGC IN 3/4" C. | EC | NF | MFR | | |
| EF-5 | 1 | @ | 0.25 | 120 V, 1Ø | 0.70 kVA | 5.8 A | 7.3 A | 15 A | 20 A | 42 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | CONSTANT | |
| EF-8 | 0 | - | 0 | 120 V, 1Ø | 0.02 kVA | 0.1 A | 0.1 A | 15 A | 20 A | 31 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | WALL SWITCH | |
| EF-9 | 0 | - | 0 | 120 V, 1Ø | 0.02 kVA | 0.1 A | 0.1 A | 15 A | 20 A | 32 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | WALL SWITCH | |
| EUH-2 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 7,9 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-2 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 11,13 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-3 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 8,10 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| EUH-3 | 1 | @ | 0.13 | 208 V, 1Ø | 10.50 kVA | 50.5 A | 63.1 A | 70 A | 70 A | 12,14 | 2#4 & 1#8 EGC IN 3/4" C. | EC | NF | MFR | | |
| HP-3 | 0 | - | 0 | 208 V, 1Ø | 3.66 kVA | 17.6 A | 22 A | 30 A | 30 A | 15,17 | 2#10 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | 1 |
| HP-5 | 0 | - | 0 | 208 V, 1Ø | 3.66 kVA | 17.6 A | 22 A | 30 A | 30 A | 16,18 | 2#10 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | 1 |
| MAU-3 | 0 | - | 0 | 208 V, 3Ø | 10.27 kVA | 28.5 A | 35.6 A | 40 A | 40 A | 1,3,5 | 3#8 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| MAU-4 | 0 | - | 0 | 208 V, 3Ø | 10.27 kVA | 28.5 A | 35.6 A | 40 A | 40 A | 2,4,6 | 3#8 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| UNIT A | | | | | | | | | | | | | | | | |
| EF-1 | 0 | - | 0 | 120 V, 1Ø | 0.01 kVA | 0.1 A | 0.1 A | 15 A | 20 A | 15 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | WALL SWITCH | |
| HP-1 | 0 | - | 0 | 208 V, 1Ø | 5.51 kVA | 26.5 A | 32.5 A | 35 A | 35 A | 14,16 | 2#8 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |
| UNIT B | | | | | | | | | | | | | | | | |
| EF-1 | 0 | - | 0 | 120 V, 1Ø | 0.01 kVA | 0.1 A | 0.1 A | 15 A | 20 A | 15 | 2#12 & 1#12 EGC IN 3/4" C. | MFR | NF | MFR | WALL SWITCH | |
| HP-2 | 0 | - | 0 | 208 V, 1Ø | 8.01 kVA | 38.5 A | 47.1 A | 50 A | 50 A | 14,16 | 2#6 & 1#10 EGC IN 3/4" C. | EC | NF | MFR | | |

COMMENTS:

1. OUTDOOR CONDENSING UNIT SERVES INDOOR UNIT. PROVIDE WIRING FROM EXTERIOR UNIT TO INTERIOR UNIT AS PER MANUFACTURERES SHOP DRAWINGS. COORDINATE WITH MECHANICAL CONTRACTOR.

NOTES:

A. REFER TO MECHANICAL EQUIPMENT SCHEDULES AND LISTS FOR FURTHER INFORMATION.
B. COORDINATE EXACT LOCATIONS AND INSTALLATION REQUIREMENTS WITH MECHANICAL AND PLUMBING CONTRACTOR INSTALL PER MANUFACTURER'S REQUIREMENTS. PROVIDE ALL DISCONNECTS AND VFDS AS REQUIRED. PROVIDE CONDUIT AND WIRING FROM SOURCE TO DISCONNECT/VFD AND FROM DISCONNECT/VFD TO MECHANICAL/PLUMBING UNIT.
C. CONTRACTOR SHALL MEET WITH MECHANICAL CONTRACTOR TO REVIEW ALL ELECTRICAL CONNECTION REQUIREMENTS PRIOR TO SHOP DRAWING DEVELOPMENT


FSP FUSCO, SHAFFER & PAPPAS, INC.
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LICENSED PROFESSIONAL ENGINEER

SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

440 W. MARTIN LUTHER KING JR BLVD
DETROIT MICHIGAN

# GREYSTONE
## SENIOR LIVING

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL SCHEDULES

DRAWING NUMBER

E601


IMEG
www.imegcorp.com
3001 BROADWAY STREET NE
SUITE 601
MINNEAPOLIS, MN 55413
P: 612.540.5000



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0 1 2 3
REF. SCALE IN INCHES

PROJECT #22007630.00

# METER CENTER MC-1

**MOUNTING:** SURFACE
**ENCLOSURE:** NEMA PB 1
**FED FROM:** 1,000 A/3P MCB @ MSB-1
**LOCATION:** MECH/ELEC 103

**SINGLE TUB**
**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 1,000 A MLO
**VOLTS:** 120/208 Wye
**PHASE:** 3
**WIRE:** 4
**SCCR:** 65 kA
**ISC:** 48.19 kA

**NOTES:**

| KEY | CKT NO. | LOAD DESCRIPTION | OCPD AMPS | P | WIRE SIZE H | N | G | VD% | A | B | C | VD% | WIRE SIZE G | N | H | P | OCPD AMPS | LOAD DESCRIPTION | CKT NO. | KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | UNIT A BF 104 | 125 A | 2 | 1 | 1 | 6 | 1.36 | 9.78 | 9.78 | | 0.82 | 6 | 1 | 1 | 2 | 125 A | UNIT A 105 | 2 | |
| | 3 | | | | | | | | | | 9.78 9.78 | | | | | | | | 4 | |
| | 5 | UNIT A 106 | 125 A | 2 | 1 | 1 | 6 | 1.74 | | | 9.78 9.78 | 1.2 | 6 | 1 | 1 | 2 | 125 A | UNIT A 107 | 6 | |
| | 7 | | | | | | | | 9.78 9.78 | | | | | | | | | | 8 | |
| | 9 | UNIT A.1 108 | 125 A | 2 | 1/0 | 1/0 | 4 | 1.59 | | 9.83 9.78 | | 1.58 | 6 | 1 | 1 | 2 | 125 A | UNIT A 109 | 10 | |
| | 11 | | | | | | | | | | 9.83 9.78 | | | | | | | | 12 | |
| | 13 | UNIT B.2 111 | 125 A | 2 | 1/0 | 1/0 | 4 | 1.53 | 11.09 11.06 | | | 1.67 | 6 | 1 | 1 | 2 | 125 A | UNIT B BF 112 | 14 | |
| | 15 | | | | | | | | | 11.09 11.06 | | | | | | | | | 16 | |
| | 17 | UNIT B 114 | 125 A | 2 | 1/0 | 1/0 | 4 | 1.54 | | | 11.07 11.16 | 1.77 | 4 | 2/0 | 2/0 | 2 | 125 A | UNIT B.3 116 | 18 | |
| | 19 | | | | | | | | 11.07 11.16 | | | | | | | | | | 20 | |
| | 21 | UNIT B.5 202 | 125 A | 2 | 1 | 1 | 6 | 1.04 | | 11.09 11.08 | | 0.51 | 6 | 1 | 1 | 2 | 125 A | UNIT B.1 203 | 22 | |
| | 23 | | | | | | | | | | 11.09 11.08 | | | | | | | | 24 | |
| | 25 | UNIT A BF 204 | 125 A | 2 | 1 | 1 | 6 | 1.53 | 9.78 9.78 | | | 0.99 | 6 | 1 | 1 | 2 | 125 A | UNIT A 205 | 26 | |
| | 27 | | | | | | | | | 9.78 9.78 | | | | | | | | | 28 | |
| | 29 | UNIT A 206 | 125 A | 2 | 1 | 1 | 6 | 1.89 | | | 9.78 9.78 | 1.37 | 6 | 1 | 1 | 2 | 125 A | UNIT A 207 | 30 | |
| | 31 | | | | | | | | 9.78 9.78 | | | | | | | | | | 32 | |
| | 33 | UNIT A.1 208 | 125 A | 2 | 1/0 | 1/0 | 4 | 1.69 | | 9.83 9.78 | | 1.75 | 6 | 1 | 1 | 2 | 125 A | UNIT A 209 | 34 | |
| | 35 | | | | | | | | | | 9.83 9.78 | | | | | | | | 36 | |
| | 37 | UNIT B.4 210 | 125 A | 2 | 1 | 1 | 6 | 1.3 | 11.16 11.16 | | | 1.65 | 4 | 1/0 | 1/0 | 2 | 125 A | UNIT B.3 211 | 38 | |
| | 39 | | | | | | | | | 11.16 11.16 | | | | | | | | | 40 | |
| | 41 | UNIT B 212 | 125 A | 2 | 1 | 1 | 6 | 1.84 | | | 11.07 11.07 | 1.73 | 4 | 1/0 | 1/0 | 2 | 125 A | UNIT B 214 | 42 | |
| | 43 | | | | | | | | 11.07 11.07 | | | | | | | | | | 44 | |
| | 45 | UNIT B.3 216 | 125 A | 2 | 2/0 | 2/0 | 4 | 1.87 | | 11.16 11.09 | | 1.2 | 6 | 1 | 1 | 2 | 125 A | UNIT B.5 302 | 46 | |
| | 47 | | | | | | | | | | 11.16 11.09 | | | | | | | | 48 | |
| | 49 | UNIT B.1 303 | 125 A | 2 | 1 | 1 | 6 | 0.68 | 11.08 9.78 | | | 1.7 | 6 | 1 | 1 | 2 | 125 A | UNIT A BF 304 | 50 | |
| | 51 | | | | | | | | | 11.08 9.78 | | | | | | | | | 52 | |
| | 53 | UNIT A 305 | 125 A | 2 | 1 | 1 | 6 | 1.15 | | | 9.78 9.78 | 1.54 | 4 | 1/0 | 1/0 | 2 | 125 A | UNIT A 306 | 54 | |
| | 55 | | | | | | | | 9.78 9.78 | | | | | | | | | | 56 | |
| | 57 | UNIT A 307 | 125 A | 2 | 1 | 1 | 6 | 1.53 | | 9.78 9.83 | | 1.82 | 4 | 1/0 | 1/0 | 2 | 125 A | UNIT A.1 308 | 58 | |
| | 59 | | | | | | | | | | 9.78 9.83 | | | | | | | | 60 | |
| | 61 | UNIT A 309 | 125 A | 2 | 1 | 1 | 6 | 1.91 | 9.78 11.16 | | | 1.46 | 6 | 1 | 1 | 2 | 125 A | UNIT B.4 310 | 62 | |
| | 63 | | | | | | | | | 9.78 11.16 | | | | | | | | | 64 | |
| | 65 | UNIT B.2 311 | 125 A | 2 | 1/0 | 1/0 | 4 | 1.78 | | | 11.09 11.07 | 2 | 6 | 1 | 1 | 2 | 125 A | UNIT B 312 | 66 | |
| | 67 | | | | | | | | 11.09 11.07 | | | | | | | | | | 68 | |
| | 69 | UNIT B 314 | 125 A | 2 | 1/0 | 1/0 | 4 | 1.85 | | 11.07 11.16 | | 1.98 | 4 | 2/0 | 2/0 | 2 | 125 A | UNIT B.3 316 | 70 | |
| | 71 | | | | | | | | | | 11.07 11.16 | | | | | | | | 72 | |
| | 73 | UNIT B.5 402 | 125 A | 2 | 1 | 1 | 6 | 1.37 | 11.09 11.08 | | | 0.85 | 6 | 1 | 1 | 2 | 125 A | UNIT B.1 403 | 74 | |
| | 75 | | | | | | | | | 11.09 11.08 | | | | | | | | | 76 | |
| | 77 | UNIT A BF 404 | 125 A | 2 | 1 | 1 | 6 | 1.86 | | | 9.78 9.78 | 1.32 | 6 | 1 | 1 | 2 | 125 A | UNIT A 405 | 78 | |
| | 79 | | | | | | | | 9.78 9.78 | | | | | | | | | | 80 | |
| | 81 | UNIT A 406 | 125 A | 2 | 1/0 | 1/0 | 4 | 1.66 | | 9.78 9.78 | | 1.7 | 6 | 1 | 1 | 2 | 125 A | UNIT A 407 | 82 | |
| | 83 | | | | | | | | | | 9.78 9.78 | | | | | | | | 84 | |
| | 85 | UNIT A.1 408 | 125 A | 2 | 1/0 | 1/0 | 4 | 1.94 | 9.83 9.78 | | | 1.56 | 4 | 1/0 | 1/0 | 2 | 125 A | UNIT A-409 | 86 | |
| | 87 | | | | | | | | | 9.83 9.78 | | | | | | | | | 88 | |
| | 89 | UNIT B.4 410 | 125 A | 2 | 1 | 1 | 6 | 1.62 | | | 11.16 11.09 | 1.91 | 4 | 1/0 | 1/0 | 2 | 125 A | UNIT B.2 411 | 90 | |
| | 91 | | | | | | | | 11.16 11.09 | | | | | | | | | | 92 | |
| | 93 | UNIT B 412 | 125 A | 2 | 1/0 | 1/0 | 4 | 1.62 | | 11.07 11.07 | | 1.97 | 4 | 1/0 | 1/0 | 2 | 125 A | UNIT B 414 | 94 | |
| | 95 | | | | | | | | | | 11.07 11.07 | | | | | | | | 96 | |
| | 97 | UNIT B.3 416 | 125 A | 2 | 3/0 | 3/0 | 3 | 2 | 11.16 0 | | | 0 | | | | 2 | 30 A | SPD | 98 | |
| | 99 | | | | | | | | | 11.16 0 | | | | | | | | | 100 | |
| | | | | | | | | **Total Load:** | 345.28 kVA | 345.44 kVA | 334.12 kVA | | | | | | | | | |
| | | | | | | | | **Total Amps:** | 2891.62 | 2892.97 | 2784.32 | | | | | | | | | |

**LOAD SUMMARY**

| LOAD CLASSIFICATION | CONNECTED LOAD | DEMAND FACTOR | ESTIMATED DEMAND | TOTALS* | |
|---|---|---|---|---|---|
| Dwelling Unit | 1024.835 kVA | 26.00% | 266.457 kVA | | |
| | | | | **TOTAL CONNECTED LOAD:** | 1024.84 kVA |
| | | | | **TOTAL ESTIMATED DEMAND LOAD:** | 266.457 kVA |
| | | | | **TOTAL CONNECTED AMPS:** | 2844.66 A |
| | | | | **TOTAL ESTIMATED DEMAND AMPS:** | 739.6 A |

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

**CIRCUIT KEY NOTES:**

6

# SWITCHBOARD MSB-1

**ENCLOSURE:** NEMA 1
**FED FROM:** 2,000 A/3P @ UTILITY
**LOCATION:** MECH/ELEC 103

**SOLID NEUTRAL**
**GROUND BUS**

**MAIN:** 2,000 A MCB
**VOLTS:** 120/208 Wye
**PHASE:** 3
**WIRE:** 4
**SCCR:** 65 kA
**ISC:** 62.12 kA

**NOTES:** **PROVIDE SURGE PROTECTION, ARC FLASH MITIGATION, AND 100% FULLY-RATED MAIN CIRCUIT BREAKER.**

| CKT | LOAD DESCRIPTION | Load | POLES | FRAME | TRIP | TYPE | ACC. | WIRE AND RACEWAY | CIRCUIT KEY |
|---|---|---|---|---|---|---|---|---|---|
| 1 | P1N-1A | 59.61 kVA | 3 | 200 A | 200 A | MCB | | 4#3/0 & 1#6 EGC IN 2" C. | |
| 2 | P1N-1B | 130.89 kVA | 3 | 600 A | 600 A | MCB | | (2) SETS OF 4#350 & 1#1 EGC EACH IN 2 1/2"... | |
| 3 | P1N-4 | 110.16 kVA | 3 | 400 A | 400 A | MCB | | 4#600 & 1#3 EGC IN 3 1/2" C. | |
| 4 | MC-1 | 1024.84 kVA | 3 | 1,000 A | 1,000 A | MCB | | (3) SETS OF 4#400 & 1#2/0 EGC EACH IN 2" C. | |
| 5 | ELEVATOR | 41.07 kVA | 3 | 150 A | 150 A | MCB | | 3#1/0 & 1#6 EGC IN 1 1/2" C. | |
| 6 | SPARE (400A) | -- | 3 | -- | -- | | | | |
| 7 | SPARE (200A) | -- | 3 | -- | -- | | | | |
| 8 | SPACE (200A) | -- | 3 | -- | -- | | | | |
| 9 | SPACE (200A) | -- | 3 | -- | -- | | | | |

**LOAD SUMMARY (INCLUDES ALL TUBS IN THIS PANEL)**

| LOAD CLASSIFICATION | CONNECTED LOAD | DEMAND FACTOR | ESTIMATED DEMAND | TOTALS* | |
|---|---|---|---|---|---|
| HVAC | 21.965 kVA | 100.00% | 21.965 kVA | | |
| HVAC Heating Only | 134.495 kVA | 100.00% | 134.495 kVA | **TOTAL CONNECTED LOAD:** | 1366.56 kVA |
| Kitchen Equip. | 3.5 kVA | 98.57% | 3.45 kVA | **TOTAL ESTIMATED DEMAND LOAD:** | 573.837 kVA |
| Lighting | 6.856 kVA | 100.00% | 6.856 kVA | **TOTAL CONNECTED AMPS:** | 3793.21 A |
| Motor | 49.094 kVA | 100.00% | 49.094 kVA | **TOTAL ESTIMATED DEMAND AMPS:** | 1,592.8 A |
| Other | 0.55 kVA | 100.00% | 0.55 kVA | | |
| Power | 41.87 kVA | 100.00% | 41.87 kVA | | |
| Receptacles | 75.4 kVA | 56.63% | 42.7 kVA | | |
| Dwelling Unit | 1024.835 kVA | 26.00% | 266.457 kVA | | |
| Household Ovens - 3.5KW to 8.75KW | 8 kVA | 80.00% | 6.4 kVA | | |

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

**CIRCUIT KEY NOTES:**


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SIGNED: 10/31/2025
LICENSE EXP: 08/09/2027

MICHIGAN

440 W. MARTIN LUTHER KING JR BLVD

GREYSTONE

SENIOR LIVING

DETROIT

| DATE | ISSUE |
|---|---|
| 06.19.26 | BULLETIN #1 |
| 12.19.25 | ISSUED FOR CONSTR. |
| 07.11.25 | ADDENDUM #1 |
| 09.23.24 | PERMITS |

KEY PLAN

FSP PROJECT NO.
CCD18.002

DRAWING TITLE

ELECTRICAL PANEL SCHEDULES

DRAWING NUMBER

E700


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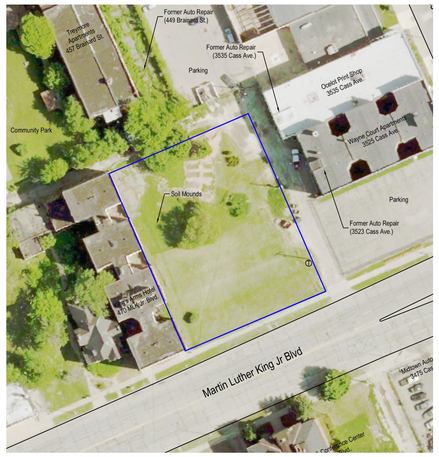

0 1 2 3
REF. SCALE IN INCHES

PROJECT #22007630.00

# VAPOR MITIGATION SYSTEM
# GREYSTONE SENIOR LIMITED DIVIDEND HOUSING ASSOCIATION, LIMITED PARTNERSHIP
# 440, 446 AND 460 MARTIN LUTHER KING JUNIOR BOULEVARD
# DETROIT, MICHIGAN 48201

Drawing Index:

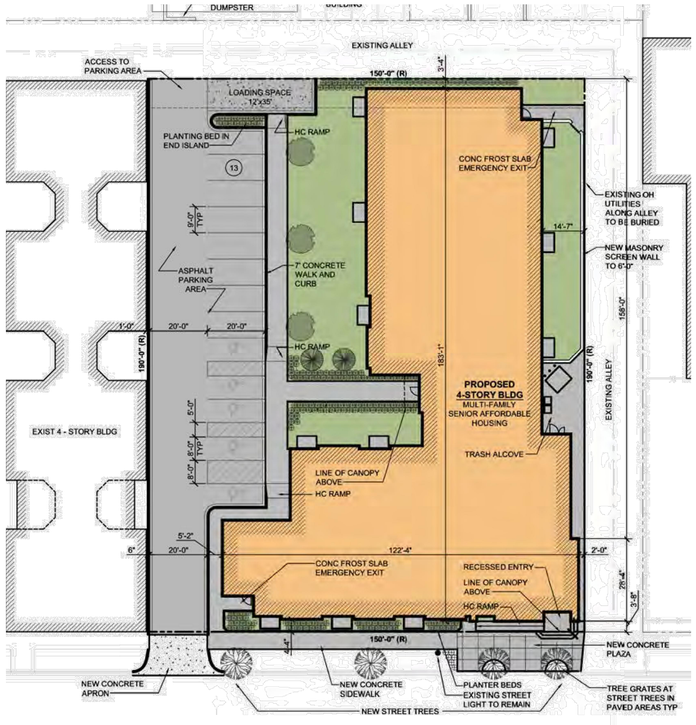

1. COVER SHEET
2. FOUNDATION LEVEL VAPOR COLLECTION SYSTEM
3. FIRST LEVEL RISER PLAN
4. SECOND LEVEL RISER PLAN
5. THIRD LEVEL RISER PLAN
6. FOURTH LEVEL RISER PLAN
7. ROOF PLAN
8. DETAILS
9. SPECIFICATIONS

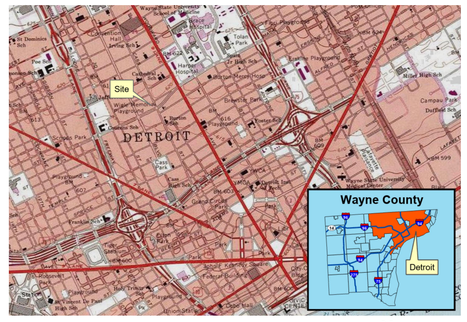




Site Map
Scale: 1" = 60'

N

PROPERTY BOUNDARY IS APPROXIMATE, BASED ON PARCEL MAP AND NOT BOUNDARY SURVEY




Site Location Map
Scale 1"=2,000'

N

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Brighton, MI 48116
810.225.2800

CLIENT: GREYSTONE SENIOR LDHA, LP

JOB SITE: 440 - 460 MARTIN LUTHER KING JUNIOR BLVD DETROIT, MI 48201

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COVER SHEET

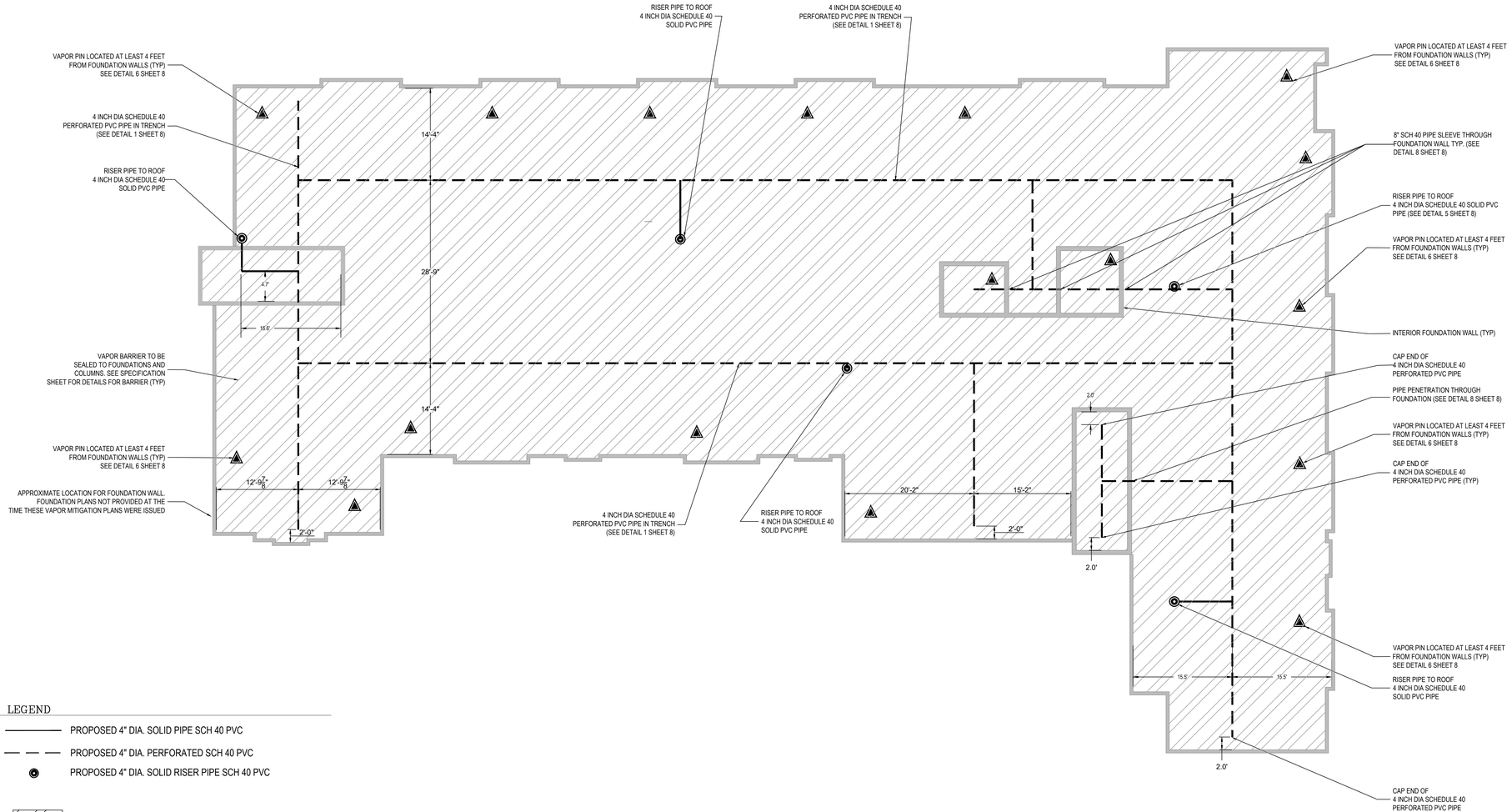
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ASTI PROJECT: 5-11745

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Revisions: 10/25/23 EGLE Comments
Revisions: 6/10/24 EGLE Comments

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LEGEND

- PROPOSED 4" DIA. SOLID PIPE SCH 40 PVC
- PROPOSED 4" DIA. PERFORATED SCH 40 PVC
- PROPOSED 4" DIA. SOLID RISER PIPE SCH 40 PVC

VAPOR BARRIER AND AGGREGATE VAPOR COLLECTION LAYER

PIPING SHALL BE FIELD VERIFIED BEFORE PROCEEDING, AND WORK SHALL BE COORDINATED PER THIS VERIFICATION.

HORIZONTAL SOLID PVC PIPE TO BE SLOPED TO DRAIN UNDER SLAB

ARCHITECTURAL PLANS PROVIDED BY: FUSCO, SHAFFER & PAPPAS, INC.

FOUNDATION PLANS NOT PROVIDED

APPROXIMATE AREA OF SLAB - 12,400 SQUARE FEET

EGLE MINIMUM REQUIREMENT FOR PASSIVE SYSTEM IS 1 RISER PER 10,000 SF MINIMUM 4 RISERS. DESIGN SHOWS 4 RISERS

GRAPHIC SCALE
0 4 8 16
1 Inch = 8 ft.
Paper Size = (42x30)

# FOUNDATION LEVEL FLOOR PLAN

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

CONSTRUCTION SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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JOB SITE: 440 - 460 MARTIN LUTHER KING JUNIOR BLVD
DETROIT, MI 48201

SHEET TITLE: VAPOR MITIGATION SYSTEM
FOUNDATION LEVEL VAPOR COLLECTION SYSTEM

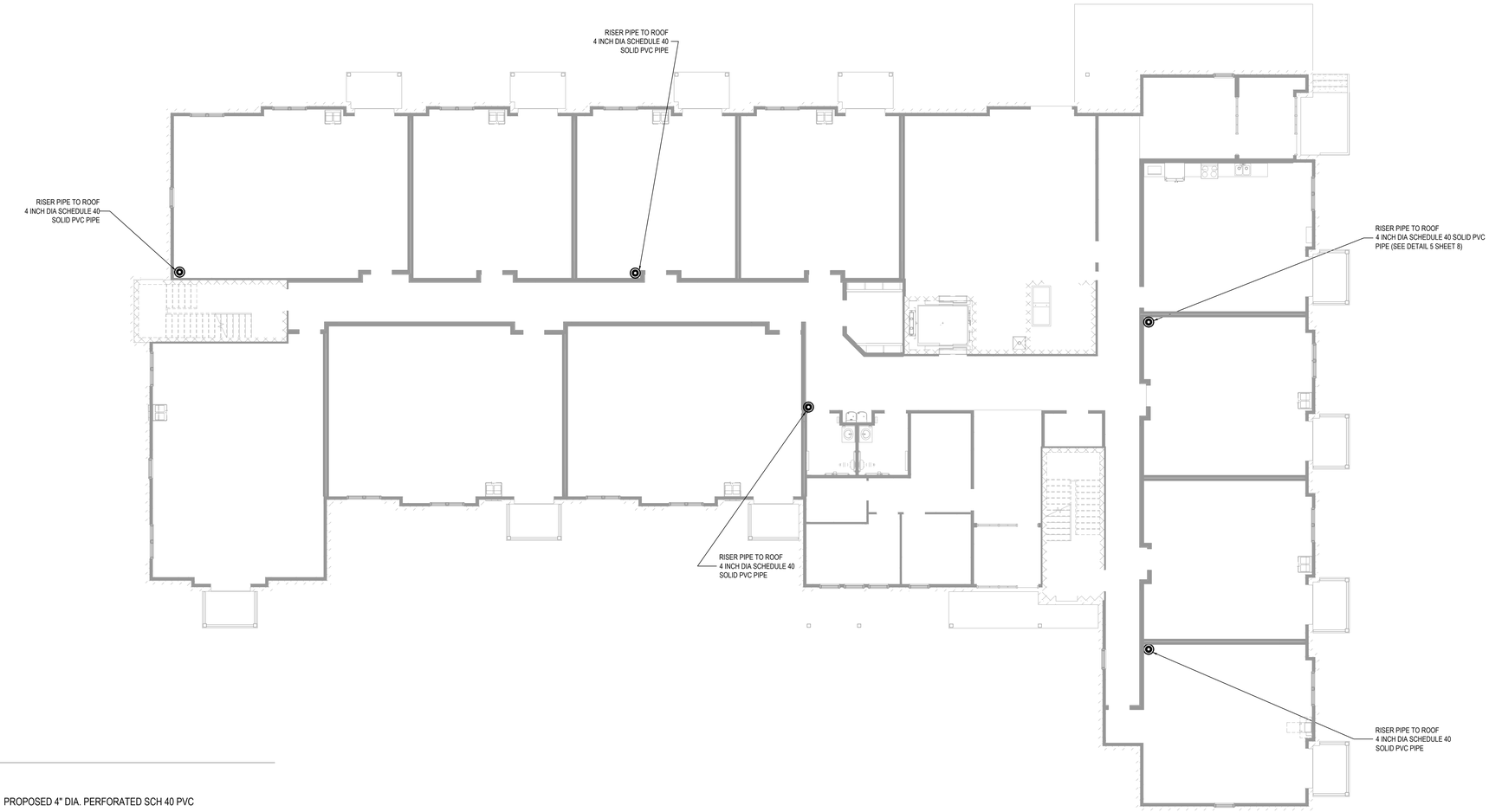
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LEGEND

— — — PROPOSED 4" DIA. PERFORATED SCH 40 PVC

PROPOSED 4" DIA. SOLID RISER PIPE SCH 40 PVC

RISER PIPES TO BE LOCATED INSIDE WALLS OR ENCLOSED WITH A CHASE

PIPING SHALL BE FIELD VERIFIED BEFORE PROCEEDING, AND WORK SHALL BE COORDINATED PER THIS VERIFICATION.

EGLE MINIMUM REQUIREMENT FOR PASSIVE SYSTEM IS 1 RISER PER 10,000 SF MINIMUM 4 RISERS. DESIGN SHOWS 4 RISERS

ARCHITECTURAL PLANS PROVIDED BY: FUSCO, SHAFFER & PAPPAS, INC.

GRAPHIC SCALE
0 4 8 16
1 inch = 8 ft.
Paper Size = (42x30)

# FIRST LEVEL FLOOR PLAN

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

CONSTRUCTION SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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DETROIT, MI 48201

VAPOR MITIGATION SYSTEM
FIRST LEVEL RISER PLAN

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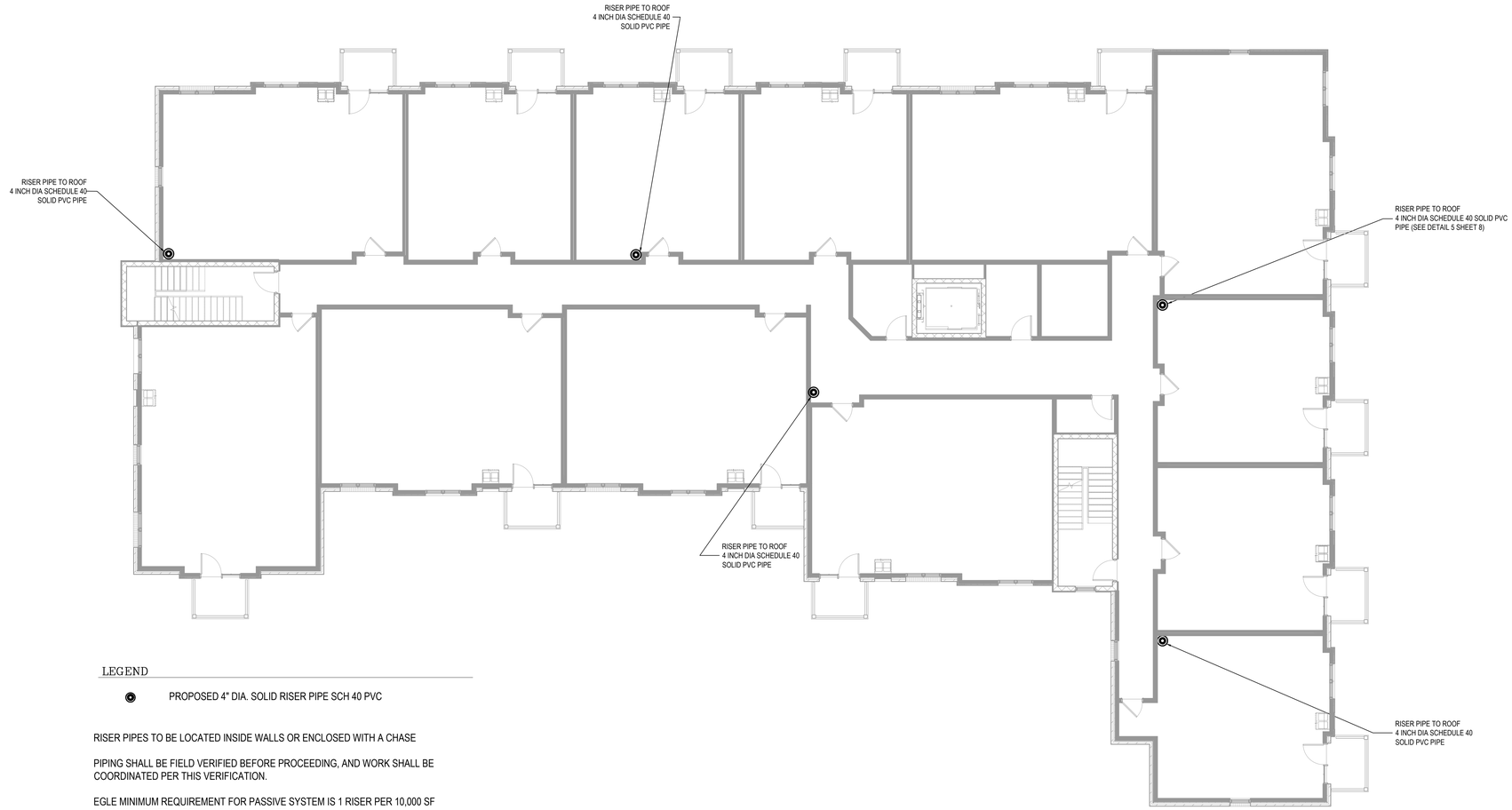
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ASTI PROJECT: 5-11745

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LEGEND

PROPOSED 4" DIA. SOLID RISER PIPE SCH 40 PVC

RISER PIPES TO BE LOCATED INSIDE WALLS OR ENCLOSED WITH A CHASE

PIPING SHALL BE FIELD VERIFIED BEFORE PROCEEDING, AND WORK SHALL BE COORDINATED PER THIS VERIFICATION.

EGLE MINIMUM REQUIREMENT FOR PASSIVE SYSTEM IS 1 RISER PER 10,000 SF MINIMUM 4 RISERS. DESIGN SHOWS 4 RISERS

ARCHITECTURAL PLANS PROVIDED BY: FUSCO, SHAFFER & PAPPAS, INC.

GRAPHIC SCALE
0 4 8 16
1 inch = 8 ft.
Paper Size = (42x30)

# SECOND LEVEL RISER PLAN

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

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DETROIT, MI 48201

VAPOR MITIGATION SYSTEM
SECOND LEVEL RISER PLAN

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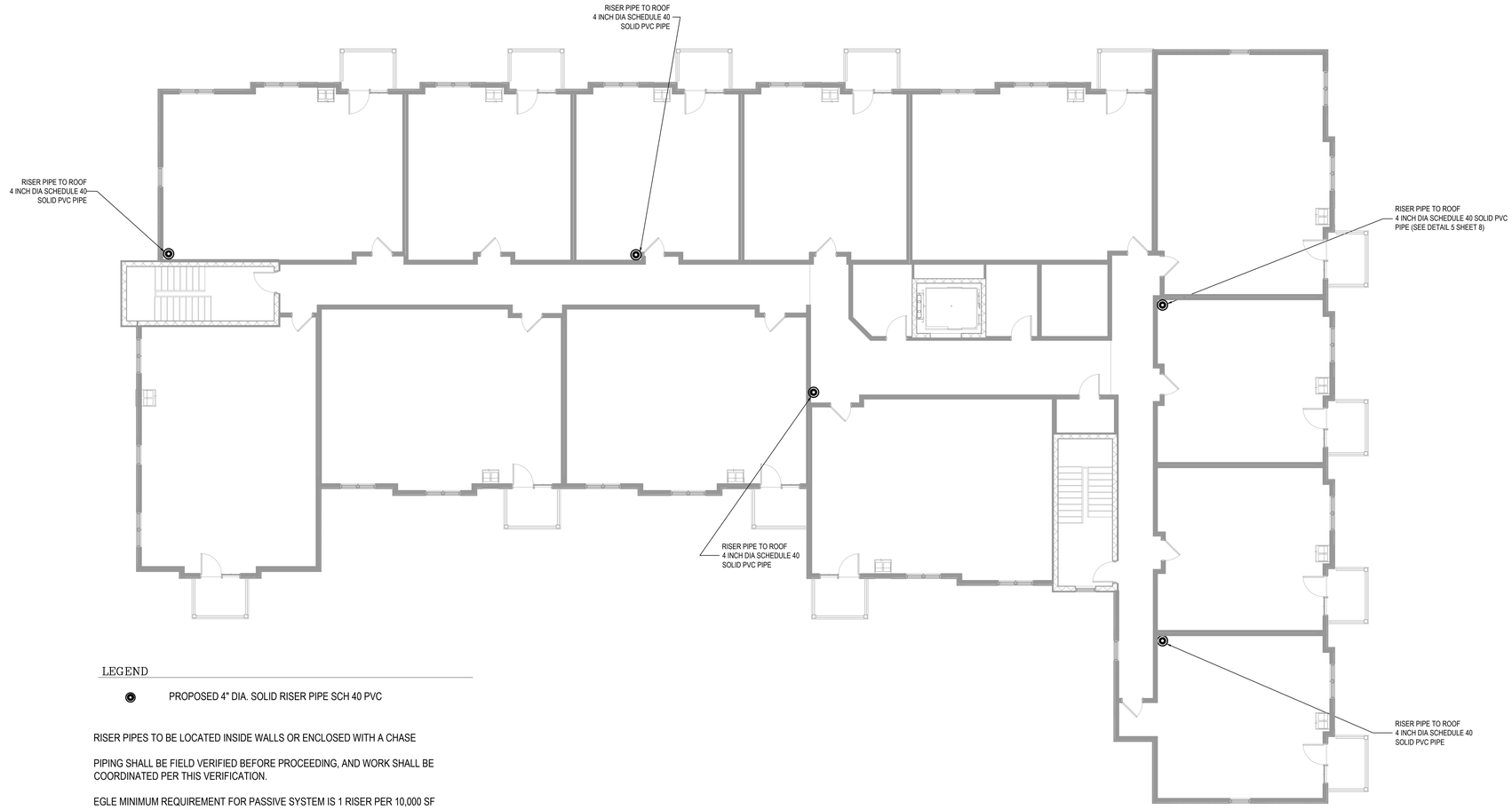
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Revisions: 10/25/23 EGLE Comments
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LEGEND

PROPOSED 4" DIA. SOLID RISER PIPE SCH 40 PVC

RISER PIPES TO BE LOCATED INSIDE WALLS OR ENCLOSED WITH A CHASE

PIPING SHALL BE FIELD VERIFIED BEFORE PROCEEDING, AND WORK SHALL BE COORDINATED PER THIS VERIFICATION.

EGLE MINIMUM REQUIREMENT FOR PASSIVE SYSTEM IS 1 RISER PER 10,000 SF MINIMUM 4 RISERS. DESIGN SHOWS 4 RISERS

ARCHITECTURAL PLANS PROVIDED BY: FUSCO, SHAFFER & PAPPAS, INC.

GRAPHIC SCALE
0 4 8 16
1 inch = 8 ft.
Paper Size = (42x30)

# THIRD LEVEL RISER PLAN

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

N

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DETROIT, MI 48201

SHEET TITLE: VAPOR MITIGATION SYSTEM
THIRD LEVEL RISER PLAN

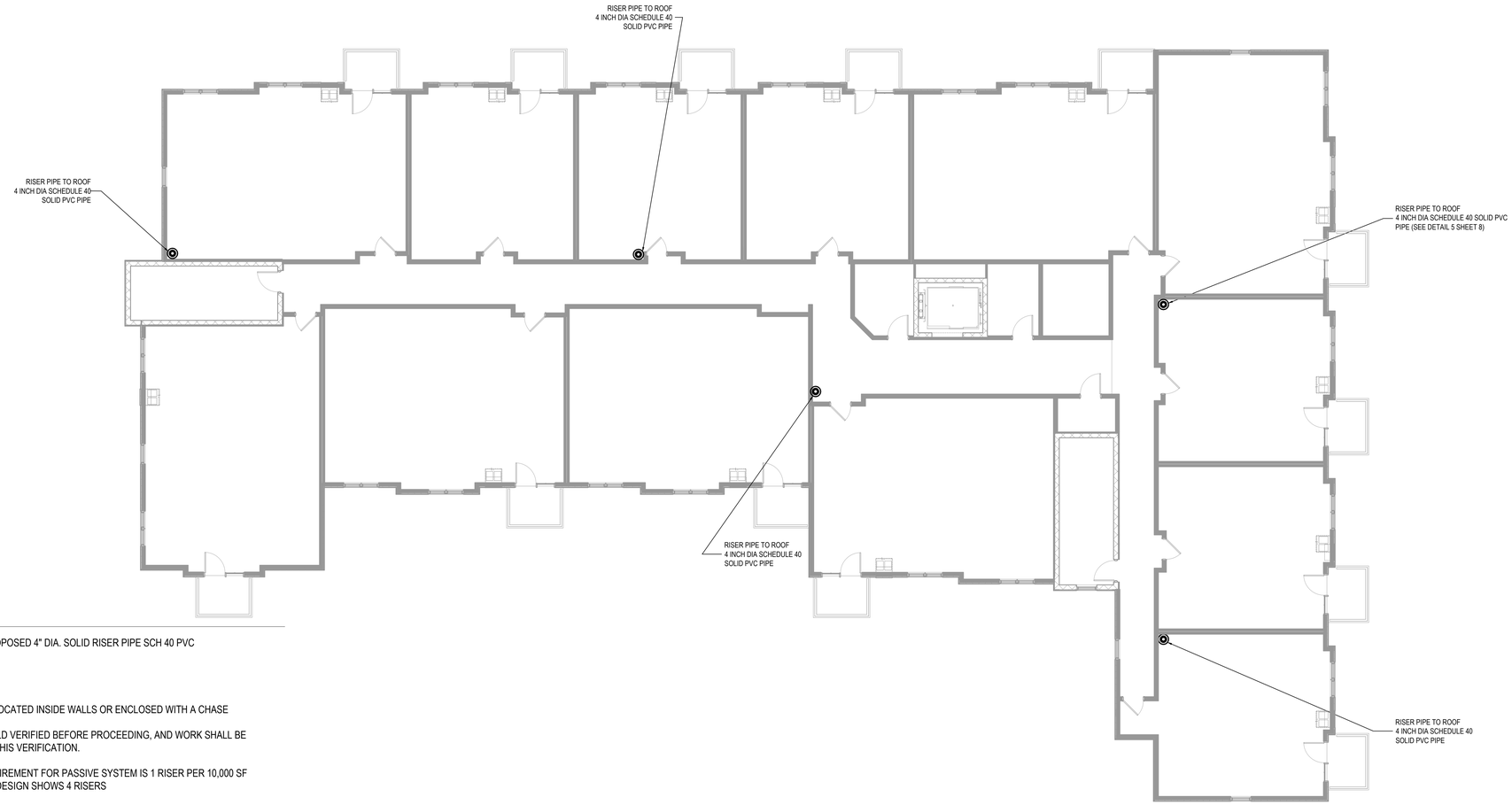
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Revisions: 10/25/23 EGLE Comments
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LEGEND

PROPOSED 4" DIA. SOLID RISER PIPE SCH 40 PVC

RISER PIPES TO BE LOCATED INSIDE WALLS OR ENCLOSED WITH A CHASE

PIPING SHALL BE FIELD VERIFIED BEFORE PROCEEDING, AND WORK SHALL BE COORDINATED PER THIS VERIFICATION.

EGLE MINIMUM REQUIREMENT FOR PASSIVE SYSTEM IS 1 RISER PER 10,000 SF MINIMUM 4 RISERS. DESIGN SHOWS 4 RISERS

ARCHITECTURAL PLANS PROVIDED BY: FUSCO, SHAFFER & PAPPAS, INC.

GRAPHIC SCALE
0 4 8 16
1 inch = 8 ft.
Paper Size = (42x30)

# FOURTH LEVEL RISER PLAN

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

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CLIENT: GREYSTONE SENIOR LDHA, LP

JOB SITE: 440 - 460 MARTIN LUTHER KING JUNIOR BLVD
DETROIT, MI 48201

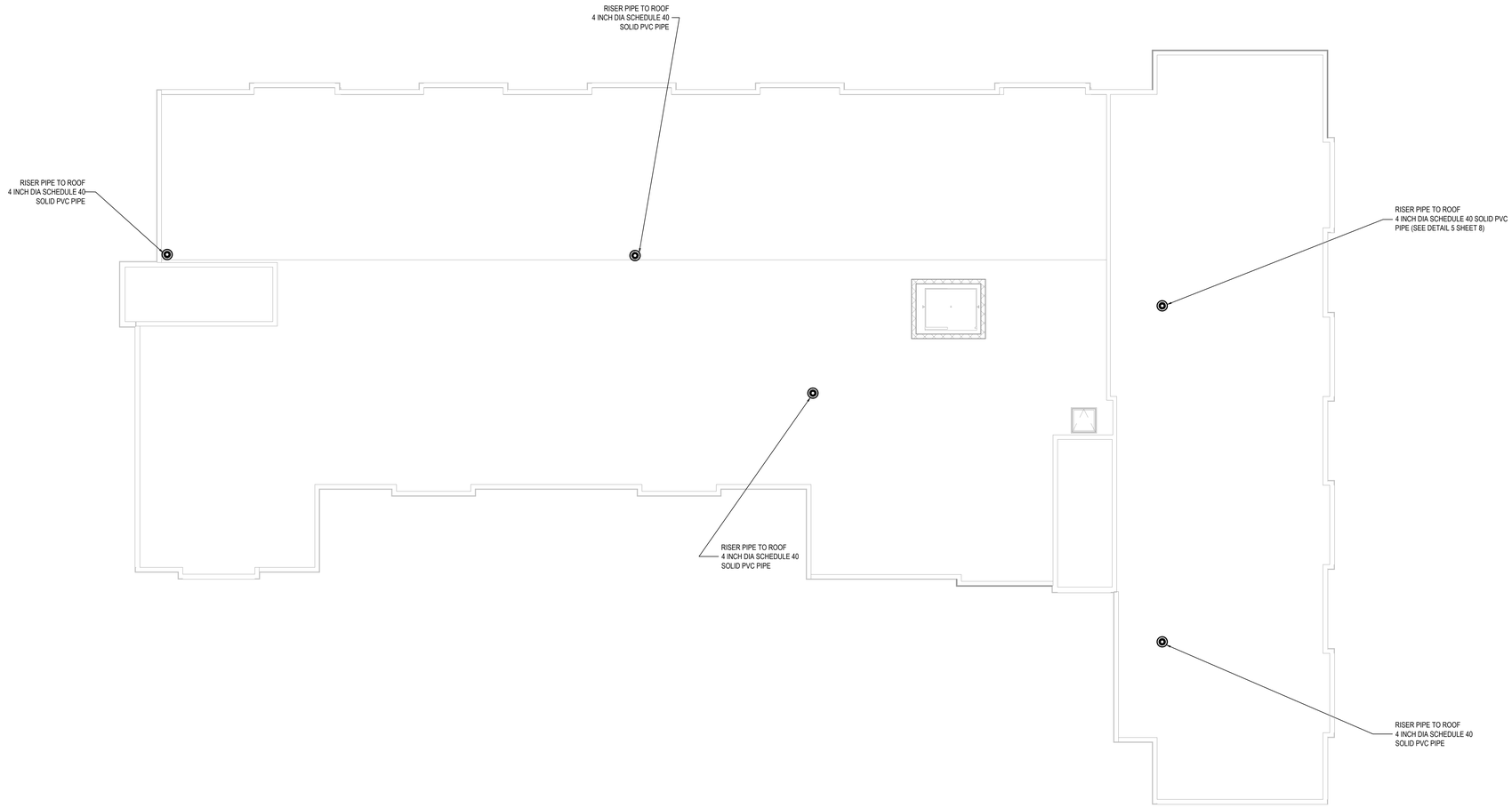
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FOURTH LEVEL RISER PLAN

6

ASTI PROJECT: 5-11745

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| Revisions: 10/25/23 EGLE Comments | DRAFTER: BWB | |
| Revisions: 6/10/24 EGLE Comments | CHECKED: | |
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LEGEND

PROPOSED 4" DIA. SOLID RISER PIPE SCH 40 PVC
USE SCH 80 PVC ABOVE ROOFLINE

PIPING SHALL BE FIELD VERIFIED BEFORE PROCEEDING, AND WORK SHALL BE COORDINATED PER THIS VERIFICATION.

HORIZONTAL SOLID PVC PIPE IF REQUIRED, TO BE SLOPED TO DRAIN TO RISER PIPE.

ARCHITECTURAL PLANS PROVIDED BY: FUSCO, SHAFFER & PAPPAS, INC.

AT THE TIME THESE PLANS WERE PREPARED ARCHITECTURAL PLANS SHOWING THE LOCATION OF OPENINGS TO THE BUILDING AND HVAC UNITS WAS NOT AVAILABLE.

IF THE END OF THE EXHAUST PIPE IS NOT 3 FEET ABOVE ANY WINDOW, DOOR, HVAC UNIT OR OTHER OPENING INTO OCCUPIABLE SPACE, THE END OF THE EXHAUST PIPE SHALL BE LOCATED AT LEAST 20 FEET FROM SUCH OPENING.

GRAPHIC SCALE
0 4 8 16
1 inch = 8 ft.
Paper Size = (42x30)

# ROOF PLAN

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

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10444 Citation Dr. Suite 100
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CLIENT: GREYSTONE SENIOR LDHA, LP

JOB SITE: 440 - 460 MARTIN LUTHER KING JUNIOR BLVD
DETROIT, MI 48201

SHEET TITLE: VAPOR MITIGATION SYSTEM
ROOF PLAN

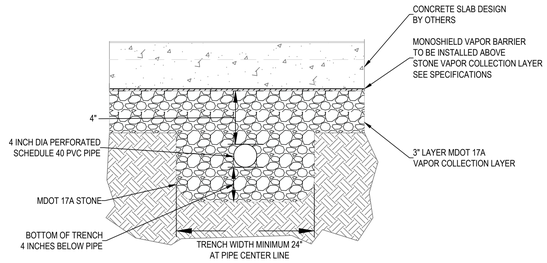
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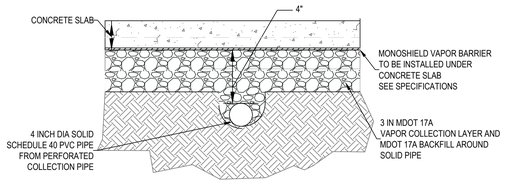
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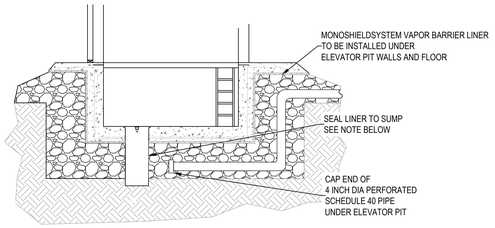

1 VAPOR COLLECTOR TRENCH DETAIL

Not To Scale



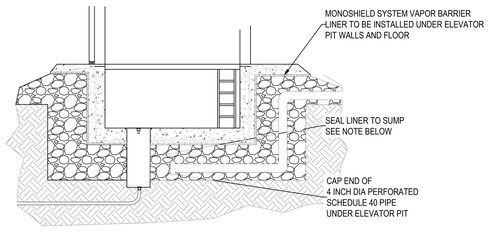

2 SOLID PVC PIPE TO RISER DETAIL

Not To Scale




3 NEW ELEVATOR PIT SECTION WITHOUT DRAIN

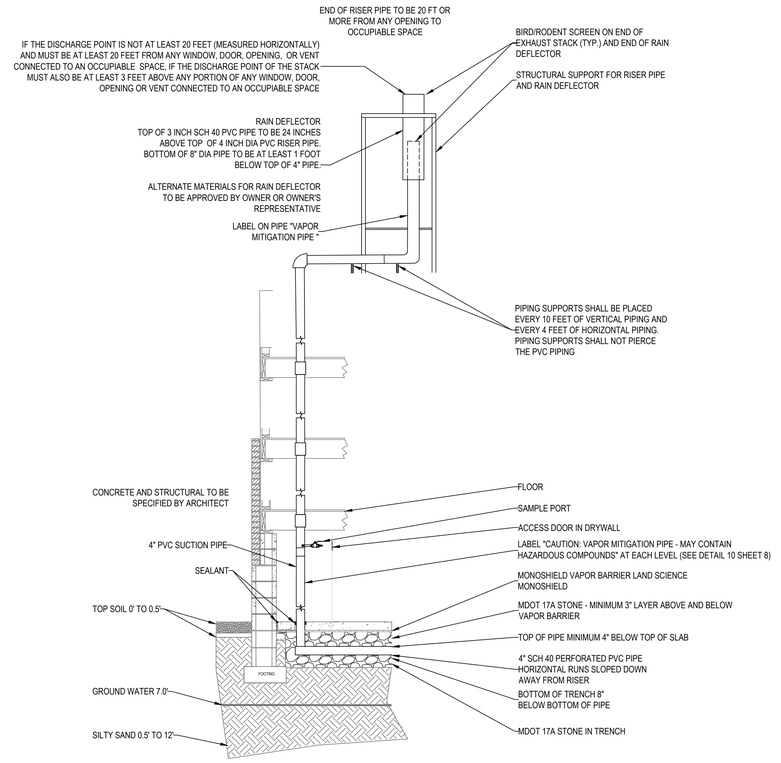
Not To Scale




4 NEW ELEVATOR PIT SECTION WITH DRAIN

Not To Scale

NEW SUMPS WITH DRAIN TO SEWER TO BE DRANJER MODEL FN2 VALVE WITH AIR TIGHT COVER OR DRANJER FS2 COMBINATION VALVE AND SUMP



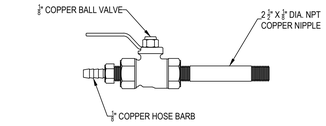

5 ALTERNATE VENT INSTALLATION IN ATTIC WITH PITCHED ROOF

Not To Scale

FOUNDATION AND ROOF PLANS NOT AVAILABLE AT TIME PLANS WERE DEVELOPED. INTERMEDIATE FLOOR LEVEL PLANS AND ELEVATION PLANS NOT AVAILABLE AT TIME PLANS WERE DEVELOPED. SSD DESIGN ASSUMES THAT HORIZONTAL PIPE RUNS FOR RISER BETWEEN FLOORS MAY BE REQUIRED TO INSTALL RISER PIPES IN WALLS AT ALL LEVELS.

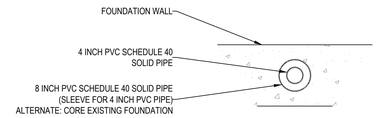
6 -

Not To Scale



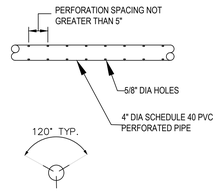

7 VAPOR SAMPLE PORT

Not To Scale




8 PIPE SLEEVE THROUGH FOUNDATION DETAIL

Not To Scale




THREE PERFORATION PATTERN. ONE ROW OF PERFORATION TO BE AT INVERT OF PIPE TO ALLOW DRAINAGE.

9 PERFORATED PIPE DETAIL

Not To Scale

**CAUTION - VAPOR MITIGATION PIPE**

MAY CONTAIN HAZARDOUS COMPOUNDS

3"

6"

10 LABEL FOR EXHAUST PIPING

Not To Scale

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CLIENT: GREYSTONE SENIOR LDHA, LP

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SHEET TITLE: VAPOR MITIGATION SYSTEM DETAILS

8

SCALE:
SHEET 8 OF 9
DRAFTER: BWB
CHECKED:
PM: BWB
DATE: 12/22/22

ASTI PROJECT: 5-11745

Revisions: 7/24/23 Client Review Comments
Revisions: 10/25/23 EGLE Comments
Revisions: 6/10/24 EGLE Comments

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**Soil Gas Collection System for Volatile Organic Vapors**

*Underground Utilities* - The contractor is responsible for contacting MISS DIG and a private utility locator prior to start of construction. Utilities locations are approximate and should not be considered accurate.

*Sealing Gaps and Joints in Slabs* - All gaps, control joints, isolation joints, construction joints, shall be sealed for the purpose of preventing air leakage. The gap width shall be according to the caulk or sealant manufacturer's specifications. Caulks and sealants shall be applied according to the manufacturers' instructions. When sealing is undertaken, gaps and joints should be dry, clean, and free of loose material. Any joint that allows enough air leakage to reduce sub-slab pressure field extension should be sealed.

*Sealing Pipe Rough-Ins* - Openings around plumbing pipes and utilities that have been placed in sleeved or other openings that penetrate the slab shall be filled with a sealant. Expanding urethane foam or other material, as permitted by code, shall be used to create an airtight seal.

*Sealing Slab Penetrations* - Slab penetrations for utility pipes and conduits are to be sealed. Whenever any utility or pipe, especially the suction point pipe, has a gap around it, that gap shall be sealed. Sealing by *(1)* widening the gap, inserting polyethylene backer rod, and sealed with polyurethane caulk, or *(2)* filling the gap with low shrink mortar or grout.

*Sealing Slab Openings Intentionally Provided for Future Use* - When an opening has been cast into the slab for subsequent use, that opening shall be appropriately sealed before the building is occupied. If the opening was cast to install utilities that should be connected before occupancy, the opening shall be filled with concrete poured tight to the utility pipes and conduits after the utilities have been brought through the opening. If the opening was cast anticipating use after occupancy, the opening shall be filled with aggregate to a level appropriate to support a thin concrete slab. Filling a small opening in a slab with expanding foam is permitted provided that the opening is smaller than a person's foot print, is not in a walkway, and that it had been left open intentionally for a known future use.

*Sealing Gas-Permeable Layer* - The gas-permeable layer shall be sealed at the top and sides.

*Sealing Top of Gas-Permeable Layer* - Slab penetrations and openings around pipes, conduits, and other objects shall be sealed. The slab should be poured tight to the foundation walls and the objects that penetrate the slab. When the slab is not poured tight to foundation walls and tight to penetrating objects, all joints and openings shall be sealed with polyurethane caulk. The floor wall cold joint shall be sealed with polyurethane caulk when expansion joints are used.

*Smoke Test* - Smoke test to be performed by vapor barrier installer. Note time, date, project name, inspector name, temperature and weather conditions on testing log. In addition, record humidity, barometric pressure, and wind speed/direction. Confirm wind speed is below 15 mph. Cap other vent outlet(s) not being used. Maintain operation of smoke generator/blower system for at least 15 minutes following purging of membrane. Thoroughly inspect entire membrane surface. Use fluorescent paint or chalk to mark/label any leak locations. Mark/label leak locations on testing log.

*Sub Slab Gas-Permeable Layers* - The gas permeable layer shall be MDOT 17A. Peastone shall not be used in the vapor collection pipe trenches.

*Sealing Sides of Gas-Permeable Layer* - Foundation walls and footings (or curtain walls) seal the gas-permeable layer on the sides. Openings around utility pipes and conduits and other penetrations under the slab shall be sealed. Pipes and conduits shall be air and water tight. Open ends of conduits shall not terminate in the gas-permeable layer or in the soil below

*Soil-Gas-Retarder (Vapor Barrier)* - A Monoshield soil-gas-retarder (also known as vapor barrier membrane) shall be placed under concrete slabs

Vapor Barrier Installer - Installer to be an approved installer from the barrier manufacturer.

The edges of the membrane shall be secured to the foundations and other structures that penetrate the membrane with a caulk or sealant according to the membrane manufacturer's specifications. At locations where the PVC vent pipe passes through the vapor barrier membrane, the pipe shall be secured to a boot that is secured to the membrane, as shown i

*Vent Stack Pipes* - The minimum requirements for the vent stack pipes and their discharge are all of the following:

(1) The vent stack pipe shall be vertical and its discharge upward, unobstructed, outside the structure, at least 10 ft (3 m) above the ground level, above the edge of the roof, and shall also meet the separation requirements of (2) and (3) below. Whenever practicable, vent stack pipes shall terminate above the highest roof of the building.

(2) if the discharge point is not at least 3 ft (1 m) above the top of any window, door, or other opening into conditioned or otherwise occupiable spaces of the structure, the end of the vent stack pipe shall be 20 ft (6 m) or more away from such openings. Chimney flues shall be considered openings into conditioned or otherwise occupiable space.

(3) The end of the vent stack pipe shall be 20 ft (6 m) or more away from any opening into the conditioned or other occupiable spaces of an adjacent building. Chimney flues of adjacent buildings shall be considered openings into conditioned or otherwise occupiable space.

*(4)* For vent stack pipes which penetrate the roof, the point of discharge shall be at least 12 in. (0.3 m) above the surface of the roof. For vent stack pipes attached to or penetrating the sides of buildings, the point of discharge shall be vertical and a minimum of 12 in. (0.3 m) above the edge of the roof and in such a position that it can neither be covered with snow, or other materials nor be filled with water from the roof or an overflowing gutter.

*(5)* When a horizontal run of vent stack pipe penetrates the gable end walls, the piping outside the structure shall be routed to a vertical position so that the discharge point meets the requirements of sections *(1)*, *(2)*, *(3)*. and *(4)* above.

*(6)* Points of discharge that are not in a direct line of sight from openings into conditioned or otherwise occupiable space because of intervening objects, such as dormers, chimneys, windows around the corner, and so forth shall meet the separation requirements of sections *(1)*, *(2)*, *(3)*, *(4)*, and *(5)* above.

*System Solid and Perforated PVC Pipe - T*he vapor collection system and vent system shall be PVC pipe with a minimum wall thickness equal to or greater than that of Schedule 40. For system piping described by a standard dimension ratio (SDR) series number, the pipe series shall be DR 17 or less.

*System Piping Supports* - Pipe support hardware that is manufactured to support drain waste vent (DWV) piping above ground shall be used to support system piping. Horizontal and vertical runs of system piping shall be supported in accordance with applicable building codes for DWV pipe of the same type and size. The vent stack pipe shall be braced at the roof penetration. The pipe supports should not interfere with installed pipe insulation.

Vertical pipes shall be supported at least once every 10 feet. Horizontal pipes shall be supported at least once every 4 feet. Pipe supports shall not pierce the PVC piping.

*Pipe Insulation* - The pipe insulation should be designed or selected to fit the piping.

*Pipe Labels* - A permanent label or distinctive marking that can be read at a distance of 6 ft (2 m) shall be applied to the system piping (or its insulation) on each level of the building, at locations such that at least one label is visible from any accessible location along the piping, whether or not it is to be visible following completion of the building. The label should read: “CAUTION - VAPOR MITIGATION PIPE May CONTAIN HAZARDOUS SUBSTANCES” or have other wording that identifies the pipe as part of a soil gas collection system.

*System Maintenance and Information Label* - A label that identifies the system maintenance provider, identifies the state contact, and shows the system's installation/activation date(s) shall be applied near the “Vapor Mitigation System” label.

***Specifications and Installation Requirements for Soil Depressurization Systems***

*Maintain all Fire Ratings* - All fire protections required by the applicable building code shall be preserved.

*System Labels* - One permanent system label that can be read from a distance of 3 ft (1 m) shall be securely attached in a prominent location.

*System Maintenance and Information Label* - A label that identifies the system maintenance provider, identifies the state contact, and shows the system's installation/activation date(s) shall be applied near the organic vapor system label.

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SHEET TITLE: VAPOR MITIGATION SYSTEM SPECIFICATIONS

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