

Asbestos Abatement Associates

3125 Logan Ave. N., Minneapolis, MN 55411

**Asbestos/Hazardous Materials Survey
Residential Property
971 Jenks Ave.
St. Paul, MN 55106**

**Prepared by:
Asbestos Abatement Associates
3125 Logan Ave. N.
Mpls., MN 55411**

**Prepared for:
City of St. Paul
Cindy Carlson
25 West 4th St. #1100
St. Paul, MN 55102**

**Richard Pruitt #1207
November 15, 2012**

A handwritten signature in cursive script, appearing to read 'R. Pruitt'.

(Signature)

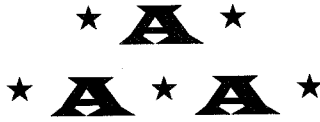
A handwritten date '11-15-12' written in cursive script.

(Date)

*North Metro: 612-588-7755
St. Paul: 651-633-4060*

*South Metro: 612-823-2955
Fax: 612-588-6780*

Email: abatenow@popp.net



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Project Description **971 Jenks Ave., St. Paul, MN**

Asbestos Abatement Associates was retained by Cindy Carlson of the City of St. Paul to conduct an Asbestos/Hazardous Materials Survey for a residential home located at 971 Jenks Ave., St. Paul, MN. We were asked to prepared this report (the Survey) and report the findings of the Survey.

The reason for the visit is to identify friable and non-friable asbestos containing materials which may become friable during renovation or demolition.

The home is approximately 103 years old. It has 3 levels and is approximately 2,664 sq. ft. This home has concrete footings and foundation with concrete flooring in the partial basement. There is a crawl space about 14x4 which has general debris mixed with Asbestos paper in it. The home is wood framed and sided with vinyl overlayment. There are hardwood floors throughout. The 2nd floor has carpeting. The walls and ceilings are made of plaster. The attic is insulated with Mineral Wool. The garage is 12x17 and is slab on grade that is wood framed and sided. Both structures have asphalt roofing.

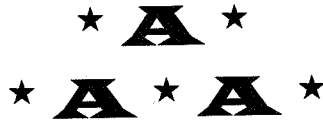
This Survey represented by Richard Pruitt on November 15, 2012. The Survey Area consisted of accessible portions of the Building at the time of the Survey.

Copies of Mr. Pruitt's Asbestos Inspector certificate and license are included.

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Scope of Services

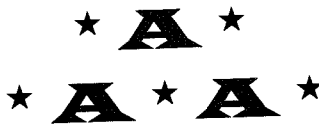
971 Jenks Ave., St. Paul, MN

- A destructive assessment of accessible portions of the building was conducted Richard Pruitt, Asbestos Building Inspector #1207. Suspect Asbestos containing building materials were identified per current Minnesota Department of Health (MDH) Asbestos Abatement Rules and Occupational Safety and Health Administration (OSHA) regulations.
- Samples of suspect ACM identified during the Survey were collected for laboratory analysis in accordance with MDH and OSHA regulations.
- The location, estimated quantity, and condition of suspect ACM were documented.
- The presence and/or quantity of other materials such as hazardous wastes or building materials that would be classified as special wastes for demolition were documented.
- The presence and/or quantity of equipment that could contain polychlorinated biphenyls (PCBs), ozone depleting chemicals (ODCs), and mercury or other regulated metals was documented.

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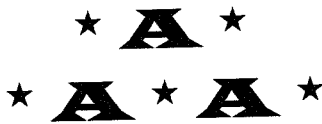
Sampling Methodology **971 Jenks Ave., St. Paul, MN**

- Asbestos Abatement Associates identified homogenous building materials in accordance with the Environmental Protection Agency (EPA) Asbestos Hazardous Emergency Response Act (AHERA) 40 CFR Part 763, Subpart E as specified in MDH and OSHA rules and regulations. Homogenous areas are defined as areas of surfacing materials, thermal system insulation materials or other miscellaneous materials which upon examination for properties such as age, color, size and texture appear to be composed of the same material.
- The building materials are collected from randomly selected locations throughout the building where the material is found to be present. Samples of these materials are assumed to be representative of that material wherever it is found throughout the building.
- Samples of potential ACMs were collected by Asbestos Abatement Associates and were analyzed using Polarized Light Microscopy (PLM) by Carolina Environmental, Inc., in Cary, NC. NVLAP's National Voluntary Laboratory Accreditation Program code number is 10768-0. (Copy of Lab Qualification Included) The MDH, OSHA, and EPA define ACM as a material which contains greater than one percent asbestos by qualitative or quantitative analysis

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971 Jenks Ave., St. Paul, MN

techniques. The EPA's National Emission Standard for Hazardous Air Pollutants (NESHAP) requires quantitative analysis, commonly referred to as a "point count", for all qualitative analysis results when asbestos is detected in concentrations less than one to ten percent. However, under common practice, qualitative results greater than three and less than ten percent are often accepted to be ACM.

Testing Results

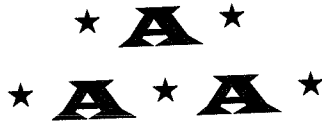
Asbestos Abatement Associates collected a total of eighteen (18) samples of suspect (ACM) that were analyzed by Carolina Environmental, Inc.

See Survey/Sample Results in table on the next pages with the sample results in the page following.

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Sample Results **971 Jenks Ave., St. Paul, MN**

Sample #10 is grey window glazing in the basement and was found to contain 2% Chrysotile Asbestos containing material and must be removed by a State Licensed Asbestos Contractor with the estimated cost for removal is \$250.00.

Sample #13 is white window glazing on the 1st floor and was found to contain 2% Chrysotile Asbestos containing material and must be removed by a State Licensed Asbestos Contractor with the estimated cost for removal is \$300.00.

Sample #14 is grey paper on the cold air returns in the SW corner was found to contain 22% Chrysotile Asbestos containing material and must be removed by a State Licensed Asbestos Contractor with the estimated cost for removal \$350.00.

Assumed to Contain Asbestos related items are listed as follows:

- Paper next to furnace estimated cost for removal \$150.00 each
- Paper on boots in basement with estimated cost for removal \$450.00 each
- Paper on heat vents 1st floor estimated cost for removal \$195.00 each

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- Asbestos paper mixed with general debris in crawl space and clean up with estimated cost being \$850.00
- Paper on ducting running to 2nd floor with estimated cost for removal \$2,100.00

All other items tested were found to be non-asbestos containing listed as follows:

- Window glazing white 2nd floor 15 total
- Light green plaster skim and base coats 2nd floor bedroom #4
- White ceiling texture dining room 15x14
- Ceiling texture white living room 20x12
- Green plaster skim and base coats living room
- Ivory plaster skim and base coats dining room
- Brick black, white and red kitchen wall 16x8 and 9x6 areas
- White sink under coating 4 sq. ft.
- Blue ceramic tile w/brown grout 1st floor bathroom 7x4 and 9x5 areas
- White ceiling tile 1st floor bathroom 9x4
- Grey sheet vinyl backing under 1st floor kitchen 10x16

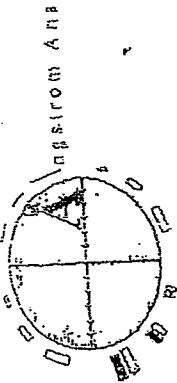
Hazardous Waste Items Found On Site

- | | |
|---------------------|--------------------------|
| • 1 dehumidifier | • 1 stove |
| • 1 dryer | • 3 televisions (garage) |
| • 1 furnace | • 1 thermostat |
| • 1 alarm system | • 1 washer |
| • 1 refrigerator | • 1 water heater |
| • 7 smoke detectors | • 1 window a/c |

The estimated cost for removal of Hazardous Waste items is \$750.00.

Angstrom Analytical
 5001 Cedar Lake Road
 St. Louis Park, Mn 55416

3 DAY TURN AROUND



* A *

* A * A *

ASBESTOS ABATEMENT ASSOCIATES

ASBESTOS (PLM) BULK SAMPLES:
 REPORT OF MATERIALS ANALYSIS

CLIENT <i>City of St. Paul</i>	Project Location	Result Via <i>Email</i>	Date Entry <i>11/16/12</i>	Approved By <i>KJ</i>
CLIENT ADDRESS <i>971 Genessee Ave.</i>	Client/Receiving # <i>1-10</i>	Assigned Lab # <i>12-11</i>	Project # <i>27060</i>	Analyst <i>KJ</i>
<i>St. Paul 55106</i>	Fax #		Date Rec'd <i>11/16/12</i>	Analyzed <i>11/19/12</i>
			Date Mailed	Phoned

Sample Number	Material	Physical Description	Locality	Asbestos Type	Approximate Percent
1	Window Glazing	White	15 total 2nd Floor	None	Detected
2	Plaster - skim	H. green	2nd Floor Bedrm #4	None	Detected
3	Plaster - base	cementitious	" "	None	Detected
4	Ceiling Texture	White	15x14 Dining Room	None	Detected
5	Ceiling Texture	White	20x12 Living Room	None	Detected
6	Plaster - skim	Green	Living Room	None	Detected
7	Plaster - base	Cementitious	" "	None	Detected
8	Plaster - skim	Ivory	Dining	None	Detected
9	Plaster - base	Cementitious	" "	None	Detected
10	Window Glazing	Grey	Basement 5 Total	Chlor	2%

ANGSTROM ANALYTICAL
 MAR 4 2009 3:22PM

Angstrom Analytical
 5001 Cedar Lake Road
 St. Louis Park, Mn 55416



**ASBESTOS (PLM) BULK SAMPLES;
 REPORT OF MATERIALS ANALYSIS**

ASBESTOS ABATEMENT ASSOCIATES

CLIENT: City of St. Paul Project Location: Emell Reanalyze Via: Emell Approved By: KM
 CLIENT ADDRESS: 971 Genks Ave. Client/Receiving #: 11-18 Project # 27060 Analyst: KM
St. Paul 55106 Assigned Lab #: 12-10 Date Rec'd: 11/16/12 Analyzed: 11/19/12
 Date Mailed: _____ Picked: _____

Sample Number	Material	Physical Description	Location	Asbestos Type	Approximate Percent
11	Brick	Composite	10x8 and 9x6 areas Kitchen Wall	None	Detected
12	Under Coating	White	Sink 4 sq.ft.	None	Detected
13	Window Glazing	White	1st Floor - total Cold Air Return SW Corner 10 lin. ft.	CHR	2%
14	Paper	Grey	1st Floor Bathroom 3	CHR	22%
15	Ceramic Tile	Blue	7x4 and 9x5 areas	None	Detected
16	Grout to #15	Brown	1st Floor Bathroom 9x4	None	Detected
17	Ceiling Tile	White	Under 1st Floor Kitchen 10x16	None	Detected
18	Sheet Vinyl Backing	Grey		None	Detected

ANGSTROM ANALYTICAL
 MAR 4 2009 3:22PM



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The structure is ready to be demolished only after the Friable Asbestos containing items are removed by an Asbestos contractor. The non-friable Asbestos can remain in place for demolition but you must make the landfill aware the debris has non-friable class nine materials mixed in. Non Friable Asbestos containing materials are subject to the MPCA rules and notifications.

All hazardous materials need to be managed properly and removed prior to demolition. The following is a sample of hazardous building materials:

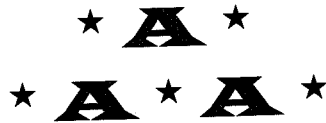
- Polychlorinated Biphenyls (PCBS) found in light ballasts, capacitors, HVAC systems, and transformers.
- Mercury found in fluorescent lamps, switches, vapor lamps, thermostats, metal halide lamps, high pressure sodium lamps, neon lamps, manometers, and gauges. Many mercury containing materials were used in appliances, HVAC systems, or industrial switches or controls, thermocouples, temperature sensors, and other electrical equipment.
- Pb based paint that is not adhering to the substrate.
- Refrigerants/CFCs/HCFCs are found in refrigerators, AC systems, drinking fountains, dehumidifiers, vending machines, heat pumps, chillers, freezers, ice machines, food display cases.
- Appliances including stoves, refrigerators, furnaces, air exchangers, water heaters, etc.
- Chemicals, oils, batteries, paint cans, agricultural chemicals, other hazardous building materials.
- Trash, furniture, mattresses, engine parts, construction waste, etc.

Sincerely,
Richard Pruitt

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Sampling Area Measurements for Abatement 971 Jenks Ave., St. Paul, MN

Sample #10 grey window glazing basement	5 total
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Sample #13 white window glazing 1st floor	6 total
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Sample #14 grey paper on cold air return SW Corner 10 linear ft.	
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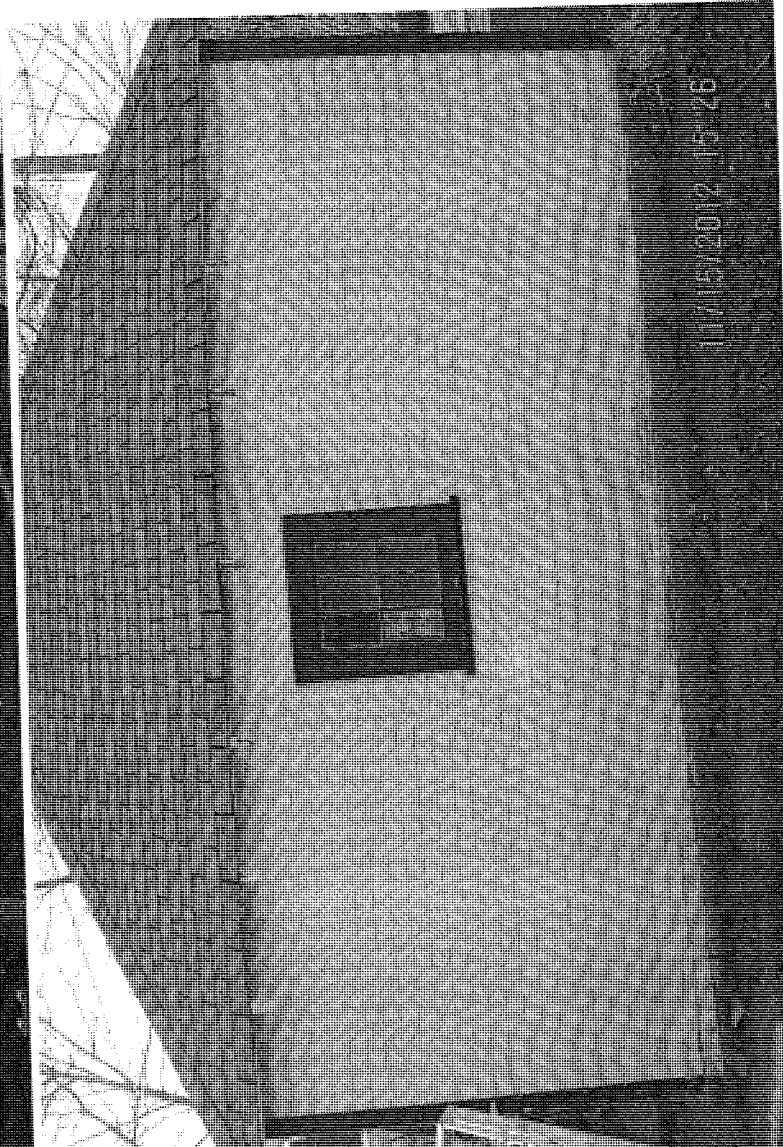
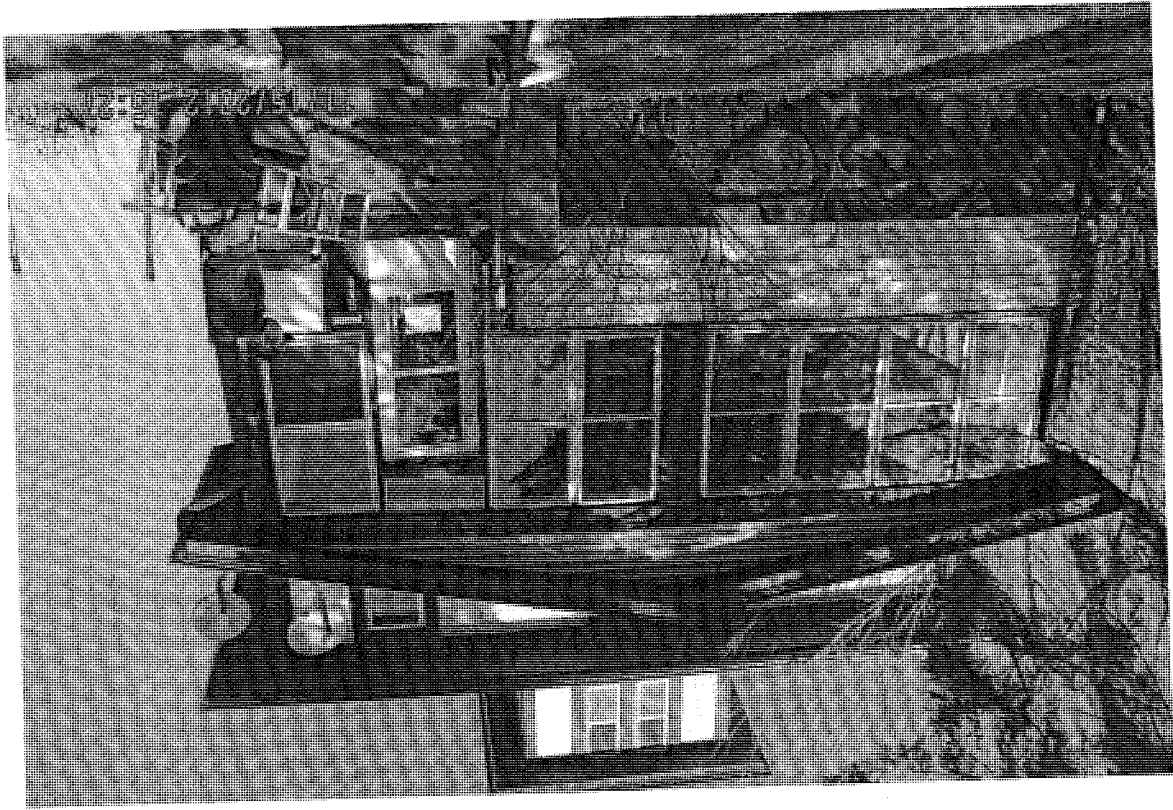
Assumed: paper next to furnace	2 sq. ft.
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Assumed: paper on boots in basement	4-6 sq. ft.
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Assumed: paper heating vent 1st floor 2 each	4 sq. ft.
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Assumed: Asbestos paper mixed with general debris in crawl space unknown amount space size 14x4	
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Assumed: paper on ducting running to 2nd floor 80-100 sq. ft.	
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AIHA Bulk Asbestos Program - Individual Lab Results

Text of the "Final Report to Laboratories" (PDF)

Home

American Industrial Hygiene Association
Bulk Asbestos Analytical Testing Program
Results of Round A69-406
1/15/2007

Charles Tye
Angstrom Analytical, Inc.
5001 Cedar Lake Road South
St. Louis Park, MN 55416

Laboratory ID Number
101099

Total Penalty Points 0
Round Status P
Program Status P

Lot Designation\Sample ID Numbers	A) 4995	B) 2942	C) 3637	D) 2594
Analysis Results from Laboratory Number 101099				
Asbestos (%)	(10) AMOS (8) CHRY (0) NONE (0)	CHRY (35) NONE (0) NONE (0) NONE (0)	NONE (0) NONE (0) NONE (0) SYNT (40)	(0) NONE (0) NONE (0) NONE (0)
Other Fibrous Materials (%)	NONE (0) NONE (0)	NONE (0) NONE (0)	NONE (0) NONE (0)	NONE (0) NONE (0)
Nonfibrous Material (%)	OTHR (82)	OTHR (65)	OTHR (40)	OTHR (20)
Penalty Points Assessed	0	0	0	0

Analysis Results from Reference Laboratory One					ANTH (70)
Asbestos (%)	AMOS (8) CHRY (6)	CHRY (25) ACTN (TRA) FBGL (5)		CELL (15)	
Other Fibrous Materials (%)					OTHR (30)
Nonfibrous Material (%)	ACID (86)	ACID (70)	MICA (40) ACID (45)		

Analysis Results from Reference Laboratory Two					ANTH (85)
Asbestos (%)	AMOS (15) CHRY (3)	CHRY (11) AMOS (TRA) FBGL (81)		CELL (25)	
Other Fibrous Materials (%)					OTHR (15)
Nonfibrous Material (%)	OTHR (82)	OTHR (8)	OTHR (75)		

Acceptable Quantitation Range (%)	AMOS (1-25) CHRY (TRA-15)	CHRY (5-50)			ANTH (35-100)
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Summary of Results from all Laboratories				ANTH 53.7
Type One Asbestos	AMOS 11.5	CHRY 22.0		
Type One Mean	CHRY 14.8			
Type Two Asbestos				
Type Two Mean				
Type Three Asbestos	ACTN, ANTH, CROC	AMOS, ANTH, CROC, TREM		ACTN, AMOS, CHRY, TREM
Type Three Mean				
Other Asbestos Types Reported in Sample				

ACTN=Actinolite
AMOS=Amosite
ANTH=Anthophyllite

CHRY=Chrysotile
CROC=Crocidolite
TREM=Tremolite

CELL=Cellulose
FBGL=Fiberglass/Mineral Wool
SYNT=Synthetic

ACID = acid-soluble fraction, including but not limited to, calcite, gypsum, dolomite, magnesite, hydromagnesite, anhydrite, and bassanite
MICA=Micaceous Material
OTHR=Other

Round Status: P=Pass F=Fail TE = Temporarily Excused

Program Status: P=Proficient NP=Nonproficient NA = Not Applicable

Expiration Date: April 2, 2013

Certificate No: 5LM04021217IR

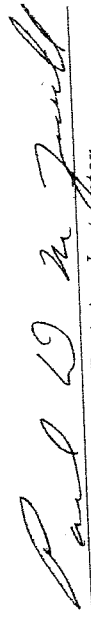
This is to certify that
Richard C. Pruitt
has attended and successfully completed an
**ASBESTOS INSPECTOR
REFRESHER TRAINING COURSE**

permitted by
the State of Minnesota under Minnesota Rules 4620.3702 to 4620.3722
and meets the requirements of
Section 206 of Title II of the Toxic Substances Control Act (TSCA)
conducted by

Lake States Environmental, Ltd.

White Bear Lake, MN on April 2, 2012
Examination Date: April 2, 2012

Lake States Environmental, Ltd.
P. O. Box 645, Rice Lake, WI 54868
(800) 254-9811


Training Instructor



Certified by:
State of Minnesota
Department of Health
Expires: 04/02/2013

Richard C Pruitt
3125 Logan Ave No
Minneapolis, MN 55411

Richard C. Pruitt
Director, Env. Health Div.

No. A11207

Issued: 04/05/2012



**Angstrom Analytical &
Environmental Services**

5001 Cedar Lake Road * St. Louis Park, MN 55416
952-252-0405 952-252-0407 fax

November 19, 2012

Asbestos Abatement Associates
3125 Logan Ave N
Minneapolis, MN 55411
612-588-7755

Owner:
City of St. Paul
15 Kellogg Blvd.
St. Paul, MN 55102
651-266-8989

Lead-Based Paint Inspection
971 Jenks Ave. St. Paul, MN

This report provides the results of lead-based paint testing conducted on November 19, 2012 at 971 Jenks Ave. The property is a single-family residential property located in St. Paul, MN. The inspection was conducted by Kevin Hagen (MN Lic. No. LR 2036). Angstrom Analytical, Inc. was authorized by you to conduct an inspection for lead-based paint using a field portable x-ray fluorescence (XRF) analyzer. The purpose of this assessment was to determine if lead based paint exists at the above referenced property.

The property consists of a two story single family home with a full basement. The basement is unfinished. There was a garage on the property. According to Zillow.com the property was built in 1909. For sample location purposes, side A of the building is the side facing Jenks Ave. and is lettered clockwise around the building. The exteriors consist of a vinyl siding with some wood lap siding on the front porch. There is also metal trim work, fascia, soffit and metal gutters, all with factory applied finishes. Building foundation is concrete. Bare soil was observed around the property. No soil samples were collected. At a minimum, the Minnesota Dept. of Health recommends bare soils be made intact by covering them over with either sod, landscaping stone or mulch.

The interior has been remodeled with most of the windows being stained with some being vinyl, uniform in size and are of the double hung type. The cabinets in the bathrooms and kitchen are painted.

Results

Results of XRF analysis are summarized in the following report (see Appendix A), which utilize Department of Housing and Urban Development (HUD) thresholds (see remarks) for lead-based paint. Painted surfaces are rated on condition as Intact, Fair or Poor. Intact surfaces are free of visual damage/deterioration. Fair or poor rating indicates the paint is damaged and is deteriorated. Any condition listed as fair or poor is a deteriorated condition. The inspection was conducted using HUD "Guidelines for the Evaluation and Control of Lead Based Paint in Housing" using the October 1997 revised Chapter 7 protocols. The sampling criteria used are found in the HUD Standards 24 CFR Part 35 et al.

Methodology

Testing was accomplished using a Niton XL 300 series. This instrument is a portable, non-destructive, in-site testing and measurement instrument that renders an average precision of +/- 0.3 milligrams per square centimeter (mg/cm^2) depending upon the length of time the sample point is tested. The XRF uses a source of Cd-109. Specific precision limits are established by the National Institute of Standards and Technology (NIST). The XRF instrument was checked using the NIST Standard Reference for calibration checks. The instrument's operational mode is standard paint mode. This instrument is operated by Minnesota Department of Health licensed lead inspectors. Where conclusive results were not obtained by XRF testing, confirmatory paint chip samples were or can be collected for laboratory analysis. The XRF instrument was calibrated, using a known lead paint film, at the beginning, every four hours and at the end of each day.

Remarks

The Lead-Based Paint Poisoning Prevention Act (LBPPA) has established an action level for public housing. Under the statute, lead-based paint hazards equal to or greater than $1.0 \text{ mg}/\text{cm}^2$ or 0.5 percent by weight must be abated. It is important to keep in mind that the testing results of a component also apply to any similar component not tested. For example, if a white, painted baseboard tests positive then the entire white painted baseboard in that room is also considered positive.

All sampling was conducted by representatives of Angstrom Analytical, Inc. Standards for private or commercial housing may vary by locality.

Results

The results of the portable x-ray fluorescence (XRF) analysis of the representative building components are listed in appendix A. All paint testing was conducted using the XRF unit. The XRF was calibrated and the beginning of each days inspection, during the inspection and at the end of each days inspection. Calibration was conducted on known lead paint films provided by the manufacturer. The results of the calibrations are within acceptable limits of the Performance Characteristic Sheet for the instrument. XRF results are expressed in units of milligrams per square centimeter (mg/cm^2) (see Remarks for action levels). XRF results are classified as positive or negative. A component that tests positive indicates leads is present at or above the standard (see Remarks).

Discussion

Painted building components were assessed visually for condition. Paint is rated on its condition as intact, fair and poor. Intact means good condition, Fair means less than two square feet of damage to a large interior surface or less than 10 square feet to a large exterior surface or less than 10% damage to a small surface area. Poor condition means greater than 2 square feet of damage on large interior surface, more than 10 square feet on a large exterior surface or more than 10% damage to a small surface area. Painted surfaces listed as in fair or poor condition are considered deteriorated. Based on our inspection findings, lead based paint was identified on the following:

- Painted wood walls.
- Painted plaster ceilings.
- Painted plaster walls.
- Painted wood window components.
- Painted wood doors and door components.

Lead Based Painted Components

- The tan painted plaster walls in the master bedroom.
- The white painted plaster ceiling in the master bedroom.
- The metal clad window troughs throughout the house.
- The white painted plaster ceiling in the 2nd floor hallway.
- The tan painted plaster walls in the 2nd floor west bedroom.
- The white painted plaster ceiling in the 2nd floor west bedroom.
- The tan painted plaster walls in the 2nd floor east bedroom.
- The white painted plaster ceiling in the 2nd floor east bedroom.
- The white painted wood door in the 1st floor hallway. (Leading to the deck)
- The white painted wood cellar windows throughout the basement.
- The green painted lap siding on the front porch.
- The green painted wood columns on the front porch.
- The white painted window ledge on the front porch.
- The white painted wood windows throughout the front porch.
- The green and black painted metal clad trim throughout the exterior of the house.
- The white painted wood basement cellar windows throughout the exterior of the house.
- The white painted wood side door on the exterior of the house.
- The black painted wood side door jamb.
- The black painted metal clad side door trim.
- The black painted wood door on the back deck.
- The black painted metal door trim on the back deck.

- The white painted wood siding on the garage.
- The black painted wood trim on the garage.
- The black painted wood window components on the garage.
- The white painted wood double doors on the garage.

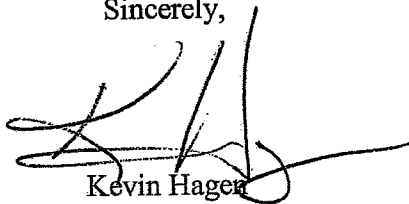
Please refer to the Lead Based Paint Testing Report (Appendix A) for specific locations and conditions. At a minimum, surfaces in fair to poor condition need to be stabilized. Intact lead based paint surfaces are not considered a hazard. However they do need to be maintained in an intact condition and periodically monitored. Specific surfaces not identified in this report should be treated as lead based unless testing proves otherwise.

Recommendations

Angstrom Analytical recommends that lead related work be performed by trained individuals and follow all applicable regulations regarding lead and lead hazards. If you are using federal funding you are required to use qualified firms, knowledgeable in hazards associated with lead and are certified / licensed to perform lead remediation services. A copy of this report must be provided to purchasers/lessees on this property under Federal law, 24 CFR part 35 and 40 CFR part 745.

If you have any questions or need further assistance, please call us at the number above.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kevin Hagen', with a long horizontal flourish extending to the right.

Kevin Hagen
Angstrom Analytical, Inc.

34	11/19/2012	12:24	WINDOW trim	WOOD	D	INTACT	WHITE	971 SECOND	E bedroom	Negative	< LOD	0.06
35	11/19/2012	12:24	WINDOW trough	METAL	D	INTACT	WHITE	971 SECOND	E bedroom	Positive	< LOD	2.6
36	11/19/2012	12:25	WINDOW trough	METAL	C	INTACT	WHITE	971 SECOND	N bedroom	Negative	< LOD	0.13
37	11/19/2012	12:26	WINDOW trim	WOOD	C	INTACT	WHITE	971 SECOND	N bedroom	Negative	< LOD	0.08
38	11/19/2012	12:26	WINDOW	WOOD	C	INTACT	WHITE	971 SECOND	N bedroom	Negative	< LOD	0.4
39	11/19/2012	12:26	BASEBOARD	WOOD	C	INTACT	WHITE	971 SECOND	N bedroom	Negative	< LOD	0.17
40	11/19/2012	12:27	DOOR	WOOD	A	INTACT	WHITE	971 SECOND	N bedroom	Negative	< LOD	0.17
41	11/19/2012	12:27	DOOR trim	WOOD	A	INTACT	GREEN	971 SECOND	N bedroom	Negative	< LOD	0.03
42	11/19/2012	12:27	WALL	PLASTER	A	INTACT	WHITE	971 SECOND	N bedroom	Null	0.5	0.2
43	11/19/2012	12:28	CEILING	PLASTER	A	INTACT	WHITE	971 SECOND	N bedroom	Negative	< LOD	1.35
44	11/19/2012	12:28	CEILING	PLASTER	A	INTACT	WHITE	971 SECOND	N bedroom	Negative	< LOD	0.6
45	11/19/2012	12:29	CEILING	PLASTER	A	INTACT	WHITE	971 SECOND	BATHROOM	Null	1	0.2
46	11/19/2012	12:30	CEILING	PLASTER	A	INTACT	WHITE	971 SECOND	BATHROOM	Null	0.9	0.2
47	11/19/2012	12:30	CEILING	PLASTER	A	INTACT	WHITE	971 SECOND	BATHROOM	Negative	< LOD	0.03
48	11/19/2012	12:30	WALL	DRYWALL	A	INTACT	RED	971 SECOND	BATHROOM	Negative	< LOD	0.03
49	11/19/2012	12:31	BASEBOARD	WOOD	B	INTACT	WHITE	971 SECOND	BATHROOM	Negative	< LOD	0.06
50	11/19/2012	12:31	WINDOW	WOOD	B	INTACT	WHITE	971 SECOND	BATHROOM	Negative	< LOD	0.03
51	11/19/2012	12:32	WINDOW trim	WOOD	B	INTACT	WHITE	971 SECOND	BATHROOM	Negative	< LOD	0.03
52	11/19/2012	12:32	WINDOW trough	METAL	B	INTACT	WHITE	971 SECOND	BATHROOM	Positive	< LOD	11.4
53	11/19/2012	12:33	DOOR	WOOD	C	INTACT	WHITE	971 SECOND	BATHROOM	Negative	< LOD	0.03
54	11/19/2012	12:33	DOOR trim	WOOD	C	INTACT	WHITE	971 SECOND	BATHROOM	Negative	< LOD	0.03
55	11/19/2012	12:34	CABINET	WOOD	D	INTACT	WHITE	971 SECOND	BATHROOM	Negative	< LOD	0.03
56	11/19/2012	12:35	stringer	WOOD	D	INTACT	BROWN	971 FIRST	STAIR	Negative	< LOD	0.09
57	11/19/2012	12:35	railing	WOOD	D	INTACT	BROWN	971 FIRST	STAIR	Negative	< LOD	0.13
58	11/19/2012	12:36	DOOR	WOOD	D	INTACT	WHITE	971 FIRST	LIVING ROOM	Negative	< LOD	0.03
59	11/19/2012	12:36	DOOR trim	METAL	A	INTACT	BROWN	971 FIRST	LIVING ROOM	Negative	< LOD	0.03
60	11/19/2012	12:37	CEILING	PLASTER	A	INTACT	WHITE	971 FIRST	LIVING ROOM	Negative	< LOD	0.03
61	11/19/2012	12:37	crown mold	WOOD	A	INTACT	WHITE	971 FIRST	LIVING ROOM	Negative	< LOD	0.03
62	11/19/2012	12:38	WALL	PLASTER	A	INTACT	GREEN	971 FIRST	LIVING ROOM	Negative	< LOD	0.03
63	11/19/2012	12:38	BASEBOARD	WOOD	A	INTACT	BROWN	971 FIRST	LIVING ROOM	Negative	< LOD	0.11
64	11/19/2012	12:38	WINDOW	WOOD	A	INTACT	BROWN	971 FIRST	LIVING ROOM	Negative	< LOD	0.11
65	11/19/2012	12:39	WINDOW trim	WOOD	A	INTACT	BROWN	971 FIRST	LIVING ROOM	Negative	< LOD	0.29
66	11/19/2012	12:39	FLOOR	WOOD	A	INTACT	BROWN	971 FIRST	LIVING ROOM	Negative	< LOD	0.03
67	11/19/2012	12:40	FLOOR	WOOD	A	INTACT	BROWN	971 FIRST	dining	Negative	< LOD	0.03

68	11/19/2012	12:40	WALL	PLASTER	C	INTACT	GREEN	971 FIRST	dining	Negative	< LOD	0.03
69	11/19/2012	12:41	CEILING	PLASTER	C	INTACT	WHITE	971 FIRST	dining	Negative	< LOD	0.03
70	11/19/2012	12:41	BASEBOARD	WOOD	C	INTACT	BROWN	971 FIRST	dining	Negative	< LOD	0.12
71	11/19/2012	12:41	WINDOW trim	WOOD	C	INTACT	BROWN	971 FIRST	dining	Negative	< LOD	0.17
72	11/19/2012	12:42	crown mold	WOOD	C	INTACT	WHITE	971 FIRST	dining	Negative	< LOD	0.21
73	11/19/2012	12:43	crown mold	WOOD	B	INTACT	WHITE	971 FIRST	W room	Negative	< LOD	0.08
74	11/19/2012	12:43	CEILING tile	WOOD	B	INTACT	WHITE	971 FIRST	W room	Negative	< LOD	0.09
75	11/19/2012	12:44	BASEBOARD	WOOD	B	INTACT	WHITE	971 FIRST	W room	Negative	< LOD	0.22
76	11/19/2012	12:44	WALL	PLASTER	B	INTACT	RED	971 FIRST	W room	Negative	< LOD	0.03
77	11/19/2012	12:44	WALL	WOOD	C	INTACT	RED	971 FIRST	W room	Negative	< LOD	0.03
78	11/19/2012	12:45	WINDOW trim	WOOD	C	INTACT	BROWN	971 FIRST	W room	Negative	< LOD	0.13
79	11/19/2012	12:45	DOOR	WOOD	D	INTACT	WHITE	971 FIRST	W room	Negative	< LOD	0.03
80	11/19/2012	12:47	DOOR trim	WOOD	D	INTACT	WHITE	971 FIRST	W room	Negative	< LOD	0.12
81	11/19/2012	12:48	DOOR trim	WOOD	D	INTACT	WHITE	971 FIRST	KITCHEN	Negative	< LOD	0.25
82	11/19/2012	12:49	DOOR	WOOD	D	INTACT	WHITE	971 FIRST	KITCHEN	Negative	< LOD	0.25
83	11/19/2012	12:49	WINDOW trim	WOOD	D	INTACT	WHITE	971 FIRST	KITCHEN	Negative	< LOD	0.2
84	11/19/2012	12:49	BASEBOARD	WOOD	D	INTACT	WHITE	971 FIRST	KITCHEN	Negative	< LOD	0.03
85	11/19/2012	12:50	CABINET	WOOD	C	INTACT	WHITE	971 FIRST	KITCHEN	Negative	< LOD	0.12
86	11/19/2012	12:50	WALL	WOOD	A	INTACT	RED	971 FIRST	KITCHEN	Negative	< LOD	0.03
87	11/19/2012	12:50	WALL	DRYWALL	A	INTACT	RED	971 FIRST	KITCHEN	Negative	< LOD	0.03
88	11/19/2012	12:51	WALL	brick	D	INTACT	RED	971 FIRST	KITCHEN	Negative	< LOD	0.15
89	11/19/2012	12:52	CEILING	DRYWALL	B	INTACT	WHITE	971 FIRST	HALL	Negative	< LOD	0.03
90	11/19/2012	12:52	CEILING	DRYWALL	B	INTACT	WHITE	971 FIRST	HALL	Negative	< LOD	0.03
91	11/19/2012	12:53	WALL	DRYWALL	B	INTACT	GREEN	971 FIRST	HALL	Negative	< LOD	0.03
92	11/19/2012	12:53	BASEBOARD	WOOD	B	INTACT	WHITE	971 FIRST	HALL	Negative	< LOD	1
93	11/19/2012	12:53	DOOR	WOOD	C	INTACT	WHITE	971 FIRST	HALL	Positive	2.2	0.06
94	11/19/2012	12:53	DOOR trim	WOOD	C	INTACT	WHITE	971 FIRST	HALL	Negative	< LOD	0.03
95	11/19/2012	12:54	DOOR trim	WOOD	C	INTACT	WHITE	971 FIRST	BATHROOM	Negative	< LOD	0.04
96	11/19/2012	12:54	DOOR	WOOD	C	INTACT	WHITE	971 FIRST	BATHROOM	Negative	< LOD	0.03
97	11/19/2012	12:54	WALL	WOOD	A	INTACT	WHITE	971 FIRST	BATHROOM	Negative	< LOD	0.3
98	11/19/2012	12:55	WALL	DRYWALL	A	INTACT	WHITE	971 FIRST	BATHROOM	Negative	< LOD	0.03
99	11/19/2012	12:56	TREAD	WOOD	B	INTACT	WHITE	971 BASEMENT	STAIR	Negative	< LOD	0.1
100	11/19/2012	12:57	FLOOR	CONCRETE	B	INTACT	gray	971 BASEMENT		Negative	< LOD	0.03
101	11/19/2012	12:57	WALL	CONCRETE	B	POOR	WHITE	971 BASEMENT		Negative	< LOD	0.03

Item #	Date	Time	Location	Material	Condition	Color	Notes	971 BASEMENT	971	Color	Condition	Notes	Positive	L.O.D.	Value
102	11/19/2012	12:58	WINDOW	WOOD	D	INTACT	WHITE	971	971	WHITE	INTACT		Positive	< LOD	1.7
103	11/19/2012	13:00	siding	WOOD	A	INTACT	GREEN	971	971	GREEN	INTACT		Positive	< LOD	31.2
104	11/19/2012	13:00	COLUMN	WOOD	A	INTACT	GREEN	971	971	GREEN	INTACT		Positive	< LOD	37.2
105	11/19/2012	13:01	WINDOW ledge	WOOD	A	INTACT	WHITE	971	971	WHITE	INTACT		Positive	< LOD	28.8
106	11/19/2012	13:01	WINDOW sill	WOOD	C	INTACT	WHITE	971	971	WHITE	INTACT		Positive	< LOD	25.2
107	11/19/2012	13:02	WINDOW	WOOD	C	INTACT	WHITE	971	971	WHITE	INTACT		Positive	21.4	12.2
107	11/19/2012	13:02	WINDOW trim	WOOD	C	INTACT	WHITE	971	971	WHITE	INTACT		Positive	< LOD	37.2
108	11/19/2012	13:02	WINDOW trim	WOOD	C	INTACT	BROWN	971	971	BROWN	INTACT		Negative	< LOD	0.03
109	11/19/2012	13:02	CEILING	WOOD	C	INTACT	GREEN	971	971	GREEN	INTACT		Negative	< LOD	0.03
110	11/19/2012	13:03	steps	CONCRETE	A	POOR	GREEN	971	971	GREEN	POOR		Negative	< LOD	0.03
111	11/19/2012	13:04	foundation	CONCRETE	A	POOR	GREEN	971	971	GREEN	POOR		Negative	< LOD	0.03
111	11/19/2012	13:04	foundation	METAL	A	INTACT	black	971	971	black	INTACT		Negative	< LOD	0.03
112	11/19/2012	13:05	sill flashing	METAL	A	INTACT	WHITE	971	971	WHITE	INTACT		Negative	< LOD	0.03
113	11/19/2012	13:06	siding	METAL	A	INTACT	black	971	971	black	INTACT		Positive	1.9	0.8
114	11/19/2012	13:06	TRIM	METAL	A	INTACT	black	971	971	black	INTACT		Positive	2.3	0.9
115	11/19/2012	13:07	TRIM	METAL	A	INTACT	GREEN	971	971	GREEN	INTACT		Negative	< LOD	0.03
115	11/19/2012	13:07	TRIM	METAL	A	INTACT	black	971	971	black	INTACT		Positive	< LOD	7.95
116	11/19/2012	13:08	soffit	METAL	A	INTACT	black	971	971	black	INTACT		Positive	8.2	4.2
117	11/19/2012	13:08	cellar window	WOOD	D	POOR	WHITE	971	971	WHITE	POOR		Positive	1.9	0.8
118	11/19/2012	13:09	WINDOW trim	METAL	D	INTACT	black	971	971	black	INTACT		Positive	16.4	9.7
119	11/19/2012	13:10	side door	WOOD	D	INTACT	black	971	971	black	INTACT		Positive	1.7	0.6
120	11/19/2012	13:10	side door jamb	WOOD	D	INTACT	black	971	971	black	INTACT		Negative	< LOD	0.03
121	11/19/2012	13:11	side door trim	METAL	D	INTACT	black	971	971	black	INTACT		Positive	< LOD	6.3
122	11/19/2012	13:12	deck	WOOD	D	POOR	black	971	971	black	POOR		Positive	< LOD	28.5
123	11/19/2012	13:12	DOOR	WOOD	D	INTACT	black	971	971	black	INTACT		Positive	< LOD	0.03
124	11/19/2012	13:13	DOOR trim	METAL	D	INTACT	black	971	971	black	INTACT		Negative	< LOD	0.7
125	11/19/2012	13:13	siding	vinyl	D	INTACT	WHITE	971	971	WHITE	INTACT		Positive	2	0.7
126	11/19/2012	13:14	siding	WOOD	A	INTACT	WHITE	971	971	WHITE	INTACT		Positive	< LOD	9.6
127	11/19/2012	13:15	TRIM	WOOD	A	INTACT	black	971	971	black	INTACT		Positive	2.6	1.3
128	11/19/2012	13:15	WINDOW	WOOD	A	INTACT	black	971	971	black	INTACT		Positive	< LOD	6.45
129	11/19/2012	13:15	WINDOW trim	WOOD	A	INTACT	black	971	971	black	INTACT		Negative	< LOD	0.03
130	11/19/2012	13:16	DOOR	METAL	A	INTACT	WHITE	971	971	WHITE	INTACT		Negative	< LOD	0.03
131	11/19/2012	13:16	DOOR trim	WOOD	A	PEELING	WHITE	971	971	WHITE	PEELING		Negative	< LOD	0.41
132	11/19/2012	13:17	DOOR trim	WOOD	C	INTACT	black	971	971	black	INTACT		Positive	< LOD	62.7
133	11/19/2012	13:17	DOOR	WOOD	C	PEELING	WHITE	971	971	WHITE	PEELING		Positive	1.2	0.2
134	11/19/2012	13:18	cal-out					971	971				Positive	1.1	0.1
135	11/19/2012	13:19	cal-out					971	971				Positive		

136 11/19/2012 13:19 cal-out

971

Positive

1.2

0.2



Frank J. Zimmerman
Director, Env. Health Div.



LEAD
Risk Assessor

Licensed by:
State of Minnesota
Department of Health
License No. LR2036
Expires 09/20/2013

Kevin P Hagen
7038 Upper 36th St N
Oakdale, MN 55128

Minnesota Department of Health

has authorized

Angstrom Analytical, Inc.

5001 Cedar Lake Rd S

St Louis Park, Minnesota 55416

in accordance with Minnesota Statutes, section 144.9505 and Minnesota Rules, part 4761.2200,
to practice in the State of Minnesota as a

Certified Lead Firm

License No: LF127

Expires 12/08/2012

This certificate is nontransferable.



Linda B. Bruemmer, Director
Division of Environmental Health

11/23/12 ACTIVATED CHARCOAL RADON TEST #6091746

Radon Test Result: 0.6 ±0.1 pCi/L

Test Started 11/15/12 at 11:00 am

Test Ended 11/20/12 at 10:00 am

Closed house conditions maintained during test.

Location Basement

|||||.....|||.....|||.....|||.....|||.....
JULES ATANGANA
971 JENKS AVE
SAINT PAUL, MN 55106-3211

INTERPRETING YOUR TEST RESULT

The US EPA action level for indoor radon is 4.0 pCi/L. The EPA indicates that there is little short-term risk with test results in this range (0.6 to 1.9 pCi/L). However, because radon levels fluctuate daily, as well as seasonally, you may want to retest during another season. Additionally, if you make any structural changes or start to use a lower level of the building more frequently, you should test again.

You may be able to obtain additional information about radon related subjects by contacting your state radon office at "www.health.mn.gov/radonkit" or by calling the "Radon Fix-It Line" at 800-644-6999 Monday thru Friday between NOON and 8PM EST.

This test result reflects the amount of radon measured in this sample AFTER it arrived at our laboratory. All analysis computations are automatically adjusted to reflect the length of test, the amount of moisture in the sample, time from the end of test, and the amount of radiation measured. If ALL the test instructions were carefully followed, then it is reasonable to assume this is an accurate assessment of the average level of the radon this sample was exposed to during the time indicated on the test packet.

READ THIS FIRST

This result has been rounded to one-tenth (0.1) of a pCi/L (picoCurie per liter), the most common method of reporting radon in air.

NEXT...PLEASE...READ

everything under the heading

INTERPRETING YOUR TEST RESULT

Your health risk

The primary health risk from long-term exposure to radon is lung cancer. The risk of developing a lung cancer from radon exposure depends both on how much radon is present and how long you are exposed to radon. The higher the radon level or the longer the time of exposure, even if the levels are relatively low, the greater the risk. Exposures up to 4 pCi/L may present some risk of contracting lung cancer to more sensitive occupants, especially children. Recently the US Congress set as a goal the lowering of radon levels in buildings to equal the levels of outside air.

What is a picoCurie

For those interested in the numbers, a picoCurie is 0.000,000,000,001 (one-trillionth) of a Curie, an international measurement unit of radioactivity. One pCi/L means that in one liter of air there will be 2.2 radioactive disintegrations each minute. For example, at 4 pCi/L there will be approximately 12,672 radioactive disintegrations in one liter of air, during a 24-hour period.

Conducting Follow-up Measurements

USEPA protocol describes two general types of radon measurements: short-term tests conducted from 48 hours up to 90 days, and long-term tests that last from 90 to 365 days. Your first test (initial/screening) should be a short-term 'worst-case' screening to see if there is a potential for high exposure to radon. Screening tests should be conducted under closed-building conditions, in the lowest lived-in area in the house, because the highest concentrations of radon will usually be found in a room closest to the underlying soil. Tests made under these conditions are less likely to miss a house with a potential for high concentrations. On the other hand, if the results of worst-case screening tests are very low, there is a high probability that the average annual concentrations in the house are also low.

* Your state has designated a radon officer to assist citizens with questions on radon. Most offer free information on radon and radon reduction techniques, and most keep a list of qualified radon testing and mitigation businesses. Your radon officer can also provide the phone number of your regional USEPA office.

Conducting Follow-up Measurements

The higher your initial (screening) tests, the sooner you should conduct follow-up measurements. The EPA states that you should retest the same location that was tested initially. **For additional or follow-up testing,** make sure at least one test is conducted in the **lowest lived-in level** of the home. Also choose regularly used rooms, such as family rooms, dens, playrooms, or bedrooms. A bedroom on the lower level may be a good choice, because people generally spend the most time in their bedrooms (approximately one-third of the year). If there are children, it may be appropriate to test their rooms or other areas where they spend a lot of time, especially at the lower levels. All short-term follow-up tests **must** be conducted under closed-building conditions. If closed-building conditions cannot be maintained, a long-term measurement conducted under normal living conditions could be used to help estimate average annual exposures.

Tests **should not be conducted** in a kitchen or a bathroom because high humidity, exhaust fans, and other factors can adversely affect the test results. Tests **should not be conducted** in storage areas or laundry rooms, because relatively little time is spent there. Although radon in water may be a contributor to the concentration of airborne radon, radon in air should be **confirmed** before a test for radon in water is performed.

It is recommended that before spending any time or money on radon mitigation, one should conduct multiple (three or more) tests to be certain there is a need. A few more tests will most certainly cost considerably less than any mitigation work.

If follow-up measurements have **confirmed** that the average annual level of radon is equal to or greater than 4 pCi/L, the USEPA recommends that the building or home be mitigated for radon. Consider also that a future buyer is likely to demand that the building pass a radon test before purchasing.

Variations in Radon Levels: what can affect your test results and why it may be important to conduct confirmation tests.

When tests are performed in different seasons or under different weather conditions, the initial screening and follow-up tests may vary considerably. Radon levels can vary significantly between seasons, so different values **are to be expected**. Even during normal

weather, indoor radon levels may rise and fall by a factor of two on a daily cycle; for example, from 5 pCi/L to 10 pCi/L in 24 hours. During rapidly changing or stormy weather, the levels may change more dramatically. Because continual changes in radon levels are considered the norm, expose the testing device for as long as is practical, while following the manufacturer's recommendations. This, of course, provides a better overall average of the measurement.

If you are comparing tests, or are averaging a series of tests, bear in mind that any radon test returns only the average of the levels present during a **specific period of time** at the **precise location** of the test. Conditions during a different test period or at a different location in the building are **expected to be different**.

Test results can also vary if the radon test instructions were not carefully followed. A laboratory measuring radon in samples taken outside the lab **must rely on the person conducting the test**. For example, the wrong starting or ending date of a test will significantly affect the calculated result. The location of each radon test can also influence the result. For example, a test placed in the blowing air stream of a fan is likely to collect more radon than it would under normal conditions. Also, three tests conducted in one home, but in three different rooms, **would be expected to have at least slightly different test results**.

Test results from a properly used activated charcoal test will more closely reflect the average radon concentrations over the last three to five days of the test period. This happens because the radon collected by the activated charcoal has a radioactive half-life of only four days. This means, for example, over one-half of the radon collected during the first three days of a seven day test 'died' before the test ended. Seven day exposures of activated charcoal test devices are suggested because this allows the charcoal to equilibrate with its environment, averaging out the peaks and valleys that normally occur in real-life radon levels. Also the aspect of user convenience is considered, because most find it easier to remember to end a test on the same day of the week it was started.

If you have further questions regarding this test or need advice on follow-up testing, call fax or write to our technical service department listed below. Thank you for choosing the Air Chek test device.

PERFORMING RADON TESTS FOR A REAL ESTATE TRANSACTION

EPA guidelines recommend that at least two short-term tests should be conducted, either together or sequentially, at the same location in the building. If the average of all the tests is below 4 pCi/L, then no further action is necessary at this time. It is **highly recommended** that any property transaction tests be conducted by a **non-interested third party**. To locate a listed or certified radon tester, contact your state or regional EPA radon office or visit our website at <http://www.radon.com> to download a list of NEHA-certified testers. Ask for or download publication number EPA 402-K-00-008 **Home Buyer's and Seller's Guide to Radon**.

Limitation of Liability: While we at Air Chek, Inc. make every effort to maintain the highest possible quality control and include several checks and verification steps in our procedures, we make **NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS** with respect to any item furnished, information supplied or services rendered you by Air Chek, Inc. Before any action is taken on the basis of test results given to you by Air Chek, Inc. we recommend that further testing be done. Neither Air Chek, Inc., nor any of our employees or agents, shall be liable under any claim, charge, or demand, whether in contract, tort or otherwise, for any and all losses, costs, charges, claims, demands, fees, expenses, injuries or damages (including without limitation **INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH ARE EXCLUDED**) of any nature or kind arising out of, connected with, resulting from, or sustained as a result of any item furnished, information supplied, or service rendered to you by Air Chek, Inc.

Notice to Pennsylvania Residents: The Radon Certification Act requires that anyone who provides any radon-related service or product to the general public must be certified by the Pennsylvania Department of Environmental Protection. You are entitled to evidence of certification from any person who provides such services or products. You are also entitled to a price list for services or products offered. All radon measurement data will be sent to the Department as required in the Act and will be kept confidential. If you have any questions, comments, or complaints concerning persons who provide radon-related services, please contact the Department of Environmental Protection, P.O. Box 8469, Harrisburg, PA 17105-8469 (717-783-4594).

The radon test kit(s) used for this report is certified by the NEHA-NRPP, Lab ID: 101138, for use in all fifty states. It is also listed or certified for use in all states that have a radon program.

For technical information, call (828) 684-0893. Office hours are Mon-Fri 8:30 to 5:30 EASTERN
You can reach us by Fax at (828) 684-8498 or write to Air Chek, Inc., Box 2000, Naples, NC 28760
Web Site: <http://www.radon.com> **Email to:** info@radon.com

11/23/12 ACTIVATED CHARCOAL RADON TEST #6091736

Radon Test Result: 0.6 ±0.2 pCi/L

Test Started 11/15/12 at 11:00 am

Test Ended 11/20/12 at 10:00 am

Closed house conditions maintained during test.

Location Basement



**JULES ATANGANA
971 JENKS AVE
SAINT PAUL, MN 55106-3211**

INTERPRETING YOUR TEST RESULT

The US EPA action level for indoor radon is 4.0 pCi/L. The EPA indicates that there is little short-term risk with test results in this range (0.6 to 1.9 pCi/L). However, because radon levels fluctuate daily, as well as seasonally, you may want to retest during another season. Additionally, if you make any structural changes or start to use a lower level of the building more frequently, you should test again.

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READ THIS FIRST

This result has been rounded to one-tenth (0.1) of a pCi/L (picoCurie per liter), the most common method of reporting radon in air.

NEXT...PLEASE...READ

everything under the heading

INTERPRETING YOUR TEST RESULT

Your health risk

The primary health risk from long-term exposure to radon is lung cancer. The risk of developing a lung cancer from radon exposure depends both on how much radon is present and how long you are exposed to radon. The higher the radon level or the longer the time of exposure, even if the levels are relatively low, the greater the risk. Exposures up to 4 pCi/L may present some risk of contracting lung cancer to more sensitive occupants, especially children. Recently the US Congress set as a goal the lowering of radon levels in buildings to equal the levels of outside air.

What is a picoCurie

For those interested in the numbers, a picoCurie is 0.000,000,000,001 (one-trillionth) of a Curie, an international measurement unit of radioactivity. One pCi/L means that in one liter of air there will be 2.2 radioactive disintegrations each minute. For example, at 4 pCi/L there will be approximately 12,672 radioactive disintegrations in one liter of air, during a 24-hour period.

Conducting Follow-up Measurements

USEPA protocol describes two general types of radon measurements: short-term tests conducted from 48 hours up to 90 days, and long-term tests that last from 90 to 365 days. Your first test (initial/screening) should be a short-term 'worst-case' screening to see if there is a potential for high exposure to radon. Screening tests should be conducted under closed-building conditions, in the lowest lived-in area in the house, because the highest concentrations of radon will usually be found in a room closest to the underlying soil. Tests made under these conditions are less likely to miss a house with a potential for high concentrations. On the other hand, if the results of worst-case screening tests are very low, there is a high probability that the average annual concentrations in the house are also low.

* Your state has designated a radon officer to assist citizens with questions on radon. Most offer free information on radon and radon reduction techniques, and most keep a list of qualified radon testing and mitigation businesses. Your radon officer can also provide the phone number of your regional USEPA office.

Conducting Follow-up Measurements

The higher your initial (screening) tests, the sooner you should conduct follow-up measurements. The EPA states that you should retest the same location that was tested initially. **For additional or follow-up testing,** make sure at least one test is conducted in the **lowest lived-in level** of the home. Also choose regularly used rooms, such as family rooms, dens, playrooms, or bedrooms. A bedroom on the lower level may be a good choice, because people generally spend the most time in their bedrooms (approximately one-third of the year). If there are children, it may be appropriate to test their rooms or other areas where they spend a lot of time, especially at the lower levels. All short-term follow-up tests **must** be conducted under closed-building conditions. If closed-building conditions cannot be maintained, a long-term measurement conducted under normal living conditions could be used to help estimate average annual exposures.

Tests **should not be conducted** in a kitchen or a bathroom because high humidity, exhaust fans, and other factors can adversely affect the test results. Tests **should not be conducted** in storage areas or laundry rooms, because relatively little time is spent there. Although radon in water may be a contributor to the concentration of airborne radon, radon in air should be **confirmed** before a test for radon in water is performed.

It is recommended that before spending any time or money on radon mitigation, one should conduct multiple (three or more) tests to be certain there is a need. A few more tests will most certainly cost considerably less than any mitigation work.

If follow-up measurements have **confirmed** that the average annual level of radon is equal to or greater than 4 pCi/L, the USEPA recommends that the building or home be mitigated for radon. Consider also that a future buyer is likely to demand that the building pass a radon test before purchasing.

Variations in Radon Levels: what can affect your test results and why it may be important to conduct confirmation tests.

When tests are performed in different seasons or under different weather conditions, the initial screening and follow-up tests may vary considerably. Radon levels can vary significantly between seasons, so different values **are to be expected**. Even during normal

weather, indoor radon levels may rise and fall by a factor of two on a daily cycle; for example, from 5 pCi/L to 10 pCi/L in 24 hours. During rapidly changing or stormy weather, the levels may change more dramatically. Because continual changes in radon levels are considered the norm, expose the testing device for as long as is practical, while following the manufacturer's recommendations. This, of course, provides a better overall average of the measurement.

If you are comparing tests, or are averaging a series of tests, bear in mind that any radon test returns only the average of the levels present during a **specific period of time** at the **precise location** of the test. Conditions during a different test period or at a different location in the building are **expected to be different**.

Test results can also vary if the radon test instructions were not carefully followed. A laboratory measuring radon in samples taken outside the lab **must rely on the person conducting the test**. For example, the wrong starting or ending date of a test will significantly affect the calculated result. The location of each radon test can also influence the result. For example, a test placed in the blowing air stream of a fan is likely to collect more radon than it would under normal conditions. Also, three tests conducted in one home, but in three different rooms, **would be expected to have at least slightly different test results**.

Test results from a properly used activated charcoal test will more closely reflect the average radon concentrations over the last three to five days of the test period. This happens because the radon collected by the activated charcoal has a radioactive half-life of only four days. This means, for example, over one-half of the radon collected during the first three days of a seven day test 'died' before the test ended. Seven day exposures of activated charcoal test devices are suggested because this allows the charcoal to equilibrate with its environment, averaging out the peaks and valleys that normally occur in real-life radon levels. Also the aspect of user convenience is considered, because most find it easier to remember to end a test on the same day of the week it was started.

If you have further questions regarding this test or need advice on follow-up testing, call fax or write to our technical service department listed below. Thank you for choosing the Air Chek test device.

PERFORMING RADON TESTS FOR A REAL ESTATE TRANSACTION

EPA guidelines recommend that at least two short-term tests should be conducted, either together or sequentially, at the same location in the building. If the average of all the tests is below 4 pCi/L, then no further action is necessary at this time. It is **highly recommended** that any property transaction tests be conducted by a **non-interested third party**. To locate a listed or certified radon tester, contact your state or regional EPA radon office or visit our website at <http://www.radon.com> to download a list of NEHA-certified testers. Ask for or download publication number EPA 402-K-00-008 **Home Buyer's and Seller's Guide to Radon**.

Limitation of Liability: While we at Air Chek, Inc. make every effort to maintain the highest possible quality control and include several checks and verification steps in our procedures, we make **NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS** with respect to any item furnished, information supplied or services rendered you by Air Chek, Inc. Before any action is taken on the basis of test results given to you by Air Chek, Inc. we recommend that further testing be done. Neither Air Chek, Inc., nor any of our employees or agents, shall be liable under any claim, charge, or demand, whether in contract, tort or otherwise, for any and all losses, costs, charges, claims, demands, fees, expenses, injuries or damages (including without limitation **INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH ARE EXCLUDED**) of any nature or kind arising out of, connected with, resulting from, or sustained as a result of any item furnished, information supplied, or service rendered to you by Air Chek, Inc.

Notice to Pennsylvania Residents: The Radon Certification Act requires that anyone who provides any radon-related service or product to the general public must be certified by the Pennsylvania Department of Environmental Protection. You are entitled to evidence of certification from any person who provides such services or products. You are also entitled to a price list for services or products offered. All radon measurement data will be sent to the Department as required in the Act and will be kept confidential. If you have any questions, comments, or complaints concerning persons who provide radon-related services, please contact the Department of Environmental Protection, P.O. Box 8469, Harrisburg, PA 17105-8469 (717-783-4594).

The radon test kit(s) used for this report is certified by the NEHA-NRPP, Lab ID: 101138, for use in all fifty states. It is also listed or certified for use in all states that have a radon program.

For technical information, call (828) 684-0893. Office hours are Mon-Fri 8:30 to 5:30 EASTERN
You can reach us by Fax at (828) 684-8498 or write to Air Chek, Inc., Box 2000, Naples, NC 28760
Web Site: <http://www.radon.com> **Email to:** info@radon.com

Neighborhood Energy Connection

Residential Energy Specification

Customer: City of Saint Paul

Auditor: Michael Childs

Address: 971 Jenks Avenue

Phone: 651-221-4462 x145

Spec ID#	Spec Title	Specification	Location / Notes
104	Replace Furnace with 95%+ AFUE, Multi-stage, Forced Air Furnace	Remove existing furnace, recycle all metal components and dispose of all other materials in a code legal dump. Install a new ENERGY STAR rated, gas-fired, multi-stage burner, forced air furnace with a minimum AFUE rating of 95%+ and ECM Motor with 2" rise above floor. Connect to existing duct work and gas line. New furnace to be vented with PVC piping per manufacturer's specifications. New furnace will have minimum limited warranties of 20 years on heat exchangers; 5 years on parts. Include auto setback thermostat controls, vent pipe & new shut-off valve. Rework cold air return if necessary to ensure easy access, good fit & easy replacement of air filter. An exterior return air filter box shall be installed on one side, both sides or bottom of new furnace. Seal all exposed duct joints with duct mastic. Remove all existing cloth duct tape prior to installing mastic.	
302	Replace Water Heater with Power Vented .67 EF	Replace water heater with a power-vented water heater with an EF of .67. Include pressure & temperature release valve, discharge tube to within 6" of floor and PVC flue to power	

		vent to exterior.	
310	Install Central Air Conditioning Unit	Install 16 SEER split system central air conditioning unit, following local building code. Using OEM performance information and industry-approved procedures, confirm that the selected equipment satisfies/meets the load requirements at the system design conditions.	
500	Seal Attic Bypasses	Contractor shall seal all attic bypasses. Bypasses shall be defined as any break in the envelope of a house between a heated living space and an unheated area or exterior. Bypass locations include, but are not limited to, the following areas: chimneys, soil stacks, end walls, dropped ceilings, open plumbing walls, beneath knee walls and around duct work, electrical work and attic access points. Bypasses shall be sealed in such a manner that the movement of air through the bypass is essentially stopped. "Essentially stopped" means that air leakage will not be detected by an infrared scan when the house is pressurized to 30 Pascals. Materials to be used for sealing bypasses depend on the size and location of the bypass and meet code requirements. These materials include high quality caulks (20-year life span), polyethylene rod stock, foam, sheetrock, sheet metal, extruded polystyrene and densely packed insulation.	
502	Dense Pack Below Floor and blow above floor to R-50	All bypasses shall be sealed before insulating in such a manner that the movement of air through the bypass is essentially stopped. Floored attics shall be blown below floorboards using the Dense Pack Method to a minimum density 3.5 lbs/ft ³ . Blow above floorboards to bring below and above	2 x 6 floored cavity is mostly filled.

		total to R-50 or more.	
532	Build Dam, insulate and weather strip attic hatch	Access hatch door to attic shall be insulated to R-44 and insulation dam constructed around opening. Opening shall be weather stripped to provide a tight seal.	I recommend taking out existing stairs.
616	Wall insulation - Interior Application: Dense Pack Cellulose	Exterior walls insulated from inside the house shall be drilled through to provide access. Determine cavities are free of hazards and can support dense packing pressures, locate drilling hazards, control dust when drilling from interior. Completely fill each cavity to a consistent density. Dense pack cellulose to a minimum density of 3.5 lbs./ft ³ or dense pack spider fiberglass per manufacturer's instructions. Follow all applicable Lead Safe Work Practices as per the EPA's RRP Rules.	Walls have blown mineral wool – reinsulate as needed during rehab.
800	Air Seal Rim Joist	Seal cracks and holes in rim joist using caulk, foam or other air tight materials.	
912	Insulate crawl space walls	Install poly on the ground. Affix 2" rigid board (Thermax) insulation with minimum R-value of 7 per inch. Alternately, apply two-part foam evenly and consistently according to manufacturer's instructions to insulate to R-10. Follow applicable code requirements.	
1000	Install ENERGY STAR Rated Kitchen Fan	Install an ENERGY STAR rated exhaust fan connected with insulated rigid ductwork into a dampered vent.	
1010	Install ENERGY STAR Rated 2-stage Bathroom Fan	Install an ENERGY STAR rated two-speed bathroom fan .8 sones or less, with a pre-set low-speed of 10-30 CFM and a high-speed boost capability of 70-110 CFM initiated by a wall	

		switch or motion detector. Vent bathroom fan using rigid duct and insulated with fiberglass and vented out with dampered roof vent.	
1200	Replace incandescents with CFLs	Replace incandescent bulbs with ENERGY STAR rated compact fluorescent lights. Install fixtures that meet the lighting needs of the particular area.	
1210	Install ENERGY STAR Rated Washing Machine	Connect new ENERGY STAR rated clothes washer sized appropriately for the household. Use braided steel water supply lines and a smooth rubber drain line connected to a 2 inch drain with trap. Remove existing washer, recycle all metal components and dispose of all other materials in a code legal dump.	
1214	Install ENERGY STAR Rated Refrigerator	Install ENERGY STAR rated refrigerator sized appropriately for the household. Remove existing refrigerator, recycle all metal components and dispose of all other materials in a code legal dump.	

Home Energy Rating Certificate

971 Jenks Ave E
Saint Paul, MN 55106



**3 Stars Plus
As Is**

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70 or Less

Energy Efficient

HERS Index: 147

General Information

Conditioned Area: 2610 sq. ft.
Conditioned Volume: 19930 cubic ft.
Bedrooms: 4

House Type: Single-family detached
Foundation: More than one type

Mechanical Systems Features

Heating: Fuel-fired air distribution, Natural gas, 80.0 AFUE.
Water Heating: Conventional, Natural gas, 0.59 EF, 40.0 Gal.

Duct Leakage to Outside: RESNET/HERS default
Ventilation System: None
Programmable Thermostat: Heating: No Cooling: No

Building Shell Features

Ceiling Flat: R-19
Vaulted Ceiling: NA
Above Grade Walls: R-0
Foundation Walls: R-0.0
Slab: R-0.0 Edge, R-0.0 Under

Exposed Floor: R-0
Window Type: S W Op (w/St)

Infiltration:
Rate: Htg: 3335 Clg: 3335 CFM50
Method: Blower door test

Lights and Appliance Features

Percent Interior Lighting: 0.00
Percent Garage Lighting: 0.00
Refrigerator (kWh/yr): 691.00
Dishwasher Energy Factor: 0.46

Range/Oven Fuel: Natural gas
Clothes Dryer Fuel: Natural gas
Clothes Dryer EF: 2.67
Ceiling Fan (cfm/Watt): 0.00

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.99

This information does not constitute any warranty of energy cost or savings.

© 1985-2012 Architectural Energy Corporation, Boulder, Colorado.

Registry ID:

Rating Number:

Certified Energy Rater: Michael Childs

Rating Date: 11/12/12

Rating Ordered For: City of Saint Paul

Estimated Annual Energy Cost

Use	As Is		
	MMBtu	Cost	Percent
Heating	256.8	\$2383	68%
Cooling	0	\$0	0%
Hot Water	23.6	\$213	6%
Lights/Appliances	31.4	\$704	20%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$180	5%
Total		\$3479	100%

This home meets or exceeds the minimum criteria for all of the following:

TITLE

Company

Address

City, State, Zip

Phone #

Fax #

Home Energy Rating Certificate

971 Jenks Ave E
Saint Paul, MN 55106



**5 Stars Plus
Projected Rating**

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70 or Less

Energy Efficient

HERS Index: 70

General Information

Conditioned Area: 2610 sq. ft.
Conditioned Volume: 19930 cubic ft.
Bedrooms: 4

House Type: Single-family detached
Foundation: More than one type

Mechanical Systems Features

Heating: Fuel-fired air distribution, Natural gas, 96.0 AFUE.
Water Heating: Conventional, Natural gas, 0.67 EF, 40.0 Gal.
Cooling: Air conditioner, Electric, 16.0 SEER.
Duct Leakage to Outside: 66.00 CFM.
Ventilation System: Exhaust Only: 64 cfm, 15.0 watts.
Programmable Thermostat: Heating: Yes Cooling: Yes

Building Shell Features

Ceiling Flat: R-50
Vaulted Ceiling: NA
Above Grade Walls: R-13
Foundation Walls: R-0.0, R-10.0
Slab: R-0.0 Edge, R-0.0 Under

Exposed Floor: NA
Window Type: NFRC .35 / .32

Infiltration:
Rate: Htg: 2335 Clg: 2335 CFM50
Method: Blower door test

Lights and Appliance Features

Percent Interior Lighting: 90.00
Percent Garage Lighting: 0.00
Refrigerator (kWh/yr): 691.00
Dishwasher Energy Factor: 0.46

Range/Oven Fuel: Natural gas
Clothes Dryer Fuel: Natural gas
Clothes Dryer EF: 2.67
Ceiling Fan (cfm/Watt): 0.00

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.99

This information does not constitute any warranty of energy cost or savings.

© 1985-2012 Architectural Energy Corporation, Boulder, Colorado.

Registry ID:

Rating Number:

Certified Energy Rater: Michael Childs

Rating Date: 11/12/12

Rating Ordered For: City of Saint Paul

Estimated Annual Energy Cost

Projected Rating

Use	MMBtu	Cost	Percent
Heating	103.4	\$946	48%
Cooling	1.6	\$47	2%
Hot Water	21.2	\$191	10%
Lights/Appliances	27.3	\$596	30%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$180	9%
Total		\$1960	100%

**This home meets or exceeds the minimum
criteria for all of the following:**

TITLE

Company

Address

City, State, Zip

Phone #

Fax #

SECTION 00 0101
HRA PROJECT TITLE PAGE

HRA SPECIFICATION FOR 971 JENKS AVENUE

JANUARY X, 2013

**INVEST SAINT PAUL INITITIVE
NEIGHBORHOOD STABILIZATION PROGRAMS
AND REBUILDING PLAN 2009-2013**

OWNER

The Housing and Redevelopment Authority of Saint Paul, Minnesota

25 West Fourth Street, Suite 1100

Saint Paul, MN 55102

Marty McCarthy – Project Manager

(651) 266-6552

Marty.McCarthy@ci.stpaul.mn.us

HRA SCOPE WRITER

Lunning Wende Associates, Inc.

275 East Fourth Street, Suite 620

Saint Paul, MN 55101

Scott Wende, AIA

(651) 221-0915

scott@lunningwende.com

HRA Construction Manager

Spero Properties, LLC

475 Cleveland Ave. N.

Saint Paul, MN 55104

Jill Welda

651.646.0659

Jill@sperorebuilt.com

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**SECTION 00 4002
HRA BID INVITATION**

PART 1 GENERAL

1.01 CONTACT TRANSLATION

- A. In Hmong - Ceeb toom. Yog koj xav tau kev pab txhais cov xov no rau koj dawb, Amy Filice 651-266-6568;
- B. In Spanish - Atención. Si desea recibir asistencia gratuita para traducir esta información, llame a Amy Filice 651-266-6568;
- C. In Somali - Ogow. Haddii aad dooneyso in lagaa kaalmeeyo tarjamadda macluumaadkani oo lacag la' aan wac, Amy Filice 651-266-6568.

1.02 PROJECT SUMMARY

- A. Project description: This is a Residential Renovation project located at 775 Magnolia Avenue East. This project is funded by Neighborhood Stabilization Program through the The Housing and Redevelopment Authority of Saint Paul, Minnesota. This project is not required to conform to Federal and/or Little Davis Bacon requirements.

1.03 NOTICE TO PROSPECTIVE BIDDERS

- A. These documents constitute an invitation to bid to General Contractors for the construction of the project described within this bid manual.

1.04 OWNERSHIP INFORMATION

- A. The Owner, The Housing and Redevelopment Authority of Saint Paul, Minnesota, hereinafter, referred to as Owner.
- B. Owner's Project Manager: Marty McCarthy
Address: 25 West Fourth Street, Saint Paul, MN 55102, Suite 1200
Phone Number: (651) 266-6552
Email: Marth.McCarthy@ci.stpaul.mn.us

1.05 OWNER'S CONSULTANT(S)

Owner's Project Specification Consultant: Lunning Wende Associates, Inc.

- 1. Specification Writer's Name: Scott Wende, AIA
 - 2. Address: 275 East Fourth Street, Suite 620, Saint Paul, MN 55101
 - 3. Phone Number: 651.221.0915
Email: scott@lunningwende.com
- A. Owner's Construction Manager Consultant: Spero Properties, LLC
 - 1. Construction Manager: Jill Welda
 - 2. Address: 475 Cleveland Ave. N., Saint Paul, MN 55104
 - 3. Phone: (651) 646.0659
 - 4. Email: Jill@sperorebuilt.com

1.06 IMPORTANT BID DATES

- A. Bids Issued: October 12, 2012
- B. Mandatory Pre-Bid Site Tour: Thursday, October 18, 2012 from 9:00 am to 10:30 am
- C. **BID DUE DATE ON OR BEFORE:** November 2, 2012 no later than Insert time 2:00 PM local time.
- D. Bid Delivery Location: The offices of The Housing and Redevelopment Authority of Saint Paul, Minnesota
Address: 25 West Fourth Street, Saint Paul, MN 55102, Suite 1100
Bid Opening at 2:15 pm
- E. Public Bid Opening and Location: The Housing and Redevelopment Authority of Saint Paul, Minnesota

Address: 25 West Fourth Street, Saint Paul, MN 55102, Suite 1100
Suite: 1100

- F. Executed Contract: Within 30 days of the bid award.
- G. Construction Start Date (Approximate): ASAP after contract execution
- H. Construction Completion Date: 120 days from the time of issued Notice to Proceed.

1.07 RIGHTS RESERVED BY THE OWNER

- A. The Owner reserves the right to:
 - 1. Reject all bids received in response to this Bid Invitation, and at the Owner's discretion, issue a new Bid Invitation.
 - 2. Amend any portion of this Bid Invitation and disseminate such amendments to potential bidders in the same manner as the original Bid Invitation (eg newspaper, online posting). Bidders will be responsible for meeting the requirements of all amendments.
 - 3. Waive any minor irregularities in bids received.
 - 4. Disapprove any subcontractor proposed to be used by a bidder based on the subcontractor not being a responsible subcontractor and/or being on a debarment list.
 - 5. Select more than one bidder to perform various elements of the Project.

END OF BID INVITATION

SECTION 00 4003
HRA INSTRUCTIONS FOR BIDDERS

PART 1 GENERAL BID DIRECTIONS

1.01 Each Bidder shall fully inform him / herself and any subcontractors prior to bidding as to all existing conditions and limitations including compliance requirements under which the work is to be performed and shall include in the bid a sum to cover the cost of all items necessary to perform the work as set forth in the Bid Project Manual. The submission of a bid shall be construed as conclusive evidence that the Bidder has made such examination.

1.02 Bid Forms

- A. The Bid Submission forms are available online at <http://www.stpaul.gov/nsp>.
- B. Each bid must be submitted on the Bid Submission forms identified in the provided checklist. It is expected that the Contractor retain a copy of their entire submittal for their records. The copy of the bid submitted must be signed at every place that a signature is requested.

1.03 Corrections

- A. Erasures or other changes in the bid must be dated and initialed over the signature of the bidder.

1.04 Bid Envelope

- A. Place bid in envelope with the contractor name and address in the upper left-hand corner as the return address, and list the property address in the middle of the envelope as the addressee. Seal envelope.

1.05 Interpretations of Scope of Work

- A. Every request for an interpretation shall be in writing, unless otherwise documented by the Specification Writer. Questions will be taken until 3 days before bids are due.
- B. Interpretations will be in the form of an addenda which will be on file at the website, and in the offices of the Specification Writer at least three calendar days before bids are opened.
- C. It shall be the bidder's responsibility to make inquiry as to addenda issued.
 - 1. All such addenda shall become a part of the contract and all bidders shall be bound by such addenda.

1.06 Conflict with Documents

- A. When a conflict arises between the Drawings or the Scope of Work, the Drawings shall govern.

1.07 Materials Approved:

- A. Where items of equipment and material are specifically identified herein by a trade name, model or catalog number, only such specified items may be used in the base bid.
- B. Contractors desiring approval of substitute products may submit data cut sheets and product information for approval during the bidding cycle.
- C. Contractors will be notified only by addendum of additional approved products.
- D. Material identifications made in work specifications are considered as minimal quality for acceptance in bidding and installation.

1.08 Allowances:

- A. The Contractor shall include in the bid proposal the cash allowances listed.
- B. Unless otherwise indicated, the lump sum amount shall be for the material / product.
- C. Labor to install the material / product must be submitted separately.

1.09 Alternates:

- A. The Contractor must submit bids for each alternate listed in the Alternates List.
- B. If pricing is not listed for Alternates the bid may be disqualified.

1.10 Time for Receiving Bids:

- A. Bids are to be delivered to the HRA's office.
- B. Bids received prior to the time of opening will be securely kept.
- C. Bids received by phone or fax will not be considered.
- D. Modification of bids already submitted will be considered if received prior to the hour set for receiving the bids and written confirmation of such modification - with the signature of the bidder - is placed in the mail and postmarked and / or delivered to the HRA prior to the time set for bid opening.

1.11 Opening of Bids:

- A. At the time and place fixed for the opening of bids, every bid received within the time fixed for receiving bids will be opened irrespective of any irregularities.
- B. The opening of the bids will be an "open process" (open to the public).

1.12 Withdrawal of Bids:

- A. Bids may be withdrawn in writing, by phone, or by fax prior to the time fixed for opening; provided that written confirmation of any phoned or faxed withdrawal is placed in the mail and postmarked and / or delivered prior to the time set for bid opening.
- B. Negligence on the part of the bidder in preparing their bid confers no right of withdrawal or modification of his bid after such bid has been opened.

PART 2 BID ANALYSIS PROCESS

2.01 Contractor Selection Date: Earliest Practical Date

- A. This project is funded by the Neighborhood Stabilization Program (NSP), a federal stimulus program created to rehabilitate vacant housing or construct new housing on vacant lots within targeted areas of the City of Saint Paul.
- B. The Housing and Redevelopment Authority of Saint Paul, Minnesota reserves the right to check the qualifications of contractors for each project; previous experience working on projects with the The Housing and Redevelopment Authority of Saint Paul, Minnesota, will not automatically deem a contractor qualified.

2.02 Minimum Contractor Qualifications

- A. Please note the following minimum qualifications that apply to all bidders:
 - 1. **Quality Workmanship and Qualifications**
 - a. Three references from jobs with similar work (include on Contractor Qualification form)
 - b. Two financial references (included on Contractor Qualification Form)
 - c. At least 2 years of experience as a General Contractor (HRA will verify)
 - d. Review of standing with Secretary of State, Federal Excluded Parties list, City of Saint Paul Debarment list, Department of Labor and Industry, Better Business Bureau (HRA will verify)
 - e. Houses with historic features or located within a historic district may require demonstration of quality workmanship for historic renovation at the discretion of HRA staff.
 - 2. **Financial Capacity**
 - a. Demonstrated ability to pay two months of construction costs for each project awarded (these amounts are added together if more than one project is under construction). Financial capacity documentation must be in the name of the General Contractors organization or the principal of that organization.
 - 1) For a 120 day project, the contractor shall demonstrate the ability to pay 50% of bid amount.
 - 2) For a 90 day project, the contractor shall demonstrate the ability to pay 65% of the bid amount.
 - 3) Demonstration of capacity can be in the form of:

- (a) Line of credit from banking or lending institution
 - (b) Cash balances from banking or lending institution
3. **Ability to Perform**
 - a. Up-to-date submittals to Affirmative Action, Section 3, and Vendor Outreach programs.
 - b. Adherence to timelines confirmed from professional references.
 - c. Use of certified subcontractors for environmental remediation including:
 - 1) Insulation: contractor must be on Xcel Energy approved contractor list
 - 2) Asbestos: contractor must be certified for asbestos removal by the State of Minnesota
 - 3) Lead: either general contractor or subcontractor must be certified for lead abatement by the State of Minnesota
 - 4) Radon: contractor must be on Minnesota Department of Health approved radon mitigation list.
 4. **Bid Award Policy**
 - a. Contractors that meet the criteria for qualification above, yet have not worked with The Housing and Redevelopment Authority of Saint Paul, Minnesota on a Neighborhood Stabilization Program project previously will initially be awarded one house, even if the contractor is low bidder for more than one house.
 - b. Once the contractor demonstrates quality workmanship, financial capacity, and ability to perform timely completion, they may be awarded more than one house at the same time for subsequent bids on a case-by-case basis.
 5. **Other Qualifications**
 - a. Each property has its own unique characteristics and challenges. Variables include items relating to environmental conditions, historic nature of structures, etc.
 - b. Depending on the specific property, there may be other qualifications needed by the bidder which will be specified by the HRA in its request for bids.

PART 3 POST AWARD REQUIREMENTS

3.01 CONSTRUCTION CONTRACT REQUIREMENTS

- A. The bidder agrees that, if selected by the HRA, the bidder will enter into a contract with the HRA no later than 30 calendar days from bid award and will submit the following information to the HRA as a condition to entering into that contract; refer to Bid Rehab Manual for attachments:
 1. Certificates of Insurance as required by the Construction Contract and proof of Insurance and Bonding.
 2. Final Sworn Construction Statement Affidavit and Sworn Construction Statement that list contractors, material suppliers, and subcontractors, who will work under the contract and the cost of their work.
 3. Proof of a valid license as a Residential builder in the State of Minnesota and proof of valid licenses as required by the City of Saint Paul for work to be done.
 4. Bidders may be required to submit payment and performance bonds as a condition of the construction contract. Verify with Scope Writer prior to submitting bid.
 5. Proof of compliance with requirements attached for Affirmative Action, Vendor Outreach Program, and Section 3, including an Acknowledgement and Final Section 3 Action Plan.
 6. **Construction Schedule must be submitted to the Dayton's Bluff Neighborhood Housing Services to enter into the Contract.**
- B. Attendance of a Pre-Construction Conference
 1. The selected Contractor and all Subcontractors will be required to attend a Pre-Construction Conference.
 2. **Time, date, and place of the Pre-Construction Conference will be announced by the Spero Properties, LLC and/or HRA.**
- C. Computerized System for Compliance Tracking and Reporting:

1. The Contractor is required to use the B2Gnow/LCPtracker reporting system. Refer to attachment.

PART 3 WAGE REQUIREMENTS

4.01 The following are wage requirements associated with this Projects

- A. Federal Davis-Bacon and/or Little Davis-Bacon Wages are not required for this project.

END OF SECTION

**SECTION 00 4101
HRA BID SUBMISSION DOCUMENTS**

SECTION 1 GENERAL

1.01 BID SUBMISSION DOCUMENTS, located at <http://www.stpaul.gov/nsp>

- A. Bid Submittal Checklist
- B. Bid Cover Sheet
- C. Bid Proposal and Non-Collusive Affidavit
- D. Preliminary Section-3 Action Plan
- E. Contractor Application / Statement of Qualifications
- F. Itemized Cost Breakdown and Scope of Work Bid (Section 004102)

END OF SECTION

**SECTION 00 4102
HRA LINE ITEM BID SHEET**

PART 1 MANUAL BID SHEET - LINE ITEM BREAKDOWN OF WORK

DIVISION 01 - GENERAL REQUIREMENTS

DIVISION 02 - EXISTING CONDITIONS

024100 - Demolition	\$ _____
028200 - Asbestos Remediation	\$ _____
028313 - Lead Hazard Control Activities	\$ _____

DIVISION 03 - CONCRETE

030100 - Maintenance of Concrete	\$ _____
033000 - Cast in Place Concrete	\$ _____

DIVISION 04 - MASONRY

040100 - Maintenance of Masonry	\$ _____
042300 - Glass Unit Masonry	\$ _____

DIVISION 05 - METALS

057300 - Decorative Metal Railings	\$ _____
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DIVISION 06 - WOOD, PLASTICS AND COMPOSITES

061000 - Rough Carpentry	\$ _____
062000 - Finish Carpentry	\$ _____

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

072119 - Foamed-In-Place Insulation	\$ _____
072126 - Blown Insulation	\$ _____
072500 - Weather Barriers	\$ _____
072700 - Air Barrier System	\$ _____
073113 - Asphalt Shingles	\$ _____
076200 - Sheet Metal Flashing and Trim	\$ _____
077123 - Manufactured Gutters and Downspouts	\$ _____

DIVISION 08 - OPENINGS

081100 - Exterior Insulated Metal Doors and Frames	\$ _____
081429 - Wood Doors	\$ _____
082550 - Attic Access Door	\$ _____
083323 - Overhead Garage Door	\$ _____
085200 - Wood Windows	\$ _____
085313 - Vinyl Windows	\$ _____

DIVISION 09 - FINISHES

090120 - Repair of Plaster and Gypsum Board	\$ _____
090160 - Hardwood Flooring Restoration	\$ _____
092116 - Gypsum Board Assemblies	\$ _____
093000 - Tiling	\$ _____
096219 - Laminate Flooring	\$ _____
099000 - Painting and Coating	\$ _____

DIVISION 10 - SPECIALTIES

105623 - Closet Storage Shelving \$ _____

DIVISION 11 - EQUIPMENT

113100 - HRA Residential Appliances \$ _____

DIVISION 12 - FURNISHINGS

121110 - HRA Mail Box and House Numbers \$ _____

121111 - Bathroom Furnishings \$ _____

123530 - Residential Casework \$ _____

DIVISION 22 - PLUMBING

223000 - Plumbing Equipment \$ _____

224000 - Plumbing Fixtures and Piping \$ _____

DIVISION 23 - HEATING, VENTILATING AND AIR CONDITIONING

230000 – Residential Ventilation \$ _____

235400 – Forced Air Furnace and Ducts \$ _____

236213 – Forced Air AC \$ _____

DIVISION 26 - ELECTRICAL

261001 - Power, Wiring and Devices \$ _____

265101 - HRA Lighting \$ _____

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

281600 - Intrusion Detection \$ _____

DIVISION 31 - EARTHWORK

312200 - Grading \$ _____

DIVISION 32 - EXTERIOR IMPROVMENTS

321313 - Concrete Paving \$ _____

323129 – Wood Fences and Gates \$ _____

329223 - Sodding \$ _____

329300 - Planting \$ _____

TOTAL \$ _____

END OF SECTION

SECTION 01 0010
HRA GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 CONTRACTOR'S RESPONSIBILITY

- A. All labor, material, supplies, tools, or other costs or items needed for complete construction of the project, including permits, temporary facilities, safety, security and utilities during construction, are the responsibility of the Contractor.
- B. The General Contractor is responsible for the maintenance of the lawn and landscaping, clean up and dispose of fallen leaves and snow removal during the winter. The responsibility begins at the issuance of the notice to proceed and ends with approval of Final Completion.
- C. The General Contractor shall be responsible for the coordination of all subcontractors working on, or furnishing material for use on this project. In addition, the General Contractor shall be responsible for the coordination of all work performed under separate contracts.

1.02 CONTRACTOR'S USE OF PREMISES

- A. During the construction period the General Contractor and its Subcontractors shall have full use of the premises for construction operations, including use of the site. All use of the site shall be under control and supervision of the General Contractor.
- B. General Contractor and its Subcontractors will be limited to construction work between the hours of 7:00 am and 6:00 pm on weekdays and 8:00 am to 4:00 pm on Saturday. Work at any other times will be allowed only with the Owner's and Project Manager's consent.
- C. HRA Staff and its representatives shall have access to the premises at anytime.

1.03 MATERIALS & MATERIAL STORAGE

- A. The General Contractor shall provide all materials, hardware, and fixtures required to accomplish the Scope of Work, unless otherwise indicated.
- B. The General Contractor shall use materials specified throughout unless approved in writing by Owner and Project Manager before ordering and installing.
- C. The General Contractor is responsible for verification of all measurements. Materials transported to the job site and stored are the General Contractor's responsibility until installed and accepted by the Owner and Project Manager.
- D. The General Contractor shall deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
- E. Damaged or stolen materials and equipment must be replaced as part of the work at no additional cost to the Owner. Damaged property that is removed shall belong to the General Contractor, unless otherwise stated in writing.

PART 2 PERFORMANCE REQUIRMENTS

2.01 ENERGY CONSERVATION

- A. General
 - 1. This property must go through Xcel Energy's Home Performance with Energy Star program.
 - 2. This means that all insulation and HVAC work must be performed by Xcel Energy's approved contractor list.
 - 3. General Contractors that are on the Home Performance list may choose Subcontractors that are not on the list, but those General Contractors will be held responsible for all work completed.
 - 4. The "Specifications for Energy Improvement Upgrades" provided by the Neighborhood Energy Connection (See appendix) are a part of the Scope of Work for this property.
 - 5. Any discrepancies between the Scope of Work and NEC's specifications are to be clarified during the bid process.

- B. Provide an Energy Efficient Lighting
 - 1. All fixtures should have energy efficient CFLs or LED lamps that are within the maximum wattage allowable.
 - 2. The Owner and Project Manager shall select specific locations of fixtures and switches in each area.
 - 3. All lighting fixtures will be purchased new, unless otherwise indicated in the scope of work.
 - 4. No plastic lighting fixtures are acceptable.
 - 5. No fluorescent tube light fixtures are acceptable in living spaces.
 - 6. Provide light bulbs for all fixtures. All light fixtures are to have color corrected bulbs. Light bulbs that are viewable within fixtures will be a globe or candelabra style CFL.
 - 7. Provide and install lighting fixtures and switches.
 - 8. Review fixtures with Owner and Project Manager prior to installation.
 - 9. All electrical outlets and cover plates are to be replaced throughout the building, unless otherwise indicated in the scope of work.

2.02 ENERGY EFFICIENT APPLIANCES

- A. All appliances must be purchased new and be Energy STAR certified or high efficiency models when Energy STAR certification is not possible.
- B. High-efficiency appliances meet the following standards:
- C. Clothes washers must have a CEE Tier 2 or higher, a minimum Energy Factor of 2.0 or greater, and a water factor 6.0 or less.
- D. Clothes Dryers must be a minimum 7.0 cubic feet capacity, have a sensor dry system, and have 5 Temperature Levels - High, Medium High, Medium, Low & Ultra Low
- E. Dishwashers must be CEE Tier 2 or higher, with a minimum Energy Factor of 0.68 or greater, and a maximum annual energy use of 325 kilowatt-hours or less.

2.03 LOW FLOW PLUMBING FIXTURES

- A. New plumbing fixtures should be water conserving fixtures with a faucet flow rate of 2.0 GPM or less and a commode flush rate of 1.3 GPF or less.

PART 3 PRICE AND PAYMENT PROCEDURES

3.01 SCHEDULE OF VALUES

- A. Form to be used: Sworn Construction Statement.

3.02 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Execute certification/pay application by signature of authorized officer.
- C. Submit two copies of each Application for Payment to Construction Manager.

PART 4 CONTRACT MODIFICATION PROCEDURES

4.01 HRA WINTER WORK POLICY

- A. The Housing and Redevelopment Authority of the City of St. Paul (HRA) recognizes that there are weather related exterior items that cannot be completed in winter conditions ("Weather Conditional Work"), including but not limited to:
 - 1. Exterior painting
 - 2. Sod
 - 3. Foundation plantings
 - 4. Rain garden installation
 - 5. Concrete sidewalks, steps, landings, curbs, garage slabs, and asphalt driveways
- B. The HRA defines winter conditions as "temperatures consistently below a high of 50 degrees Fahrenheit". Winter conditions are typically in effect from November 15th through April 15th each year, although there is potential for an earlier or later start and end date depending on weather.

- C. In the case of NSP homes where a notice to proceed is issued between October and February, the time parameter of winter conditions could mean that the entire timeline for construction completion (typically 90-120 days) is within winter conditions.
- D. It is the responsibility of the contractor to communicate, to the Owner, the exterior line items in the scope of work that are Weather Conditional Work as a component of the timeline submission required prior to issuance of a notice to proceed.
- E. Contractors are also responsible for ensuring that all Weather Conditional Work is completed within the manufacturer's or industry standards recommended temperature range.
- F. The Contractor is responsible for prioritizing Weather Related Work when winter conditions are not present, in order to complete the house within the construction timeline whenever possible.
- G. The HRA's objective is to ensure that remodeling work on NSP projects is substantially complete within the timeline for construction completion (90-120 days) so that the project can be issued a certificate of occupancy and sold to a new homeowner; the contractor is responsible for ensuring that temporary, structurally sound solutions are implemented when Weather Related Work will effect the ability to secure a Certificate of Occupancy.
- H. In the event that winter conditions are present throughout the 120 day construction contract period, the HRA will escrow 1 and 1/2 times the cost for Weather Conditional Work (150%), to be completed within 30 days of the end of winter conditions.

4.02 SUBSTITUTIONS

- A. Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the General Contractor after award of the Contract are considered to be requests for substitutions.
- B. Submit requests according to procedures required for change-order proposals.
- C. Substitution requests shall include a complete list of changes or modifications needed in the Scope of Work in order to accommodate the proposed substitution.
- D. Provide samples and product data, including drawings and descriptions of products as well as fabrication and installation procedures, where applicable or where requested by the Owner or Project Manager.
- E. Indicate the substitution's effect on the Contractor's Construction Schedule, if any. Indicate cost information, including a proposal of the net change, if any, in the Contract Sum. Acceptance will be in the form of a written Change Order signed by the Owner and Project Manager.

PART 5 COMPLIANCE INFORMATION AND REQUIREMENTS

5.01 SEE HRA NSP WEBSITE FOR COMPLIANCE REQUIREMENTS.

- A. [://www.stpaul.gov/nsp](http://www.stpaul.gov/nsp)
- B. Review the document labeled: Section II - Compliance Information and Requirements.
 - 1. It contains additional information on:
 - a. Insurance
 - b. B2Gnow/LCP Tracker, Contract Compliance Monitoring System
 - c. Vendor Outreach Program
 - d. Affirmative Action
 - e. Sustainable Green Policy
 - f. Section 3
 - g. Two Bid Policy
 - h. Limited English Policy
 - i. Xcel Energy Participating Contractors' List
 - j. Radon Mitigation Contractors' List

5.02 SECURITY PROCEDURES

- A. General Contractor is responsible for maintaining security of the site, including:
 - 1. locking buildings at the end of each work day;

2. boarding window or door openings;
 3. installing security fencing;
 4. providing temporary barricades, bracing or railings;
 5. and any other work or facilities necessary to maintain a safe and secure site, including compliance with all health, safety, building, and other codes and laws.
- B. Any tools or materials or other property stored on the site prior to installation are the responsibility of the General Contractor and its Subcontractors are responsible for insuring their own such property against loss by theft or other cause.

5.03 JOB CONDITIONS

- A. The General Contractor shall notify the Owner and Project Manager of repair not covered in the Scope of Work that is necessary for satisfactory completion of the Project.
- B. Defects that become evident as work progresses shall be reported not concealed.
- C. Ensure safe passage of all employees during the course of demolition or other persons as necessary by erecting barriers, bracing, or other temporary supports as required.

5.04 SAFETY AND CLEAN UP

- A. The General Contractor must keep the site clean at all times during construction.
- B. In no event can debris be stored outside overnight unless it is inside a dumpster.
- C. All floors are to be picked up and kept broom clean at the end of the work day.
- D. No combustible debris shall be thrown, stored, or burned on the property, adjacent parcels, sidewalks, streets, or alleys.
- E. Debris created from work at the property must be disposed of immediately.
- F. Any debris caused by the General Contractor or its Subcontractor shall be removed from the work area in the General Contractor's containers and disposed of off site by the General Contractor.

PART 6 SPECIAL PROCEDURES

6.01 ASBESTOS ABATEMENT,

- A. If asbestos is found on this project follow the necessary requirements for proper abatement. A contractor must be licensed by the Minnesota Department of Health to perform asbestos-related work. Asbestos-related work includes the work area preparation, enclosure, removal, or encapsulation of asbestos-containing material.

6.02 LOW VOC, SEE SECTION 01 6116

6.03 LEAD BASED PAINT

- A. General Information
 1. Projects funded in whole or in part with federal funds must comply with the "Regulation on Lead-Based Paint Hazards in Federally Owned Housing and Housing Receiving Federal Assistance".
 2. Properties built after 1/1/78 and properties needing emergency rehab assistance are exempt from Lead-Based Paint Regulation requirements.
 3. All projects receiving over \$25,000 of HUD funds per unit for rehabilitation, must abate all Lead-based paint hazards.
- B. **Removal Procedures**
 1. Risk Assessments:
 - a. A Risk Assessment must be completed by a licensed Lead-Based Paint Risk Assessor on all properties built before 1/1/78 (excluding emergency rehab cases).
 - b. The Owner or Project Manager arranges and pays for the Risk Assessment.
 - c. The Risk Assessment report will summarize the nature and scope of known lead-based paint hazards.

- C. Scope of Work: The Project Manager prepares the Scope of Work incorporating lead hazard reduction work based on the Risk Assessment report.
- D. Licensed Lead Abatement Supervisor: Only General or Subcontractors who are State licensed Lead Abatement Supervisors are allowed to bid on projects involving lead hazard reduction work.
- E. Project Plan: The General Contractor must prepare a written project plan and communicate it to the Owner and Project Manager. It shall include:
 - 1. Start-up date and how long the project is expected to last.
 - 2. Areas to be abated and precautions to take.
 - 3. A warning to pay attention to the caution signs that are posted by the General Contractor around the project site.
 - 4. Location of areas that may be restricted.
- F. The selected General Contractor performs the work, using lead hazard control measures where indicated in the Scope of Work.
- G. The General contractor will notify the Project Manager when work is complete.
- H. A Clearance Test for lead-based paint dust is required upon completion of the Lead Based Paint Hazard Reduction Project Plan.
 - 1. The Clearance Test must be performed by a State licensed Clearance Examiner.
 - 2. It is the responsibility of the General Contractor to arrange and pay for any and all of the Clearance Tests that may be required. If the Clearance Test indicates lead levels lower than acceptable amounts, the General Contractor's lead reduction and control work is complete and the final construction payment application may be processed.
 - 3. If the Clearance Test is found to contain lead levels above an acceptable amount, the General Contractor must clean the work area again and request another Clearance Test at no additional cost to the Owner, until the Clearance Test is passed.
 - 4. The Final payment application will not be processed until all areas are determined to be free of hazardous lead levels.
- I. Additional Information:
 - 1. General Contractor must obtain and review the following documents, which provide more detailed information on lead paint hazards and reduction and control measures:
 - a. Minnesota Department of Lead program, "Safely Working with Lead While Remodeling the Older Home" pamphlet series. 1-651-215-0890.
 - 1) U.S. Environmental Protection Agency, "Renovate Right: Important Lead Hazard Information for Families, Child Care Providers, and Schools" 21 page booklet. <<http://www.epa.gov/lead/pubs/rrpamph.pdf>>
 - 2) U.S. Department of Housing and Urban Development, "Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work:". English and Spanish versions available. <http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/healthyhomes/lead>
 - 3) U.S. Department of Housing and Urban Development, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing". October 1996. <http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/lbp/hudguidelines>
 - 4) U.S. Environmental Protection Agency, "Model Lead-Based Paint Abatement Worker Training Course." English and Spanish versions available. <<http://www.epa.gov/lead/pubs/abateworker.htm>>
 - 5) U.S. Environmental Protection Agency, "Lead Safety for Renovation, Repair, and Remodeling: Student Manual". <http://www.epa.gov/lead/pubs/rrp_8hr_studentmanual_feb09.pdf>
- J. Abatement:

1. **Component Replacement:** The removal of building components that contain lead-based paint. It is most appropriate for items such as doors, windows, trim, and cabinets.
2. **Paint Removal:** The separation of paint from the substrate using safe heat, chemical, or abrasive methods. It may be done on- or off-site. Abrasive methods can create a great deal of dust, are the most hazardous, and require the greatest care and most thorough clean-up.
3. **Enclosure:** The installation of a barrier (such as gypsum board or paneling) that is mechanically attached to the building component, with all edges and seams sealed to prevent escape of lead-based paint dust. It is most appropriate for large surfaces, such as walls, ceilings, floors, and exteriors.
4. **Encapsulation:** The application of a liquid or adhesive material that covers the component and forms a barrier that makes the lead-based paint surface inaccessible by relying upon adhesion. It may be appropriate for many kinds of smooth surfaces but it cannot be used effectively on friction surfaces, surfaces in poor condition, or surfaces that may become wet. It also must be compatible with existing paint.
5. **Soil Removal:** The removal of at least the top six inches of topsoil is adequate for most projects. In areas with heavy contamination, up to two feet may have to be removed, and must be disposed of using proper waste management techniques that comply with local requirements. The maximum lead concentration in replacement soil shall not exceed 200 ug/g. Sod or seeding of new soil should occur.
6. **Soil Cultivation:** The mixing of low lead soil with high lead soil is an appropriate method if the average lead concentration of the soil to be abated is below 1,500 ug/g. Thorough mixing is required, and pilot testing of various techniques may be needed to ensure that thorough mixing does occur.
7. **Paving:** The covering of highly contaminated soil with high quality concrete or asphalt. Paving is common in high traffic areas but not appropriate in play areas. The need for uncontaminated replacement soil is eliminated as is waste disposal costs. Paving often turns out to be the most economical recourse, despite its aesthetic disadvantages.

6.04 WASTE MANAGEMENT, SEE SECTION 01 7419

PART 7 SUBMITTALS

7.01 GENERAL

- A. Coordinate preparation and processing of submittals with performance of construction activities.
- B. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
- C. Provide the following submittals required for performance of the Work, including the following:
 1. Administrative Submittals.
 2. Construction Schedule
 3. Samples/Product Data.

7.02 ADMINISTRATIVE SUBMITTALS

- A. Provide as required in the Contract Documents. Such submittals include, but are not limited to, the following:
 1. Sworn Construction Statement
 2. Required permits.
 3. Applications for Payment.
 4. Insurance certificates.
 5. List of subcontractors.

7.03 CONSTRUCTION SCHEDULE

- A. A construction schedule must be submitted to the Owner and Project Manager with the bid, unless requested otherwise in writing. Construction shall be completed within 120 days of notice to proceed.

7.04 SAMPLES/PRODUCT DATA:

- A. Submit Samples as specified to be physically identical with the material or product proposed.
- B. Samples include partial sections of manufactures or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
- C. Provide product samples and/or product data for the following where included in the scope of work and for any other requirements mentioned in the specifications or drawings:
 - 1. Paint colors.
 - 2. Masonry and mortar color samples.
 - 3. Windows.
 - 4. Doors and hardware.
 - 5. Bathroom accessories.
 - 6. Kitchen cabinets.
 - 7. Plumbing fixtures.
 - 8. Lighting fixtures.
 - 9. Foundation waterproofing.
 - 10. Stair railings.
 - 11. Tile.
 - 12. Carpet.
 - 13. Interior trim samples.
 - 14. Exterior trim and siding samples.

END OF SECTION

SECTION 01 2000
PAYMENT PROCEDURES

PART 1 GENERAL

1.01 PAYMENT DOCUMENTS

- A. All documents required to create a complete Payment Application can be downloaded from <https://sites.google.com/site/nspsconstructiondocs/>
- B. Payment Application form to be used: Application and Certificate for Payment provided by the HRA.
 - 1. Columns A, B, C should not change during the course of construction and should directly relate to the Sworn Construction Statement provided at the start of construction. As draws progress, columns D, E and F change to reflect work completed.
- C. Additional Documents to be submitted with each pay application:
 - 1. Monthly Employment Utilization (MEU) Form
 - 2. Identification of Prime and Subcontractor Form
 - a. An updated Sub ID sheet must be attached to help HR/EEO staff track subcontractor utilization.
 - 3. B2Gnow
 - a. Ensure each subcontractor is logging into the B2Gnow system and logging payments received.

1.02 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement. The Owner will process the payment within 30 days.
- B. Applications for payment must be signed by an authorized officer of the general construction firm
- C. Use data from approved Sworn Construction Statement. Provide dollar value in each column for each line item for portion of work performed .
- D. Submit one signed copy of the Application for Payment, complete with all required attachments, to the Construction Manager.

1.03 MODIFICATION PROCEDURES

- A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Construction Manager will issue instructions directly to Contractor.
- B. Execution of Change Orders: Construction Manager will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- C. After execution of Change Order, promptly revise Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price.
 - 1. Change orders shall be listed as lump sums on the bottom of the pay application and referred to on the cover sheet.
 - 2. Include each line item of the change order as a separate line item in the pay application and the amount of the contractor adjustments.

1.04 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Price, previous payments, and sum remaining due.
- B. Additional documents:
 - 1. Final lien waivers from all subcontractors/material providers
 - 2. Monthly Employment Utilization (MEU) Form
 - 3. Project Employment Utilization (PEU) for City Funded Projects
 - 4. Lead Clearance
 - 5. NEC Certificate of Completion
 - 6. Waste Management Plan Report

7. Permit Sign-offs/Certificate of Code Compliance
 8. Winter Work/Weather Related Work Escrow
 9. Certificate of Substantial/Final Completion
- C. See Section 01 7700 - Closeout Procedures and Submittals, for additional information.

END OF SECTION

**SECTION 01 6000
PRODUCT REQUIREMENTS**

PART 1 GENERAL

1.01 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

2.02 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.

2.03 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

- A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- C. A request for substitution constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Will provide the same warranty for the substitution as for the specified product.
 - 3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
- D. Substitution Submittal Procedure:
 - 1. Submit two copies of request for substitution for consideration. Limit each request to one proposed substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
 - 3. The Construction Manager will notify Contractor in writing of decision to accept or reject request.

END OF SECTION

SECTION 01 6116

VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SUMMARY

- A. Implement the following procedures in an effort to improve indoor air quality during Owner's occupancy.
- B. Construction Indoor Air Quality (IAQ) Management
 - 1. Provide low-emitting products

1.02 DEFINITIONS

- A. VOC-Restricted Products: All products of each of the following categories when installed or applied on-site in the building interior:
 - 1. Adhesives, sealants, and sealer coatings.
 - 2. Carpet.
 - 3. Carpet cushion.
 - 4. Resilient floor coverings.
 - 5. Wood flooring.
 - 6. Paints and coatings.
 - 7. Insulation.
 - 8. Gypsum board.
 - 9. Acoustical ceilings and panels.
 - 10. Cabinet work.
 - 11. Wall coverings.
 - 12. Composite wood and agrifiber products used either alone or as part of another product.
 - 13. Other products when specifically stated in the specifications.
- B. Interior of Building: Anywhere inside the exterior weather barrier.
- C. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.
- D. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

PART 2 PRODUCTS

2.01 MATERIALS

- A. All VOC-Restricted Products: Provide products having VOC content of types and volume not greater than those specified in State of California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers.
 - 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Current GREENGUARD Children & Schools certification; www.greenguard.org.
 - b. Current Carpet and Rug Institute Green Label Plus certification; www.carpet-rug.org.
 - c. Current SCS Floorscore certification; www.scs-certified.com.
 - d. Current SCS Indoor Advantage Gold certification; www.scs-certified.com.
 - e. Product listing in the CHPS Low-Emitting Materials Product List at www.chps.net/manual/lem_table.htm.
 - f. Current certification by any other agencies acceptable to CHPS.
 - g. Report of laboratory testing performed in accordance with CHPS requirements for getting a product listed in the Low-Emitting Materials Product List; report must include laboratory's statement that the product meets the specified criteria.
- B. Adhesives and Joint Sealants: Provide only products having volatile organic compound (VOC) content not greater than required by South Coast Air Quality Management District Rule No.1168.
 - 1. Evidence of Compliance: Acceptable types of evidence are:

- a. Report of laboratory testing performed in accordance with requirements.
 - b. Published product data showing compliance with requirements.
 - c. Certification by manufacturer that product complies with requirements.
- C. Aerosol Adhesives: Provide only products having volatile organic compound (VOC) content not greater than required by GreenSeal GS-36.
- 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Current GreenSeal Certification.
- D. Paints and Coatings applied within building waterproof envelope:
- 1. Comply with VOC Content limits (as noted in Criterion 6.1) of Green Seal Standard GS-11 "Paints," First Edition; Standard GC-03 "Anti Corrosive Paints," and MPI GPS-2-8, as follows (in grams/Liter):
 - a. Flat: 50
 - b. Non-flat: 50
 - c. Anti-Corrosive and Anti Rust: 250
 - d. Floor Coatings: 100
- E. Carpet and Adhesive: Provide products having VOC content not greater than that required for CRI Green Label Plus certification.
- 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Current Green Label Plus Certification.
 - b. Report of laboratory testing performed in accordance with requirements.
- F. Carpet, Carpet Cushion, and Adhesive: Provide products having VOC content as specified in Section 09 6800.
- G. Carpet Cushion: Provide products having VOC content not greater than that required for CRI Green Label Plus certification.
- 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Current Green Label Plus Certification.
 - b. Report of laboratory testing performed in accordance with requirements.
- H. Composite Wood and Agrifiber Products and Adhesives Used for Laminating Them: Provide products having no added urea-formaldehyde resins.
- 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Current SCS "No Added Urea Formaldehyde" certification; www.scscertified.com.
 - b. Published product data showing compliance with requirements.
 - c. Certification by manufacturer that product complies with requirements.
- I. Other Product Categories: Comply with limitations specified elsewhere.

PART 3 EXECUTION

3.01 GENERAL

- A. Incorporate procedures and processes during construction and prior to occupancy as described herein

END OF SECTION

SECTION 01 7000
EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 PROJECT CONDITIONS

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
- D. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- E. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- F. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

PART 3 EXECUTION

3.01 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Construction Manager of any discrepancies discovered.
- C. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:

3.02 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.03 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. Perform whatever cutting and patching is necessary to:
 - 1. Complete the work.
 - 2. Fit products together to integrate with other work.
 - 3. Provide openings for penetration of mechanical, electrical, and other services.
 - 4. Match work that has been cut to adjacent work.
 - 5. Repair areas adjacent to cuts to required condition.

6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-conforming work.
- C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- D. Patching:
1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

3.04 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

3.05 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.06 FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

3.07 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
- B. Review Section 01 7700 CLOSEOUT PROCEDURES AND SUBMITTALS.
- C. Notify Construction Manager when work is considered ready for Substantial Completion.
- D. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Construction Manager's review.
- E. Notify Construction Manager when work is considered finally complete.
- F. Complete items of work determined by Construction Manager's final inspection.

END OF SECTION

SECTION 01 7419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

- A. Owner requires that this project generate the least amount of trash and waste possible.
- B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. HRA Policy for this project is dependent on diversion of 50 percent, by weight, of potential landfill trash/waste by recycling and/or salvage.
- D. The following recycling incentive programs are mandatory for this project; Contractor is responsible for implementation:

1.02 SUBMITTALS

A. ACTION SUBMITALS

1. CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT(CWM) PLAN

- a. Analysis of estimated job-site waste to be generated, including types and quantities of compostable, recyclable, and salvageable materials.
 - b. Description of means and methods to achieve 50 percent diversion requirement for compostable, recyclable, and salvageable materials, including those that may be donated to charitable organizations.
 - c. Identification of the carpet product's composition as polymer, nylon or polypropylene
 - d. Identification of recycling contractors and haulers proposed for use in the project and locations accepting construction waste materials or entities providing related services.
- B. FINAL WASTE MANAGEMENT REPORT: General Contractor is responsible to submit at completion of construction and prior to contract close-out, in electronic format.
- 1. All information required in Waste Management Progress Reports
 - 2. Legible copies of on-site logs, manifests, weight tickets, and receipts.
 - 3. Final calculations, including total amount (by weight or volume) of diverted construction and demolition waste, and the total amount (by weight or volume) of landfilled waste.

PART 2 EXECUTION

2.01 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.
- B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor and Construction Manager.
- C. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
- D. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.
- E. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- F. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.
- G. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

2.02 UNACCEPTABLE METHODS OF WASTE DISPOSAL

- A. Burning or incinerating on or off project site

- B. Burying on project site, other than fill.
- C. Dumping or burying on other property, public or private, other than official landfill.
- D. Illegal dumping or burying.

END OF SECTION

SECTION 01 7700
CLOSEOUT PROCEDURES AND SUBMITTALS

PART 1 GENERAL

1.01 SUBMITTALS

- A. All documents required to create a complete Final Payment Application can be downloaded from <https://sites.google.com/site/nspconstructiondocs/>
- B. Notify Construction Manager when work is considered ready for Substantial Completion.
 - 1. Make sure the work is mostly complete and cleaned for inspection.
- C. Substantial Completion: According to MN Statute Substantial Completion = “when construction is sufficiently completed so that the owner can occupy or use the improvement for the intended purpose”
 - 1. Submittals: Submit documents listed below to Construction Manager:
 - a. Final Pay Application
 - b. Monthly Employment Utilization (MEU) Form
 - c. Project Employment Utilization (PEU) for City Funded Projects
 - d. Lead-based Paint Hazard Clearance Testing
 - e. Radon Mitigation Verification Submittal
 - f. Energy Modeling/NEC Compliance Report
 - g. Final Waste Management Report, see Section 01 7419 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
 - h. Permit Closeout/Code Compliance
 - i. Winter Work/Weather Related Work Escrow
 - j. Final Lien Waivers
 - k. Material Allowance Reconciliation Change Order (if necessary).
- D. Notify Construction Manager when work is considered finally completed. All Punch List items shall be completed and approved by Construction Manager and HRA Project Manager.
- E. Final Completion Submittals:
 - 1. Project Record Documents: Submit documents listed below to Construction Manager:
 - a. Building Maintenance Manual and Warranty documents for following:
 - 1) Appliance and building systems
 - (a) HVAC equipment
 - (b) Lighting equipment
 - (c) Kitchen and Laundry Appliance Manuals
 - 2) Water-using equipment and controls installed:
 - (a) Hot water heater
 - (b) Toilets
 - (c) Faucets
 - (d) Shower head(s)
 - (e) Dishwasher
 - (f) Clothes washer
 - (g) Clothes dryer
 - b. Signed Certificate of Substantial Completion
 - c. Punch List Items Completed

PART 2 EXECUTION

2.01 LEAD-BASED PAINT HAZARD CLEARANCE TESTING

- A. Where lead-based paint hazard control or reduction work has been performed by the General Contractor, the General Contractor will contact a certified third party Clearance Technician from Ramsey County Department of Public Health or other certified testing agency for clearance testing.

2.02 ENERGY MODELING (NEC)

- A. Contractor must work with the Neighborhood Energy Connection (NEC) who will:
 - 1. Create an energy model with the building plans and specifications to show the building's projected energy performance in the design stages
 - 2. Conduct a mid-construction pre drywall thermal enclosure inspection
 - 3. Verify the final performance of the building with performance testing

2.03 OPERATION AND MAINTENANCE MANUALS

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- B. Prepare data in the form of an instructional manual.

END OF SECTION

SECTION 01 8113
SUSTAINABLE DESIGN REQUIREMENTS

PART 1 GENERAL

1.01 ENERGY CONSERVATION

- A. This property must go through Xcel Energy's Home Performance with Energy Star program.
 - 1. All insulation and HVAC work must be performed by Xcel Energy's approved contractor list.
 - 2. General Contractors that are on the Home Performance list may choose Subcontractors that are not on the list, but those General Contractors will be held responsible for all work completed.
 - 3. General Contractors will be responsible for submitting documentation required of the Home Performance with Energy Star program and will be responsible for achieving Energy Improvements outlined by Neighborhood Energy Connection.
 - 4. The "Specifications for Energy Improvement Upgrades" provided by the Neighborhood Energy Connection (See appendix) are a part of the Scope of Work for this property.
 - 5. Any discrepancies between the Scope of Work and NEC's specifications are to be clarified during the bid process.
- B. Energy Efficient Lighting
 - 1. The Owner/Project Manager shall select specific locations of fixtures and switches in each area.
 - 2. All lighting fixtures will be purchased new, unless otherwise indicated.
 - 3. No plastic lighting fixtures are acceptable.
 - 4. No fluorescent tub light fixtures are acceptable in living spaces.
 - 5. Provide Energy Star certified CFL or LED light bulbs for all fixtures.
 - 6. All light fixtures are to have color corrected bulbs.
 - 7. Light bulbs that are viewable within fixtures will be a globe or candelabra style CFL.
 - 8. Provide and install lighting fixtures and switches.
 - 9. Review fixtures with Owner prior to installation.
 - 10. All electrical outlets and cover plates are to be replaced throughout the building.
- C. Energy Efficient Appliances
 - 1. All appliances must be purchased new and be Energy Star certified or high efficiency models when Energy Star certification is not possible.
 - 2. High-efficiency appliances meet the following standards

1.02 QUALITY ASSURANCE

- A. The Neighborhood Energy Connection (NEC), through its Peak Performance Homes custom consulting program, certifies independent consultants who provide developers with specific information about how to increase the energy efficiency of their buildings.

PART 2 PRODUCTS

2.01 LOW-EMITTING MATERIALS

- A. Cabinet Materials: Low VOC
 - 1. Provide wood cabinets with self closing hinges and adjustable shelves from the Schrock Select (available at Menard's), Mid-Continent Cabinetry (available at All Inc), or MINNCOR (available at MINNCOR) design lines or approved equal.
 - 2. Cabinets are to have plywood sides and bases.
 - 3. Drawer boxes shall be plywood with dovetail joinery.
 - 4. Cabinets to be constructed with maple; full overlay doors and flat or 5 piece. Alternative styles may be approval by the HRA.

PART 3 EXECUTION

3.01 CONSTRUCTION WASTE MANAGEMENT

- A. Comply with Construction Waste Management and Disposal Plan. Section 01 7419

3.02 CONSTRUCTION INDOOR-AIR-QUALITY MANAGEMENT

- A. Change all air filters regularly during construction with filters specified for the specific furnace.
 - 1. Replace all air filters immediately prior to Substantial Completion with the specified permanent filters.

END OF SECTION

**SECTION 02 4100
DEMOLITION**

PART 1 GENERAL

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1.01 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Company specializing in the type of work required.

PART 2 PRODUCTS

2.01 NONE

PART 3 EXECUTION

3.01 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
1. Obtain required permits.
 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 3. Protect hardwood floors for possible refinishing later.
 4. Provide, erect, and maintain temporary barriers and security devices.
- B. If hazardous materials are discovered during removal operations, stop work and notify Construction Manager and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- C. Perform demolition in a manner that maximizes salvage and recycling of materials.
1. Inform Project Manager of potential strategies to reuse construction material.
 - a. Only move forward with reusing of construction materials with Project Manager's consent.

3.02 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
- B. Remove existing work as indicated and as required to accomplish new work.
- C. Services (Including but not limited to Site, Building Interior, Building Exterior, HVAC, Plumbing, and Electrical): Remove existing systems and equipment as indicated.
- D. Interior Demolition to Include:
1. Basement/Mechanical
 - a. Furnace, washer and dryer
 - b. Dryer vent
 - c. Electrical boxes
 - d. Water heater
 - e. Code Compliant items
 - f. Windows, prepare openings for glass block.
 - g. Wood walls throughout
 - h. Existing mechanical piping
 - i. Thin plaster coat at foundation wall
 - j. Stairs to first floor
 2. Kitchen
 - a. Refrigerator, sink

- b. Cabinets and counter tops
- c. Stove
- d. East exit door
- e. Flooring material
 - 1) Including subflooring
- f. Faux brick wall covering
- 3. Living Room
 - a. Front exterior door
 - b. Wood surround, infill shelving, just west of stairs
 - c. Carpet / pad on stairs
- 4. Dining
 - a. Wood surround, infill shelving, just west of stairs
- 5. Side Room, First Floor
 - a. Shelving
 - b. Acoustical panel ceiling
- 6. First Floor Bathroom
 - a. Plumbing fixtures – sink, medicine cabinet, toilet, tub, faucet
 - b. Tile wall and floor
 - c. Wood wainscoat
 - d. Wood door and frame
 - e. Ceiling fan and acoustical ceiling
 - f. Misc. items; grab bar, bath fan, mirrors, lights, etc.
- 7. Rear Entry Hall
 - a. Exterior door
 - b. Flooring material
- 8. Front Porch
 - a. Enclosure of windows, walls, porch entry door
 - b. Floor
- 10. Second Floor Front Bedroom
 - a. Stairs to attic
 - b. Carpet / pad
 - c. Wall opening to accommodate new closet
- 11. Second Floor Hall
 - a. Carpet / pad
- 12. Second Floor East Bedroom
 - a. Carpet / pad
 - b. West door and trim
- 13. Second Floor West Middle Room
 - a. Carpet / pad
- 14. Second Floor Rear Bedroom and Closet
 - a. Carpet / pad
 - b. Sheetrock – south wall of closet
- 15. Second Floor Bathroom
 - a. Plumbing fixtures – sink, vanity, mirror, toilet, tub, faucet
 - b. Floor material
 - c. Misc. items; grab bar, bath fan, mirrors, lights, etc.
 - d. South wall
 - e. New door opening
- 9. Throughout
 - a. Entry doors
 - b. Unnecessary hooks, nails, brackets, etc from walls
 - c. All non-code compliant issues, including but not exclusively electrical and plumbing
 - d. Lighting Fixtures. All.
 - e. Switch plate and receptacle covers. All.

- f. All shelving
 - g. Windows – with the exception of west Living Room wood window and Second Floor front Bedroom west wood window
 - h. Mechanical as required for new plan
 - i. Wood doors
- E. Exterior Demolition to Include:
- 1. Exterior Building and Garage
 - a. Shingles, flashings and related roofing materials
 - b. Metal encasing trim
 - c. Metal screens over windows
 - d. Metal and wood siding
 - 2. Site Demolition:
 - a. Front steps at sidewalk and entry sidewalk
 - b. Portion of front retaining wall
 - b. Front porch entry steps
 - c. Side entry steps and sidewalk
 - d. Rear deck and steps
 - e. Exterior fencing and post footings
 - f. Garage, garage slab and apron
 - g. See Landscape drawings for additional notes
- F. Protect existing work to remain.

3.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Waste removal must be done in accordance with the Waste Management Plan and that at least 50% of the waste must be diverted from landfills.

END OF SECTION

**:SECTION 02 8200
ASBESTOS REMEDIATION**

PART 1 GENERAL

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1.01 DESCRIPTION OF WORK AND CONTRACTOR RESPONSIBILITIES

- A. Provide all labor, equipment, material supervision and subcontracting for the removal and disposal of all Asbestos-Containing Material (ACM) as specified in the attached Asbestos Test.
- B. When work areas include both friable and non-friable types of ACM, Contractor's shall prepare work area using procedures for friable asbestos removal.

1.02 SUBMITTALS

- A. Proof that the Contractor is qualified to perform Asbestos Remediation in the State of Minnesota.
- B. Test Reports: Indicate Complete Remediation of Project.

PART 2 EXECUTION

2.01 LOCATIONS

- A. Review the Asbestos report, included in this Manual, for locations.
- B. Asbestos has been identified at the following locations:
 - 1. Basement; grey window glazing
 - 2. First Floor; white window glazing
 - 3. First Floor; grey paper on cold air returns
- C. Assumed to contain Asbestos
 - 1. Basement; paper next to furnace
 - 2. Basement; paper on boots
 - 3. Basement; paper mixed with general debris in crawl space
 - 4. First Floor; paper on heat vents
 - 5. First Floor; paper on duct to Second Floor

SECTION 02 8313
LEAD HAZARD CONTROL ACTIVITIES

PART 1 GENERAL

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1.01 GENERAL INFORMATION

- A. Projects funded in whole or in part with federal funds must comply with the "Regulation on Lead-Based Paint Hazards in Federally Owned Housing and Housing Receiving Federal Assistance." As a component of Title X, Sections 1012 and 1013, rehabilitation projects receiving more than \$25,000 of federal funds must abate all lead.
- B. Properties built after 1/1/78 and properties needing emergency rehab assistance are exempt from Lead-Based Paint Regulations.

1.02 PRICE AND PAYMENT PROCEDURES

- A. Provide a price for the appropriate methods of abatement required by this scope of work.

1.03 SUBMITTALS

- A. Project Plan: The General Contractor must prepare a written project plan and communicate it to the Construction Manager, Project Manager, and MN Department of Health. It shall include:
 - 1. Start-up date and how long the project is expected to last.
 - 2. Areas to be abated and precautions to take.
 - 3. A warning to pay attention to the caution signs that are posted by the General Contractor around the project site.
 - 4. Location of areas that may be restricted.
- B. Test Reports: Indicate Lead Based Paint Clearance.
 - 1. Submitted at final draw

1.04 QUALITY ASSURANCE

- A. Licensed Lead Abatement Supervisor: Only General or Subcontractors who are State licensed to conduct lead hazard reduction work are allowed to bid on projects involving lead hazard reduction work. See Minnesota Statutes 144.9501-144.9512 and Minnesota Rules 4761.2000-4761.2700 for applicable safety precautions, disposal regulations, and other compliance regulations that apply to abatement activities.
- B. Per MN Statute, Contractors must provide a 5 day notification to the Minnesota Department of Health prior to beginning lead abatement activities. During lead abatement, a MN Licensed Lead Abatement Supervisor must be on site and workers conducting lead abatement must be MN Licensed Lead Abatement Workers. See the MDH website for additional information:
- C. <http://www.health.state.mn.us/divs/eh/lead/prof/notification.html>

PART 2 EXECUTION

2.01 ABATEMENT

- A. When the Risk Assessment process determines that a Project contains a lead-based paint hazard, the General Contractor shall comply with the abatement measures defined by HUD in 24 CFR Part 35 Subpart A through R 35.1325
http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/enforcement/lshr

and by the EPA in 40 CFR 745.227(e).

<http://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol31/pdf/CFR-2011-title40-vol31-sec745-227.pdf>

and lead hazard reduction methods defined in Minnesota Statutes 144.9501-144.9512 and Minnesota Rules 4761.2000-4761.2700

<http://www.health.state.mn.us/divs/eh/lead/rule.html>

1. **Component Replacement:** The removal of building components that contain lead-based paint. It is most appropriate for items such as doors, windows, trim, and cabinets.
2. **Paint Removal:** The separation of paint from the substrate using safe heat, chemical, or abrasive methods. It may be done on- or off-site. Abrasive methods can create a great deal of dust, are the most hazardous, and require the greatest care and most thorough clean-up.
3. **Enclosure:** The installation of a barrier (such as gypsum board or paneling) that is mechanically attached to the building component, with all edges and seams sealed to prevent escape of lead-based paint dust. It is most appropriate for large surfaces, such as walls, ceilings, floors, and exteriors.
4. **Encapsulation:** The application of a liquid or adhesive material that covers the component and forms a barrier that makes the lead-based paint surface inaccessible by relying upon adhesion. It may be appropriate for many kinds of smooth surfaces but it cannot be used effectively on friction surfaces, surfaces in poor condition, or surfaces that may become wet. It also must be compatible with existing paint.
5. **Soil Removal:** The removal of at least the top six inches of topsoil is adequate for most projects. In areas with heavy contamination, up to two feet may have to be removed, and must be disposed of using proper waste management techniques that comply with local requirements. The maximum lead concentration in replacement soil shall not exceed 200 ug/g. Sod or seeding of new soil should occur.
6. **Soil Cultivation:** The mixing of low lead soil with high lead soil is an appropriate method if the average lead concentration of the soil to be abated is below 1,500 ug/g. Thorough mixing is required, and pilot testing of various techniques may be needed to ensure that thorough mixing does occur.
7. **Paving:** The covering of highly contaminated soil with high quality concrete or asphalt. Paving is common in high traffic areas but not appropriate in play areas. The need for uncontaminated replacement soil is eliminated as is waste disposal costs. Paving often turns out to be the most economical recourse, despite its aesthetic disadvantages.

2.02 LEAD-BASED PAINT HAZARD CLEARANCE TESTING

- A. Where lead-based paint hazard control or reduction work has been performed by the General Contractor, the General Contractor will contact a certified third party Clearance Technician for clearance testing.
- B. The Clearance Technician will conduct a visual assessment of completed work, take dust samples, have dust samples analyzed, and prepare a Clearance Report.
- C. If sample results fail, Minnesota rules 4761.2670 subpart 2 and subpart 3 must be repeated. If test results of samples fail to meet clearance standards, surfaces must be retreated or re-cleaned at no additional cost to the Owner until clearance standard is met.
- D. When the Clearance Report indicates that clearance standards have been met, and all other requirements of this section have been met, the Construction Manager and Owner will approve the final pay application.

2.03 LOCATIONS

- A. Review Lead Report, attached in this Manual. Locations identified in the lead report are defined below, with reference to expected finish in other areas of the specification. Contractor is responsible for ensuring treatments meet abatement requirements as defined in federal and state statute.

- Encapsulate - Painted wood walls
- Encapsulate - Painted plaster ceilings
- Encapsulate - Painted plaster walls
- Encapsulate - Painted wood window components
- Encapsulate - Painted wood doors and door components

END OF SECTION

**SECTION 03 0100
MAINTENANCE OF CONCRETE**

PART 1 GENERAL

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1.01 SECTION INCLUDES

- A. Cleaning of existing concrete surfaces.
- B. Repair of exposed structural, shrinkage, and settlement cracks.
- C. Resurfacing of concrete surfaces having spalled areas and other damage.
- D. Repair of deteriorated concrete.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS

- A. Detergent: Non-ionic detergent.

2.02 CEMENTITIOUS PATCHING AND REPAIR MATERIALS

- A. Cementitious Repair Mortar, Trowel Grade: One- or two-component, factory-mixed, polymer-modified cementitious mortar; dry material complying with ASTM C928/C928M; in-place material capable of withstanding freeze/thaw conditions.
- B. Cementitious Hydraulic Waterstop: Very fast setting, low slump, hand formable, and capable of stopping active water leaks; dry material complying with ASTM C928/C928M; in-place material capable of withstanding freeze/thaw conditions.

PART 3 EXECUTION

3.01 CLEANING EXISTING CONCRETE

- A. Clean concrete surfaces of dirt or other contamination using the gentlest method that is effective.
 - 1. Try the gentlest method first, then, if not clean enough, use a less gentle method taking care to watch for impending damage.
 - 2. Clean out cracks and voids using same methods.
- B. The following are acceptable cleaning methods, in order from gentlest to less gentle:
 - 1. Water washing using low-pressure, maximum of 100 psi, and, if necessary, brushes with natural or synthetic bristles.
 - 2. Increasing the water washing pressure to maximum of 400 psi.
 - 3. Adding detergent to washing water; with final water rinse to remove residual detergent.
 - 4. Steam-generated low-pressure hot-water washing.

3.02 CONCRETE SURFACE REPAIR USING CEMENTITIOUS MATERIALS

- A. Clean concrete surfaces, cracks, and joints of dirt, laitance, corrosion, and other contamination using method(s) specified above and allow to dry.
- B. Apply coating of bonding agent to entire concrete surface to be repaired.
- C. Apply repair mortar by steel trowel to a minimum thickness of 1/4 inch (6 mm) over entire surface, terminating at a vertical change in plane on all sides.
- D. Trowel finish to match adjacent concrete surfaces.

3.03 LOCATIONS

- A. Interior foundation wall
- B. Exterior foundation wall

END OF SECTION

SECTION 03 3000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

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1.01 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI 347 to provide formwork that will produce concrete complying with tolerances of ACI 117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches (38 mm) of concrete surface.

2.02 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M Grade 40 (280).

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type I - Normal Portland type.

2.04 CONCRETE MIX DESIGN

- A. Normal Weight Concrete:
 - 1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 3,000 psi (20.7 MPa).

PART 3 EXECUTION

3.01 PREPARATION

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
- B. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.

3.02 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

3.03 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.

3.04 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. Maximum Variation of Surface Flatness:
 - 1. Exposed Concrete Floors: 1/4 inch (6 mm) in 10 ft (3 m).
- B. Correct the slab surface if tolerances are less than specified.
- C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.05 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 - 1. "Wood float" as described in ACI 302.1R; Garage Floor/Apron.
 - 2. "Steel trowel" as described in ACI 301.1R; Basement Floor.

3.06 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

3.07 LOCATIONS

- A. Front retaining wall
- B. Front steps from public sidewalk
- C. Front porch steps
- D. Garage apron and pad with gravel sub-base

END OF SECTION

**SECTION 04 0100
MAINTENANCE OF MASONRY**

PART 1 GENERAL

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1.01 FIELD CONDITIONS

- A. Cold and Hot Weather Requirements: Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.01 NONE

PART 3 EXECUTION

3.01 REBUILDING

- A. Cut out damaged and deteriorated masonry with care in a manner to prevent damage to any adjacent remaining materials.

3.02 REPOINTING

- A. Cut out loose or disintegrated mortar in joints to minimum 1/2 inch (6 mm) depth or until sound mortar is reached.
- B. Pre-moisten joint and apply mortar. Pack tightly in maximum 1/4 inch (6 mm) layers. Form a smooth, compact concave joint to match existing.

3.03 CLEANING NEW MASONRY

- A. Verify mortar is fully set and cured.
- B. Clean surfaces and remove large particles with wood scrapers, brass or nylon wire brushes.

3.04 LOCATIONS

- A. Perimeter interior/exterior foundation wall

END OF SECTION

**SECTION 04 2300
GLASS UNIT MASONRY**

PART 1 GENERAL

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1.01 FIELD CONDITIONS

- A. Cold and Hot Weather Requirements: Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.01 GLASS UNITS

- A. Hollow Glass Units: Permanently seal hollow unit by heat fusing joint; with joint key to assist mortar bond.

2.02 MORTAR MIXING

- A. Thoroughly mix mortar ingredients in accordance with ASTM C270 in quantities needed for immediate use.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Erect glass units and accessories in accordance with manufacturer's instructions.

3.02 LOCATIONS

- A. Provide glass block windows with vent and perimeter frame at all basement windows
- B. Second Floor Bathroom

END OF SECTION

SECTION 05 7300
DECORATIVE METAL RAILINGS

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 RAILING SYSTEMS

- A. Railings - General: Factory- or shop-fabricated in design indicated, to suit specific project conditions, and for proper connection to building structure, and in largest practical sizes for delivery to site.
1. Design Criteria: Design and fabricate railings and anchorages to resist the following loads without failure, damage, or permanent set; loads do not need to be applied simultaneously.
 - a. Lateral Force: 75 lb (333 N) minimum, at any point, when tested in accordance with ASTM E935.
 - b. Distributed Load: 50 pounds per foot (0.73 kN per m) minimum, applied in any direction at the top of the handrail, when tested in accordance with ASTM E935.
 - c. Concentrated Loads on Intermediate Rails: 50 pounds per square ft (0.22 per sq m), minimum.
 - d. Concentrated Load: 200 pounds (888 N) minimum, applied in any direction at any point along the handrail system, when tested in accordance with ASTM E935.
 2. Assembly: Join lengths, seal open ends, and conceal exposed mounting bolts and nuts using slip-on non-weld mechanical fittings, flanges, escutcheons, and wall brackets.
 3. Joints: Tightly fitted and secured, machined smooth with hairline seams.
 4. Field Connections: Provide sleeves to accommodate site assembly and installation.
 5. Welded and Brazed Joints: Make exposed joints butt tight, flush, and hairline; use methods that avoid discoloration and damage of finish; grind smooth, polish, and restore to required finish.
 - a. Ease exposed edges to small uniform radius.
 - b. Welded Joints:
 - 1) Carbon Steel: Perform welding in accordance with AWS D 1.1/D1.1M.
 - 2) Stainless Steel: Perform welding in accordance with AWS D 1.6.
 - c. Brass/Bronze Brazed Joints:
 - 1) Perform torch brazing in accordance with AWS C3.4/3.4M.
 - 2) Perform induction brazing in accordance with AWS C3.5/3.5M.
 - 3) Perform resistance brazing in accordance with AWS C3.9/3.9M.
- B. Steel and Iron: At round pipe railings and guardrails: 1-1/2" outside diameter pipe with horizontal rails spaced no more than 5-1/2" o.c.. At Square pipe railing and guardrails: 1-1/2" square posts, 1-1/2 X 1/2 top and bottom rails, 1/2" solid square bar vertical pickets spaced 4" on center maximum. Top rails to be 2'10" above stair nosing or ramp and extends 12" at top and bottom of stairs.
1. Finishes: Prepare raw material by "Brush-Off Blast Cleaning". Rust inhibiting alkyd primer (1 coat and flat black finish (2 coats), applied in ship to all exposed surfaces of metal, even if not normally visible.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Comply with manufacturer's drawings and written instructions.
- B. Install components plumb and level, accurately fitted, free from distortion or defects and with tight joints, except where necessary for expansion.
- C. Anchor posts in concrete by inserting into formed or core-drilled holes and grout space between post and concrete.
- D. Anchor handrail ends to concrete and masonry with round flanges connected to rail ends and anchored to wall construction with drilled in expansion anchors.

E. Anchor securely to structure.

3.02 LOCATIONS

A. Front porch steps; anchored to concrete steps.

B. Front steps from public sidewalk; anchored to concrete steps.

END OF SECTION

SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL

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1.01 SUBMITTALS

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
 - 3. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.
- B. Lumber fabricated from old growth timber is not permitted.
- C. Provide wood harvested within a 500 mile (805 km) radius of the project site; see Section 01 6000 for requirements for locally-sourced products.
- D. Lumber salvaged from deconstruction or demolition of existing buildings or structures is permitted in lieu of sustainably harvested lumber provided it is clean, de-nailed, and free of paint and finish materials, and other contamination; identify source; see Section 01 6000 for requirements for reused products.
- E. Lumber fabricated from recovered timber (abandoned in transit) is permitted in lieu of sustainably harvested lumber, unless otherwise noted, provided it meets the specified requirements for new lumber and is free of contamination; identify source.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings.
- B. Moisture Content: S-dry or MC19.
- C. Stud Framing (2 by 2 through 2 by 6 (50 by 50 mm through 50 by 150 mm)):
 - 1. Grade: No. 2.
- D. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16 (50 by 150 mm through 100 by 400 mm)):
- E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.03 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel per ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 - 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
- B. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
 - 1. For contact with preservative treated wood in exposed locations, provide minimum G185 (Z550) galvanizing per ASTM A653/A653M.
- C. Building Paper: Water-resistant Kraft paper.

2.04 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWWA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 - 1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWWA standards.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.02 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
- B. Install structural members full length without splices unless otherwise specifically detailed.
- C. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AFPA Wood Frame Construction Manual.
- D. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches (38 mm) of bearing at each end.

3.03 INSTALLATION OF CONSTRUCTION PANELS

- A. Underlayment: Secure to subflooring with nails and glue.

3.04 LOCATION

- A. Basement – Frame in new stair at existing stair location.
- B. First Floor Bathroom – Prepare Bathroom walls for tile where noted. Frame in new shower.
- C. Kitchen – Remove existing fake brick. Frame in window and door openings as indicated. Prepare walls for new kitchen cabinet installation. Remove subfloor and level structure, insulate where needed.
- D. Dining Room – Repair arch and columns.
- E. First Floor Side Room – Install sheetrock ceiling.
- F. Living Room – Remove infill shelves and wood surround just west of stairs in order to restore wood arch.
- G. Front Porch - Remove existing windows, enclosure walls and flooring. Retain existing roof and front soffit, temporarily support existing roof as needed. Level floor structure as needed.
- H. Rear Deck – Frame in rear deck and stair.
- I. Second Floor Front Bedroom – Frame in new closet. Frame in new attic access stair door.
- J. Second Floor East Bedroom – Frame in new closet and west door opening.
- K. Second Floor West Middle Room – Frame in new north wall.
- L. Second Floor Rear Bedroom and Closet – Frame in new closet and bathroom door opening.
- M. Second Floor Bathroom – Frame in relocated plumbing fixtures.
- N. Garage – Construct new 2 car garage. Position entry door and window to face rear yard and coordinate service door location with new concrete walks.
- O. Throughout – Structural reinforcing as shown on drawings.

END OF SECTION

SECTION 06 2000
FINISH CARPENTRY

PART 1 GENERAL

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1.01 RELATED SECTIONS

- A. See Section 09 9000 Painting and Coating, for trim finish and color.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

- A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI//AWMAC/WI Architectural Woodwork Standards for Premium Grade.

2.02 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.
- B. Provide sustainably harvested wood, certified or labeled as specified in Section 01 6000.
- C. Provide wood harvested within a 500 mile (805 km) radius of the project site.

2.03 LUMBER MATERIALS

- A. Softwood Lumber: Pine species, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.
 - 1. Baseboard system: #2 1X6 with 3/16 Radius shoulder with finger jointed WM-65fj 11/16" x 1 3/8" base cap molding.
 - 2. Window Trim: Header, stop, stool, apron and casing using 1"X4", #2 grade pine or better.
 - a. Ease all outside edges with 1/16" radius.

2.04 MANUFACTURED WOOD SIDING & TRIM

- A. First Floor Lap Siding: LP SmartSide, 8-inch exposure
- B. Second Floor Lap Siding: LP SmartSide, 4-inch exposure
- C. Door, Window, and

2.05 FABRICATION

- A. Shop assemble work for delivery to site, permitting passage through building openings.

2.06 SHOP FINISHING

- A. Sand work smooth and set exposed nails and screws.
- B. Apply wood filler in exposed nail and screw indentations.
- C. Finish work in accordance with AWI/AWMAC/WI Architectural Woodwork Standards, Section 5 - Finishing for Grade specified and as follows:

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install work in accordance with AWI/AWMAC/WI Architectural Woodwork Standards requirements for grade indicated.
- B. Set and secure materials and components in place, plumb and level.
- C. Use finish nails of sufficient length to penetrate framing 1".
- D. Miter all lap joints, and break all lap joints over framing.
- E. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch (1 mm). Do not use additional overlay trim to conceal larger gaps.

3.02 LOCATIONS

- A. Kitchen – Install new kitchen cabinetry and baseboard.
- B. Living / Dining Rooms – Restore arches.
- C. First Floor Bathroom – Install new door and frame.

- D. Front Porch – Install porch floor and railing. Porch detailing with standard posts and railings. Construct stair and landing for front entry
- E. Reconstruct Basement stair
- F. Rear Deck – Install porch floor and railing.
- G. Second Floor Bathroom – Install bathroom cabinet and door
- H. Second Floor Front Bedroom – Install attic access door and stair. Install new doors
- I. Second Floor East Bedroom – Install closet door and frame.
- J. Second Floor Rear Bedroom and Closet – Install closet door and frame.
- K. Repair wood soffits, fascia, brackets and trim at roof.
- L. Interior base, door and window trim, as required.
- M. Repair of existing interior doors.
- N. Installation of closet shelving and rods.
- O. Finish carpentry, as required, for a complete and finished project.
- P. LP Smart Side siding and trim on House.
- Q. LP Smart Side siding and trim on Garage.

END OF SECTION

**SECTION 07 2119
FOAMED-IN-PLACE INSULATION**

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 MATERIALS

- A. Foamed-In-Place Insulation: Medium-density, rigid or semi-rigid, closed cell polyurethane foam; foamed on-site, using blowing agent of water or non-ozone-depleting gas.
 - 1. Closed Cell Content: At least 90 percent.

2.02 ACCESSORIES

PART 3 EXECUTION

3.01 APPLICATION

- A. Apply insulation in accordance with manufacturer's instructions.

3.02 LOCATION

- A. Insulate and air seal to rim joist cavities to an r-value of R-19.
- B. See NEC Energy Audit Recommendations is Section 01 9200.

END OF SECTION

**SECTION 07 2126
BLOWN INSULATION**

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 MATERIALS

- A. Loose Fill Insulation: ASTM C739, cellulose fiber type, nodulated for pour and bulk for pneumatic placement.
 - 1. R-Value: Attic R-50
- B. Dense Pack Insulation: Fill Insulation: ASTM C739, cellulose fiber type, nodulated for pour and bulk for pneumatic placement.
 - 1. R-Value: 19 if possible
 - 2. Density: 3.5 Lbs. per Cubic Foot for the entire cavity
- C. Ventilation Baffles: Formed plastic.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install insulation and ventilation baffle in accordance with ASTM C1015 and manufacturer's instructions.
- B. Drill 2 inch (50 mm) diameter insulation access ports in fascia boards to permit equipment access.
- C. Place insulation pneumatically to completely fill stud, joist, and rafter spaces .
- D. Pour insulation to completely fill stud, joist, and rafter spaces to a density of 3.5 lbs per cubic foot per cavity.
- E. Completely fill intended spaces. Leave no gaps or voids.
- F. Carefully seal all drilled holes with wood or foam plugs and patch all holes to match surrounding materials if the surface is exposed.
- G. In balloon framed houses insure that blown cellulose is blocked from entering floor cavities such as second floor flooring.

3.02 LOCATIONS

- A. There are Attic areas will need to be accessed from the roof
- B. See additional locations such as knee walls, slants, etc. as mentioned in the NEC Specifications
- C. See NEC Energy Audit Recommendations is Section 01 9200

END OF SECTION

**SECTION 07 2500
WEATHER BARRIERS**

PART 1 GENERAL

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1.01 UNIT PRICES

- A. Provide a bid price for labor and additional materials required to perform work to code.
 - 1. Vendor: Lampert Siding
 - 2. Tyvek Housewrap

PART 2 PRODUCTS

2.01 WEATHER BARRIER ASSEMBLIES

- A. Weather Barrier Membrane: Spunbonded polyolefin, non-woven, non-perforated, weather barrier
 - 1. Manufacturer: DuPont Tyvek HomeWrap or like product to be approved by owner.
- B. Seam Tape: DuPont Tyvek or like product
- C. Flashing: DuPont Tyvek or like product
- D. Fasteners: DuPont Tyvek or like product
- E. Interior Vapor Retarder: 6 Mil heavy plastic (polyethylene) sheeting
 - 1. On inside face of masonry and concrete walls use vapor retarder sheet, self-adhesive type,.
 - a. Install to cover ground in crawl space and 6" up foundation walls
 - b. Overlap seams by 2' and secure with Tyvek tape.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions.
- B. Air Barriers: Install continuous air tight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.
- C. Install weather barrier over exterior face of exterior wall substrate in accordance with manufacturers recommendations.
- D. Attach weather barrier to studs through exterior sheathing. Secure using weather barrier manufacturers recommended fasteners, spaced 12-18 inches vertically on center along stud line, and 24 inches on center, maximum horizontally.

3.02 LOCATION

- A. Exterior of the House and Garage, under siding.
- B. Around new windows and door openings.
- B. See NEC Energy Audit Recommendations is Section 01 9200.

END OF SECTION

SECTION 07 2700
AIR BARRIER SYSTEM (SEALING OF BYPASSES)

PART 1 GENERAL

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1.01 QUALITY ASSURANCE

- A. Designer Qualifications: Perform design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in Minnesota.

PART 2 PRODUCTS

2.01 ADHESIVES AND SEALANTS

- A. VOC content not to exceed the following [g/L; less water and less exempt compounds]
 - 1. Multipurpose construction adhesives: 70 g/L

PART 3 EXECUTION

3.01 INSTALLATION

- A. Provide continuous air barriers.
 - 1. Install continuous interior air barrier around the building
 - 2. Install continuous external air barrier between all conditioned space and unconditioned space.
- B. Compartmentalization of dwelling units:
 - 1. Walls
 - a. Seal exterior wall corners with joint sealant [and/or foam]
 - b. Seal vertical walls at all penetrations with joint sealant [and/or foam]
 - c. Seal window frame with low expanding foam
 - d. Seal bottom plates on exterior walls with a foam gasket [and/or caulk, foam]
 - 2. Floors
 - a. Provide complete seal at joists supporting conditioned space with joint sealant [and/or foam]
 - 3. Ceilings
 - a. Install continuous top and bottom plates, and sheathing to create a six-sided air barrier on all attic knee walls and seal with foam [and/or caulk].
 - b. Install blocking at exposed edges of insulation at joists and rafters
 - c. Truss framing: Install blocking at the top and bottom of each framing bay.
 - d. Seal attic hatches with joint sealant [and/or foam].
 - e. Provide sealing around skylight shaft with joint sealant [and/or foam]
 - f. Install baffles between all rafters or trusses to direct the flow of air over and above the attic insulation.
 - g. Recessed lighting when below unconditioned attic: Install insulation contact, airtight rated (ICAT) and seal to drywall with gasket [and/or caulk, foam]
 - 4. Garage Isolation Air Barrier (when attached to dwelling unit)
 - a. Install continuous air barrier between the conditioned living space and any garage space and seal with foam [and/or caulk].
 - b. Seal between all walls separating conditioned and garages spaces with foam [and/or caulk].
 - c. All pipe and conduit penetrations shall be sealed with material compatible with the adjacent materials and resilient to temperature fluctuations and providing fire-resistive characteristics of required by authorise having jurisdictions.
 - d. Floor trusses: Seal and block floor trusses and joists between conditioned space and garage with foam [and/or caulk].
 - 5. Bathtub and Shower Enclosures
 - a. Use mold-resistant material [plywood, oriented strand board (OSB), sheathing boards, moisture resistant gypsum] behind bathtub or shower enclosures, and extend the mold-resistant material the full length and with of the wall(s) on which the bathtub or shower enclosure abuts. Seal at all joints.

- b. Install spray foam at framing behind bathtub or shower enclosure prior to setting tub or shower.
- C. Continuity of External Air Barrier
1. Roof
 - a. Install 4-inch to 6 inch "peal and seal" self-adhering waterproofing strips over joints in roof decking before installing the roof underlayment and cover.
 2. Mechanical work
 - a. Seal holes from penetrations from unconditioned spaces with joint sealant and provide flashing.
 - b. Seal flue openings with flashing and fire-rated joint sealant
 3. Building Envelope
 - a. Air barrier must be continuous around building, including all components that act together as the exterior air barrier (sheet or liquid membrane with compatible tapes, caulks, flashing). Foam or caulk all exterior sheathing joints and intersections.
 - b. Install weatherstripping hard-fastened to the door or frame at entranceways.
 - c. Seal the roof curb at ductwork penetrations.
 - d. Install continuous air barrier at the intersection of the porch roof and conditioned space.
 - e. Air seal and insulate exterior sheathing on bottom of cantilevered floor.
 - f. Lap and Foam or caulk exterior rigid insulation over the seams of the exterior wall sheathing.
 4. Fireplace Enclosures
 - a. Seal fireplace flue and wall penetrations with fire-rated caulking along with flashing or UL-rated collars.
 5. Use air sealing with polyurethane caulk for following areas:
 - a. Slab openings
 - b. Slab penetrations
 - c. Control or expansion joints
 - d. Sump cover
 6. Pest Management Measures
 - a. For openings in the building envelope less than 1/4 inch, including pipe and electrical penetrations:
 - 1) completely seal to avoid pest entry.
 - b. Install rodent-and corrosion proof screens for openings greater than 1/4 inch.

3.02 LOCATION

- A. Exterior and Interior Throughout, including attic.
- B. See NEC Energy Audit Recommendations is Section 01 9200

**SECTION 07 3113
ASPHALT SHINGLES**

PART 1 GENERAL

\$ _____

1.01 UNIT PRICES

- A. Provide a bid price for labor and additional materials required to perform work to code.
 - 1. Vendor: Lampert Roofing
 - 2. GAF Elk Timberline 30 year HD Shingles
 - 3. Timbertex
 - 4. Ice and Water Shield
 - 5. 15 lb. felt.

1.02 QUALITY ASSURANCE

- A. Perform Work in accordance with the recommendations of NRCA Steep Roofing Manual.

PART 2 PRODUCTS

2.01 SHINGLES

- A. Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462; Class A fire resistance.
 - 1. Self-sealing type.
 - 2. Manufacturer: GAF ELK, Timberline 30 Year HD shingles
 - 3. Style: Architectural Shingle.
 - 4. Color: Weathered Wood.

2.02 ACCESSORIES

- A. Nails: Standard round wire shingle type, of hot-dipped zinc coated steel, 12 gage, 0.105 inch (2.67 mm) shank diameter, 3/8 inch (9.5 mm) head diameter, of sufficient length to penetrate through roof sheathing or 3/4 inch (19 mm) into roof sheathing or decking.

PART 3 EXECUTION

3.01 INSTALLATION - SHINGLES

- A. Install shingles in accordance with manufacturer's instructions.

3.02 LOCATION

- A. Provide asphalt shingles, drip edge and underlayment at entire house and porch.
- B. Provide asphalt shingles, drip edge and underlayment at garage.

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

\$ _____

1.01 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Aluminum: ASTM B209 (ASTM B209M); 0.032 inch (0.8 mm) thick; anodized finish of color as selected.
 - 1. Clear Anodized Finish: AAMA 611 AA-M12C22A41 Class I clear anodic coating not less than 0.7 mils (0.018 mm) thick.
- B. Pre-Finished Aluminum Soffit, Trim and Facia: ASTM B209 (ASTM B209M); 0.024 inch (____ mm) thick; plain finish shop pre-coated with modified silicone coating.
 - 1. Manufacturer: Alscos Perfect Trim Plus

PART 3 EXECUTION

3.01 INSTALLATION

- A. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
- B. Seal metal joints watertight.

3.02 LOCATION

- A. Exterior of the house – soffit to be fully vented.
- B. Garage – soffit to be fully vented.

END OF SECTION

**SECTION 07 7123
MANUFACTURED GUTTERS AND DOWNSPOUTS**

PART 1 GENERAL

\$ _____

1.01 DESIGN REQUIREMENTS

- A. Conform to applicable code for size and method of rain water discharge.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Pre-Finished Aluminum Sheet: ASTM B209 (ASTM B209M); 0.032 inch (0.8 mm) thick.
 - 1. Finish: Plain, shop pre-coated with modified silicone coating.
 - 2. Color: To match the house paint color.

2.02 COMPONENTS

- A. Gutters: K style profile, seamless, one-piece aluminum gutter and guard
- B. Gutter Guard: seamless, one-piece aluminum gutter and guard
- C. Downspouts: SMACNA Rectangular profile.
 - 1. Size: 3X5
- D. Anchors and Supports: Profiled to suit gutters and downspouts.
 - 1. Gutter Supports: Brackets.
 - 2. Downspout Supports: Straps.
- E. Fasteners: Galvanized steel , with soft neoprene washers.

2.03 ACCESSORIES

- A. Splash Pads: Precast concrete type, size and profiles indicated; minimum 3000 psi (21 MPa) at 28 days, with minimum 5 percent air entrainment.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.
- B. Where feasible, a minimum of 6' offset extension shall be installed at the ends of all downspouts to divert water away from foundation.
- C. Downspouts shall divert the entire water load in the direction of the rain garden according to the Landscape Plan.

3.02 LOCATION

- A. Downspouts shall divert the entire water load in the direction of the rain garden according to the Landscape Plan.
- B. Refer to drawings for location.
- C. Provide concrete splash blocks at each downspout.

END OF SECTION

SECTION 08 1100
EXTERIOR INSULATED METAL DOORS AND FRAMES

PART 1 GENERAL

\$ _____

PART 2 PRODUCTS

2.01 EXTERIOR PREHUNG METAL DOOR

- A. Front Door:
 - 1. Product: Mastercraft, TS-640
- B. Rear Door:
 - 1. Product: Mastercraft, Half Lite w/ Blinds - LT-10
- C. Garage Service Door:
 - 1. Product: Mastercraft, 6-Panel - E-1

2.02 ALUMINUM STORM DOORS

- A. Front Door
 - 1. Product: Larson, Oakley, or approved equivalent
- B. Rear/Side Doors
 - 1. Product: Larson, Oakley, or approved equivalent

2.03 ACCESSORIES

- A. DOOR HARDWARE: Door hardware finish to be Satin Nickel
 - 1. Front Door Hardware: Schlage Avanti
 - 2. Interior Door Hardware: Schlage Avanti

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine doors and installed door frames before hanging doors.
 - 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
 - 2. Reject doors with defects
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Use an expanding foam to insulate between the door frame and the rough opening.
- C. Set units plumb, level, and true-to-line, without warping or racking doors, and with specified clearances; anchor in place.
- D. Align and fit doors in frames with uniform clearances set by manufacturer.
- E. Seal edges of doors, edges of cutouts, and mortises after fitting and machining

3.03 SYSTEMS INTEGRATION

- A. Coordinate with low-voltage security contractor to install contacts in door.

3.04 ADJUSTING

- A. Adjust Doors for smooth operation.
- B. Operation: Rehang or replace doors that do not swing or operate freely.

3.05 LOCATIONS

- A. Front Entrance
- B. Rear Entrance
- C. Service door and hardware at new garage.
- D. Provide storm doors at front and rear entrance.

END OF SECTION

SECTION 08 1429
WOOD DOORS

\$ _____

PART 2 PRODUCTS

2.01 INTERIOR WOOD DOORS

- A. Quality Level: Premium Grade , in accordance with AWI/AWMAC/WI Architectural Woodwork Standards.
- B. Wood products that Emit Low or No Formaldehyde
- C. Wood products that Emit Low or No VOC
- D. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; solid lumber construction; mortised and tendoned joints.
 - 1. Wood: Hardwood
 - 2. Door Type: 2-panel, prehung
- E. Bi-fold
 - 1. Wood: Pine

2.02 ACCESSORIES

- A. Molding: Wood, match existing, of same species as door facing, mitered corners; prepared for countersink style tamper proof screws.
- B. Adhesives and Sealants: VOC content not to exceed the following [g/L; less water and less exempt compounds]:
 - 1. Multipurpose Construction Adhesives: 70g/L
- C. Privacy Lockset
- D. Hinges to match the lockset
- E. Door stop

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and AWI/AWMAC Quality Standards requirements.
- B. Coordinate installation of doors with installation of frames and hardware.

3.02 TOLERANCES

- A. Conform to specified quality standard for fit, clearance, and joinery tolerances.

3.03 LOCATIONS

- A. First Floor
 - a. Bathroom
 - b. West Side Room – double door
 - c. Dining Room – closet below stair
- B. Second Floor
 - a. South Bedroom – double door
 - b. Bathroom – reuse from East Bedroom if possible
- C. Bi-fold
 - a. North and East Bedroom Closet
- D. Refer to drawing for more information, including location, swing and schedule.
- E. Adjust all existing and new doors to close properly without binding.

END OF SECTION

**SECTION 08 2550
ATTIC ACCESS STAIR**

\$ _____

PART 1 GENERAL

1.01 WARRANTY

- A. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 ATTIC ACCESS STAIR

- A. Quality Level: Type 1A Duty Rating
- B. Steel rail, rung and frame construction.
- C. Load capacity: 350 lbs.
- D. Attic Access Stair:
 - 1. Manufacturer: Fakro, available at Home Depot
 - 2. Model: LWM 22x47
 - 3. Dimensions: 22" x 47" x 8'-3" or as required by conditions.
 - 4. Insulated Door.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install Attic Access Stair in accordance with manufacturer's .
- B. Coordinate framing of opening as required.

3.02 TOLERANCES

- A. Conform to specified quality standard for fit, clearance, and joinery tolerances.

3.03 LOCATIONS

- A. Ceiling of South Bedroom Closet, as shown on Drawings.

END OF SECTION

**SECTION 08 3323
OVERHEAD GARAGE DOORS**

PART 1 GENERAL

PART 2 PRODUCTS

\$ _____

2.01 COILING DOORS

- A. Exterior Coiling Doors: Un-insulated aluminum slat curtain.
 - 1. Guides: Formed track; galvanized steel.
 - 2. Electric operation.
 - 3. Mounting: Within framed opening.
 - 4. Exterior lock and latch handle.

2.02 ELECTRIC OPERATION

- A. Electric Operators: Chain Drive Garage Door Opener
 - 1. Motor Rating: 1/3 hp (250 W); continuous duty.
 - 2. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
 - 3. Controller Enclosure: NEMA 250 Type 1.
 - 4. Opening Speed: 12 inches per second (300 mm/s).
 - 5. Brake: Adjustable friction clutch type, activated by motor controller.
 - 6. Manual override in case of power failure.
- B. Control Station: Standard three button (OPEN-STOP-CLOSE) momentary control for each operator.
 - 1. 24 volt circuit.
- C. Safety Edge: Located at bottom of curtain, full width, electro-mechanical sensitized type, wired to stop operator upon striking object, hollow neoprene covered.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install units in accordance with manufacturer's instructions.
- B. Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- C. Complete wiring from disconnect to unit components.

3.02 LOCATION

- A. Overhead door and electric door opener with two remotes at new garage.

END OF SECTION

**SECTION 08 5200
WOOD WINDOWS**

PART 1 GENERAL

\$ _____

1.01 WARRANTY

- A. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 WOOD WINDOWS

- A. Existing Wood Windows: Wood frame and sash.
1. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 R15.
 2. Exterior Finish: Match exterior paint color
 3. Interior Finish: Stain
 4. Configuration: As indicated on drawings.
 5. Frame and Sash Members: Mortise and tenon joints. Glue and steel pin joints to hairline fit, weather tight.
 6. Clearances and Shim Spacing: Minimum required for installation and dynamic movement of perimeter seal.

2.02 COMPONENTS

- A. Clean, repair, finish and ensure operation of exterior storm windows

2.03 MATERIALS

PART 3 EXECUTION

3.01 INSTALLATION

- A. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

3.02 LOCATION

- A. Living Room – west window.
- B. Living Room – south window, repair/create storm windows for fixed panes.
- B, Second Floor Front Bedroom – west window.

END OF SECTION

SECTION 08 5313
VINYL WINDOWS

PART 1 GENERAL

\$ _____

1.01 PERFORMANCE REQUIREMENTS

- A. Performance Requirements: Energy Star Rated to meet Minnesota climate conditions. Climate Zone 6 for 2006 IECC, ASHRAE 90.1-2007 and ENERGY STAR.

PART 2 PRODUCTS

2.01 COMPONENTS

- A. Windows: Extruded, hollow, tubular, ultra-violet resistant polyvinyl chloride (PVC) with integral color; factory fabricated; with vision glass, related flashings, anchorage and attachment devices.
 - 1. Performance Requirements: AAMA/WDMA/CSA 101/I.S.2/A440 R15.
 - 2. Configuration: double hung and fixed double hung sash.
 - 3. Color: Color as selected.
- B. Insect Screens: 14/18 mesh, steel strands.
- C. Fasteners: Stainless steel.

2.02 ADHESIVES AND SEALANTS

- A. VOC content not to exceed the following [g/L; less water and less exempt compounds]:
 - 1. Multipurpose Construction Adhesives: 70 g/L
 - 2. Structural Glazing Adhesives: 100 g/L

2.03 HARDWARE

- A. Double Hung Sash: Metal and nylon spiral friction slide cylinder, each sash, each jamb.
- B. Sash lock: Lever handle with cam lock.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install window units in accordance with manufacturers instructions.
- B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.
- C. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.
- D. Insulate any voids between the window frame and the rough opening with foam insulation.

3.02 ADJUSTING

- A. Adjust hardware for smooth operation and secure weathertight closure.

3.03 APPLICATIONS

- A. Water Management: Walls, Exterior Windows
 - 1. Provide weather-resistive barrier/housewrap
 - 2. Provide pathway for liquid water to exit exterior wall assembly
 - 3. Provide pan flashing, side flashing, and head flashing

3.04 LOCATION

- A. **REPLACEMENT WINDOWS**
 - 1. **DOUBLE HUNG:**
 - a. Living Room – south wall, each side of fixed panes
 - b. Dining Room – east wall
 - c. West Side Room – west wall
 - d. South Bedroom Closet – south wall
 - e. South Bedroom – south wall

- f. Laundry – west wall
- g. East Bedroom – east wall
- h. Bathroom – west wall
- i. North Bedroom – north and east wall

2. FIXED WINDOW

- a. Living Room – south wall

B. NEW WINDOWS

- a. Kitchen – north and west walls

END OF SECTION

SECTION 09 0120
REPAIR OF PLASTER AND GYPSUM BOARD SURFACES

PART 1 GENERAL

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1.01 SUMMARY

- A. This section covers surface repairs of plaster and gypsum board surfaces.
- B. Finish surface type should be smooth unless otherwise indicated, including skimcoating

PART 2 PRODUCTS

2.01 ACCESSORIES

- A. Galvanized metal lath
- B. Joint Compound
- C. Plaster
- D. Plastic Tarps

PART 3 EXECUTION

3.01 REPAIR

- A. Walls and Ceilings: Repair interior surface(s) so that finish surface is smooth, even and properly prepared for finish application.
 - 1. Protect adjacent finished surfaces by covering with plastic or tarps.
 - 2. Install galvanized metal lath (weight per city code) over area of back up as required. May also secure with screws and inserted piece of gypsum board in areas to be patched.
 - 3. Before applying scratch coats, dampen areas to reduce absorption from joint compound/plaster.
 - 4. Apply finish coat and bring to thickness flush with surrounding surface.
 - 5. The interior temperature must be no less than a minimum 60 degrees during this work.

3.02 LOCATION

- A. Throughout; First and Second Floor as needed following improvements. Refer to drawings

END OF SECTION

**SECTION 09 0160
HARDWOOD FLOORING RESTORATION**

PART 1 GENERAL

\$ _____

1.01 UNIT PRICE

A. Unit Price #3: Provide a per square cost for replacement of wood flooring.

1.02 RELATED SECTIONS

- A. See Section 099000 Painting and Coating.
- B. See Section 01 6116 Volatile Organic Compound Content Restrictions

PART 2 PRODUCTS

- A. Match existing flooring species and dimensions to the extent possible.

PART 3 EXECUTION

3.01 RESTORATION

- A. Restore hardwood floors: Counter sink all nails and fill holes. Remove the quarter round molding and protect the wall molding with painters tape. Drum sand and edge floor finishing with 120 grit sandpaper to completely remove the existing finish. Vacuum and wipe floor with slightly water dampened rag, until no dust is present.
- B. Apply a coat of Minwax Low-VOC Water Based Polyurethane base coat followed by 3 coats of Minwax Low-VOC Water Based polyurethane for floors.
 - 1. Product may not exceed 250 grams of VOC per Liter

3.02 LOCATIONS

- A. First Floor:
 - 1. Throughout
 - 2. Except Kitchen, Rear Hall, Bathroom
- B. Second Floor:
 - 1. Throughout
 - 2. Except Bathroom, North Bedroom and Closet
- C. Provide new wood floor for North Bedroom and Closet.

END OF SECTION

SECTION 09 2116
GYPSUM BOARD INSTALLATION

PART 1 GENERAL

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1.01 RELATED SECTIONS

- A. Section 01 8131 – Sustainable Design Requirements

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.

2.02 BOARD MATERIALS

- A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 2. Thickness:
 - a. Vertical Surfaces: 1/2 inch (13 mm).
 - b. Ceilings: 1/2 inch (13 mm).
- B. Backing Board For Wet Areas:
1. Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings.
 2. All bathrooms will have non-paper-faced materials such as cement board, fiber cement board, or equivalent.

2.03 ACCESSORIES

- A. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
1. Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
 2. Ready-mixed vinyl-based joint compound.
 3. Powder-type vinyl-based joint compound.
 4. Chemical hardening type compound.

PART 3 EXECUTION

3.01 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

3.02 JOINT TREATMENT

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 2. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.

3.03 LOCATIONS

- A. As required by suggested demolition:
1. First Floor West Side Room - new ceiling to replace fiberboard ceiling
 2. First Floor Bathroom – new ceiling to replace fiberboard ceiling
 3. Bathroom walls at shower / tub surround
 4. Walls and ceilings, as required by the Work.

END OF SECTION

SECTION 09 3000

TILING

PART 1 GENERAL

\$ _____

1.01 ALLOWANCES

- A. Allowances for Tile of \$3.00 per square foot.

1.02 FIELD CONDITIONS

- A. Do not install adhesives in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during installation of mortar materials.

PART 2 PRODUCTS

2.01 TILE

- A. Glazed Wall Tile Type Ceramic: ANSI A137.1 , and as follows:
 - 1. Colors: To be selected by Construction Manager from manufacturer's standard range.

2.02 TRIM AND ACCESSORIES

- A. Ceramic Accessories: Glazed finish, same color and finish as adjacent field tile; same manufacturer as tile.
- B. Ceramic Trim: Matching bullnose, double bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
- C. Thresholds: Marble, white or gray, honed finish; 2 inches (50 mm) wide by full width of wall or frame opening; 1/2 inch (12 mm) thick; beveled one long edge with radiused corners on top side; without holes, cracks, or open seams.

2.03 GROUT MATERIALS

- A. Standard Grout: Any type specified in ANSI A118.6 or A118.7.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and The Tile Council of North America Handbook recommendations.
- B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

3.02 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over wood substrates, install in accordance with The Tile Council of North America Handbook Method F142, with standard grout, unless otherwise indicated.
 - 1. Where epoxy bond coat and grout are indicated, install in accordance with The Tile Council of North America Handbook Method F143.
- B. Over wood substrate with backer board underlayment, install in accordance with The Tile Council of North America Handbook Method F144, for cementitious backer boards, with standard grout.

3.03 INSTALLATION - FLOORS - MORTAR BED METHODS

- A. Over wood substrates, install in accordance with The Tile Council of North America Handbook method F141, with standard grout, unless otherwise indicated.

3.04 INSTALLATION - SHOWERS AND BATHTUB WALLS

- A. At tiled shower receptors install in accordance with The Tile Council of North America Handbook Method B415, mortar bed floor, and W244, thin-set over cementitious backer unit walls.
- B. At bathtub walls install in accordance with The Tile Council of North America Handbook Method B412, over cementitious backer units with waterproofing membrane.

- C. Grout with standard grout as specified above.

3.05 INSTALLATION - WALL TILE

- A. On exterior walls install in accordance with The Tile Council of North America Handbook Method W202, thin-set over concrete and masonry with latex-Portland cement grout.
- B. Over cementitious backer units on studs, install in accordance with The Tile Council of North America Handbook Method W244, using membrane at toilet rooms.

3.06 LOCATIONS

- A. First Floor Shower Tile Surround
- B. Second Floor Bathroom Bathtub Tile Surround

END OF SECTION

**SECTION 09 6219
LAMINATE FLOORING**

PART 1 - GENERAL

\$ _____

1.01 ALLOWANCES

- A. Allowances for Material, including flooring and underlayment, \$4.50 per square feet.

1.02 SYSTEM DESCRIPTION

- A. Design Requirements: Provide concealed fastening wherever possible.
 - 1. Attachment considerations shall take into account site peculiarities and expansion and contraction movements so there is not possibility of loosening, weakening, buckling, or fracturing connection between wood flooring and substrate.

1.03 QUALITY ASSURANCE

- A. Single Source Responsibility: Furnish laminate flooring from one manufacturer for Residential Units unless otherwise acceptable to Project Manager.
- B. Composite-wood Products: Contain no urea formaldehyde.
- C. Installer Qualifications: Acceptable to manufacturer with experience on at least five projects of similar nature in past five years.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Protect materials from damage, moisture, soiling and deterioration during transit and storage.
- B. Do not deliver flooring materials until Project site conditions and operations which could damage, soil or deteriorate work are complete.
- C. Store products and materials in ventilated, interior locations under constant minimum temperature and relative humidity recommended by manufacturer.

1.05 FIELD CONDITIONS

- A. Environmental Requirements: Obtain and maintain temperature and moisture conditions as recommended by laminate flooring manufacturer during installation and remainder of construction period.

PART 2 - PRODUCTS

2.01 LAMINATE FLOORING – RESIDENTIAL UNITS

- A. Description: Laminate flooring (Direct Pressure Laminate) consisting of four layered construction, Four layered thermal fused process includes smooth, abrasion resistant wear surface composed of cellulose paper saturated with melamine resin embedded with aluminum oxide to provide stain and scratch resistance, VTX print saturated with melamine resin to provide fade resistance, high density fiberboard core with technology to add moisture resistance, and melamine saturated balanced backing paper for added dimensional stability.
- B. Basis of Design: Tarkett series to be selected by Project Manager. Selected from currently available Collection in 4.92 inches width x 47.24 inches length having nominal total gauge of 0.47 inch.
- C. Other Acceptable Manufacturers:
 - 1. Pergo Laminate Floors, Mediterranean Kempas.

2.02 ACCESSORIES

- A. Transition Pieces: Provide coordinating transitions and moulding pieces designated for L8706 to meet installation application for finishing and transitioning to other flooring products.
- B. Primer and Adhesive: Manufacturer's recommended for conditions.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine conditions and proceed with work in accordance with Section 01 40 00.
 - 1. Verify that substrates comply with manufacturer's requirements.
 - 2. Ensure concrete has cured 28 days minimum.
 - 3. Verify concrete curing compounds are compatible with flooring adhesive.
 - 4. Verify that substrate is clean, dry, free of voids and cracks.

3.02 PREPARATION

- A. Concrete Substrate Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.
 - 1. Perform anhydrous calcium chloride test, ASTM F1869. Ensure concrete is within floor manufacturer's recommended limits prior to installation.
 - 2. For substrates with moisture vapor permeance in excess of 3 pounds water vapor per 1000 SF per 24 hour period, use floor coating manufacturer's suggested remedy. Do not proceed with flooring application until condition is corrected.
- B. Preparation:
 - 1. Remove ridges, bumps, trowel marks and protrusions from substrate.
 - 2. Clean substrate to remove paint, dirt, oil, grease, sealers, release agents, hardening compounds, curing compounds, residual adhesives, and harmful substances which could impair performance of adhesive materials used with flooring products.
 - 3. Fill depressions, low spots, cracks, joints, holes, indentations, and other defects with leveling and patching compounds. Trowel to smooth, flat surface producing substrate to within tolerance of 1/4 inch in 10 feet.
 - 4. Vacuum clean substrate.
 - 5. Prime substrate in accordance with manufacturer's requirements.

3.03 LAMINATE FLOORING INSTALLATION

- A. Install flooring and adhesive in accordance with manufacturer's recommendations.
 - 1. Install laminate flooring plumb, level, square, and free from warp or twist while maintaining dimensional tolerances and alignment with surrounding construction.
 - 2. Roll flooring immediately after installation with minimum 100 pounds roller.
 - 3. Install flooring wall to wall before installation of floor-set cabinets, casework, furniture, equipment, movable partitions, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings.
 - 4. Scribe, cut, and fit to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets leaving required expansion of 1/4 inch to 1/2 inch.
 - 5. Install flooring with adhesives, tools, and procedures in accordance with manufacturer's recommendations. Observe recommended adhesive trowel notching, open times, and working times.
- B. Transition Pieces: Install coordinated transitions and molding pieces in accordance with manufacturer's recommendations.

3.04 CLEANING AND PROTECTION

- A. Cleaning: Clean as recommended by manufacturer. Do not use materials or methods which may damage finish and surrounding construction.
 - 1. Remove excess adhesive from floor surface as work progresses.

3.05 LOCATIONS

- A. **Second Floor – North Bedroom and Closet.**

SECTION 09 9000
PAINTING AND COATING

PART 1 GENERAL

\$ _____

1.01 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.02 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Paints and Coatings: Sherwin Williams Low VOC or an any manufacturer listed in MPI Approved Products List (at www.paintinfo.com) approved by Project Manger.
 - 1. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
 - 2. Provide all paint and coating products from the same manufacturer to the greatest extent possible.
- B. Stains: Minwax Low VOC or any other manufacturer approved by Project Manager
- C. Masonry: Benjamin-Moore elastomeric paint, flat finish.

2.02 MATERIALS - GENERAL

- A. Volatile Organic Compound (VOC) Content:
 - 1. Provide coatings that comply with the most stringent requirements specified in the following:
 - a. Flat: 50 grams/Liter
 - b. Non-Flat: 50 grams/Liter
 - c. Floor Coating: 100 grams/Liter
 - d. Anti-Corrosive: 250 grams/Liter

2.03 PAINT SYSTEMS

- A. Provide Premium Grade systems (2 top coats) as defined in MPI Architectural Painting Specification Manual, except as otherwise indicated.
- B. Where a specified paint system does not have a Premium Grade, provide Custom Grade system.
- C. Where sheen is not specified or more than one sheen is specified, sheen will be selected later by Construction Manager from the manufacturer's full line.
- D. Provide colors as directed by Construction Manager.
- E. Provide smooth texture throughout.

2.04 EXTERIOR PAINT SYSTEMS

- A. Wood Traffic Surfaces:
 - 1. Applications include but are not limited to Decks.
 - 2. EXT 6.5D Deck Stain: Wood Preservative MPI #37, Deck Stain MPI #33.
- B. Masonry Paint

2.05 INTERIOR PAINT SYSTEMS

- A. Dressed Lumber:
 - 1. Applications include but are not limited to doors, door frames, window frames, window casings, trim, baseboards, and moldings.

- B. Plaster and Gypsum Board:

PART 3 EXECUTION

3.01 SCOPE -- SURFACES TO BE FINISHED

- A. Paint all exposed surfaces except where indicated not to be painted or to remain natural; the term "exposed" includes areas visible through permanent and built-in fixtures when they are in place.
- B. Paint the surfaces described in PART 2 and as follows:
 - 1. If a surface, material, or item is not specifically mentioned, paint in the same manner as similar surfaces, materials, or items, regardless of whether colors are indicated or not.
 - 2. Paint surfaces behind movable equipment and furnishings the same as similar exposed surfaces.
 - 3. Paint surfaces to be concealed behind permanently installed fixtures, equipment, and furnishings, using primer only, prior to installation of the permanent item.
 - 4. Paint back sides of access panels and removable and hinged covers to match exposed surfaces.
- C. Do Not Paint or Finish the Following Items:
 - 1. Items fully factory-finished unless specifically noted; factory-primed items are not considered factory-finished.
 - 2. Items indicated to receive other finish.
 - 3. Items indicated to remain naturally finished.
 - 4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.

3.02 APPLICATION

- A. Apply products in accordance with manufacturer's instructions and as specified or recommended by MPI Manual, using the preparation, products, sheens, textures, and colors as indicated.
- B. Do not apply finishes over dirt, rust, scale, grease, moisture, scuffed surfaces, or other conditions detrimental to formation of a durable coating film; do not apply finishes to surfaces that are not dry.
- C. Use applicators and methods best suited for substrate and type of material being applied and according to manufacturer's instructions.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate; provide total dry film thickness of entire system as recommended by manufacturer.
- E. Apply finish to completely cover surfaces with uniform appearance without brush marks, runs, sags, laps, ropiness, holidays, spotting, cloudiness, or other surface imperfections.

3.03 LOCATIONS

- A. Throughout
 - 1. Walls and Ceilings: Eggshell Sherwin Williams Low VOC
 - a. Wall Color: Wool Skein, SW 6148
 - b. Ceiling Color: Ceiling White
 - 2. Interior Trim: Semi-gloss Sherwin Williams Low VOC
 - a. Trim Color: Extra White, SW 7006

- B. Bathroom
 - 1. Walls and Ceilings: Semi-gloss Sherwin Williams Low VOC
 - a. Wall Color: Nacre, SW 6154
 - b. Ceiling Color: Ceiling White
- C. Basement:
 - 1. Floor
 - a. Color: Match concrete floor grey
 - 2. Masonry Walls
 - a. Color: Wool Skein, SW 6148
- D. Exterior:
 - 1. Front Porch - Stain
 - a. Color: Yankee Barn, SW3505
 - 2. House siding
 - a. Color: Stone Lion, SW7507
 - 3. House trim
 - a. Color: Windfresh White, SW7628
 - 4. Garage to match house

END OF SECTION

SECTION 10 5623
CLOSET STORAGE SHELVING

PART 1 GENERAL

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1.01 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, with installation instructions.

PART 2 PRODUCTS

2.01 SHELVING APPLICATIONS

- A. Shelf Depth: 12 inches (305 mm), unless otherwise indicated.
- B. Other Bedroom Closets:
 - 1. Wall-to-wall shelf with free sliding hanger rod.
 - 2. Not less than 4 feet (1.25 m) of shoe shelf.
- C. Coat Closets:
 - 1. Wall-to-wall shelf with integral hanger rod.
- D. Linen Closets:
 - 1. Wall-to-wall shelves spaced at 13 inch (330 mm) vertically, not less than 16 inch (408 mm) deep.
- E. Storage Closets:
 - 1. Wall-to-wall storage shelves, stacked at 13 inch (330 mm) vertically, not less than 12 inch (305 mm) deep.

2.02 MATERIALS

- A. Wire Shelving: Factory-assembled coated wire mesh shelf assemblies for wall-mounting, with all components and connections required to produce a rigid structure that is free of buckling and warping.
 - 1. Construction: Cold-drawn steel wire with average tensile strength of 100,000 psi (690 MPa) resistance welded into uniform mesh units, square, rigid, flat, and free of dents or other distortions, with wires trimmed smooth.
 - 2. Coating: PVC or epoxy, applied after fabrication, covering all surfaces.
 - 3. PVC Coating: 9 to 11 mils (0.23 to 0.028 mm) thick.
 - 4. Epoxy Coating: Non-toxic epoxy-polyester powder coating baked-on finish, 3 to 5 mils (0.76 to 1.27 mm) thick.
 - 5. Standard Mesh Shelves: Cross deck wires spaced at 1 inch (25.4 mm).
 - 6. Close-Mesh Shelves: Cross deck wires spaced at 1/2 inch (12.7 mm).
 - 7. Shelf and Rod Units: Integral hanging rod at front edge of shelf.
 - 8. Free-Sliding Hanging Rod: Integral hanging rod that permits uninterrupted sliding of hangers the full width of the shelf.
 - 9. Shoe Shelves: Same wire spacing as standard mesh shelves; angled wall brackets; upturned front lip.
- B. Fasteners: As recommended by manufacturer for mounting substrates.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions, with shelf surfaces level.
- B. Install back clips, end clips at side walls, and support braces at open ends. Install intermediate support braces as recommended by manufacturer.

3.02 LOCATIONS

- A. Closets Throughout

END OF SECTION

SECTION 11 3100
HRA RESIDENTIAL APPLIANCES

PART 1 GENERAL

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1.01 SUMMARY

- A. All appliances must be purchased new and Energy Star certified or high efficiency models when Energy Star certification is not possible.
- B. All appliances must meet the Sustainable Design Requirements covered in Section 018113

1.02 PRICE AND PAYMENT PROCEDURES

- A. Appliances have been pre-purchased by the HRA for this project. Delivery of all material to the job site is included in pre-purchase. Contractor is responsible for contacting specified vendor to arrange for and take delivery. Provide a bid price for labor and additional materials required to perform work to code.
 - 1. Vendor: All, Inc. Appliances
 - 2. Product:
 - a. Refrigerator: FFHT2126LS/K Energy Star Rated 21 cu ft top mounted refrigerator, stainless steel, with icemaker
 - b. Range: FFGF3053LS Frigidaire 30" Free-standing Gas Range, Self Clean, Clock
 - c. Microwave/Hood: FFMV162LS Over the Range Micro/Hood, to be vented to exterior
 - d. Dishwasher: FGHD2433KF Energy Star 24" Built-in Dishwasher, including dishwasher cord.
 - e. Washer: FAFW3801LW Energy Star Residential Front Load Washer
 - f. Dryer: FAQG7001LW Residential Gas Dryer

1.03 SUBMITTALS

- A. Product Data: Manufacturer's data indicating dimensions, capacity, and operating features of each piece of residential equipment specified.

1.04 QUALITY ASSURANCE

- A. Electric Appliances: Listed and labeled by UL and complying with NEMA standards.
- B. Gas Appliances: Bearing design certification seal of AGA.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 INSTALLATION

- A. All appliances shall be uncrated, cleaned and readied for use.
- B. Installation shall include all cord attachments, wiring, plumbing as gas hook ups necessary for appliance operation.
- C. Install in accordance with manufacturer's instructions.
- D. Anchor built-in equipment in place.

3.02 LOCATIONS

- A. **Basement**
- B. **Kitchen**

END OF SECTION

**SECTION 12 1110
HRA MAIL BOX AND HOUSE NUMBERS**

PART 1 GENERAL

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1.01 PRICE AND PAYMENT PROCEDURES

- A. Allowances: Not used.

PART 2 PRODUCTS

2.01 MAILBOX

- A. Black Locking Wall Mounted Mailbox
 - 1. 12.5"x9.625"x4.375"
 - 2. Available at Menards

2.02 HOUSE NUMBERS

- B. Black Distinction Flush Mount
 - 1. 4" high
 - 2. Two sets: House and Garage
 - 3. Available at Menards

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

3.02 LOCATION

- A. House Number and Mailbox at Front Entrance
- B. House Number at Garage Overhead Door Entrance

END OF SECTION

**SECTION 12 1111
BATHROOM FURNISHINGS**

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 TOWEL SETS

- A. Install a metal bath set comprised of a hand towel ring, 24" towel bar and toilet paper holder
- B. Manufacturer: Sage Series Toilet Accessories
 - 1. Hand Towel Ring: Model # DN6886xx
 - 2. Towel Bar: Model # DN6818xx
 - 3. Toilet Paper Holder: Model # DN6808xx
- C. Brushed nickel finish to match faucet

2.02 MEDICINE CABINET

- A. Install a medicine cabinet with hinged plate glass mirror and two shelves over the sink.
- B. Manufacturer: Pace, Meadowood Maple. Model # SMC-2530
- C. Brushed nickel finish to match faucet

2.03 SHOWER CURTAIN ROD

- A. Install a shower curtain rod using wall anchors.
- B. Manufacturer: Moen, Adjustable Shower Rod. Model # DN2160xx
- C. Brushed nickel finish to match faucet

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

3.02 LOCATIONS

- A. First Floor Bathroom
- B. Second Floor Bathroom

END OF SECTION

**SECTION 12 3530
RESIDENTIAL CASEWORK**

PART 1 GENERAL

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1.01 PRICE AND PAYMENT PROCEDURES

1.02 SUBMITTALS

- A. Shop Drawings: Indicate casework locations, large scale plans, elevations, clearances required, rough-in and anchor placement dimensions and tolerances.

1.03 QUALITY ASSURANCE

- A. Products: Complying with KCMA A161.1 and KCMA Certified.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. The HRA has approved Shrock Select, Medallion or Mid-Continent

2.02 COMPONENTS

- A. Kitchen Cabinets: See Kitchen Design
- B. Cabinet Construction: Plywood sides and bases.
- C. Kitchen Countertop: Post formed plastic laminate over particle board, coved to back splash.
 - 1. Side Splash: Plastic laminate over particle board, square internal intersections to back splash and top surface, contoured to suit counter top profile.
 - 2. Manufacturer: WilsonArt, Desert Springs: 4904
- D. Door and Drawer Fronts: Solid wood.
- E. Drawer Box Construction: Plywood with dovetail joinery

2.03 HARDWARE

- A. Hardware: Schrock – Pull H63, Modern, Brushed Nickel

2.04 FABRICATION

- A. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.
- B. Fabricate corners and joints without gaps or inaccessible spaces or areas where dirt or moisture could accumulate.

2.05 FINISHES

- A. Exposed To View Surfaces: Stain, seal, and varnish of _____ color as selected.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install casework, components and accessories in accordance with manufacturer's instructions.
- B. Set casework items plumb and square, securely anchored to building structure.

3.02 LOCATIONS

- A. **Kitchen Cabinets & Counter Top**

END OF SECTION

**SECTION 22 3000
PLUMBING EQUIPMENT**

PART 1 GENERAL

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1.01 SUBMITTALS

- A. Product Data:
 - 1. Provide Owner's Manuals for all equipment.
 - 2. Manufacturer's Warranty.

1.02 SPECIAL COORDINATION

- A. Upgrade of Water Meter. Contact: Northern Water Works (888) 497-4171
 - 1. There is no cost associated with the purchase or installation of the Water Heater. The only cost associated with this bid is for the coordination with Northern Water Works to install the meter.

PART 2 PRODUCTS

2.01 RESIDENTIAL INDIRECT-FIRED WATER HEATER

- A. General Requirements:
 - 1. The unit shall be AGA certified and have intermittent electronic ignition, glass lined tank, dip tube, screw in magnesium anode rods, turbo shot combustion system. ASME Temperature & Pressure relief valve piped to the floor, 5 year tank warranty, ASHRAE 90.1 lb – 1992 and NAECA compliant and draft switch. Provide PVC power vent to exterior.
 - 2. The outer tank shall be surrounded with a minimum of 2 inches of CFC/HCFC – free rigid polyurethane foam insulation with an equivalent "R" value of R-16.
- B. Manufacturer: High Efficiency
 - 1. Hot water tank shall have ETL certification and EF of .67.

2.02 ACCESSORIES

- A. 110v outlet on GFCI.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install plumbing equipment in accordance with manufacturer's instructions, as required by code, and complying with conditions of certification, if any.
- B. Coordinate with plumbing piping and related fuel piping work to achieve operating system complying with all applicable codes.
- C. Provide water & gas supply & flue piping.

END OF SECTION

SECTION 22 4000
PLUMBING FIXTURES AND PIPING

PART 1 GENERAL

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1.01 PRICE AND PAYMENT PROCEDURES

PART 2 PRODUCTS

2.01 SINKS

- A. Kitchen Sink: Remove existing sink to code legal dump.
 - 1. Sink: Install a 22 gauge 33"x22"x8" double bowl, stainless steel, self rimming kitchen sink. Manufacturer: Moen, Model number 2212, or like product to be approved by Project Manger
 - 2. Faucet: Manufactured by Moen, Model 7825 or like product to be approved by Project Manager
 - a. Flow Rate: 2.0 GPM maximum
- B. Laundry Tub: Remove existing sink to code legal dump.
 - 1. Sink: Install single bowl, 24" fiberglass laundry tray to fin under faucet.
 - 2. Faucet: 1.5 GPM
- C. Bathroom:
 - 1. Pedestal Sink: Kohler, Sterling: Sacramento 442121-0 White
 - 2. Faucet: Single lever faucet with 1.5 GPM maximum flow rate
 - a. High Arch Faucet: Manufactured by Moen, Model number (Nickel) CA84003CBN

2.02 DUAL FLUSH TOILET

- A. Dual Flush Water Closets: ASME A112.19.14; high efficiency and low consumption, vitreous china, dual flush, tank type.
 - 1. Bowl: Elongated.
 - 2. Flush Actuator: Manufacturer's standard.
 - 3. Rough in: 12 inch (305 mm).
 - 4. Seat: Manufacturer's standard or recommended elongated closed front seat with lid.
 - 5. Color: White.

2.03 BATHTUBS

- A. Bathtub: ASME A112.19.4M porcelain on steel bathtub with slip resistant surface, contoured front apron, 60 inches (1500 mm) long, White color.
- B. Bath and Shower Trim: ASME A112.18.1; concealed shower and over rim supply with diverter spout, pressure balanced mixing valve, bent shower arm with adjustable spray ball joint showerhead with maximum 1.5 gallons per minute (5.6 liters per minute) flow and escutcheon, lever operated pop-up waste and overflow.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install each fixture with trap, easily removable for servicing and cleaning.
- B. Install new PVC or ABS waste and vent piping from basement to kitchen sink, all bathroom fixtures, and laundry sink.
- C. Install flexible PEX piping with a minimum number of coupling to all fixtures. Install mechanical connectors and shut off valves if appropriate for each fixture.
 - 1. Size pipe to 1990 CABO minimums per table 2406.5
 - 2. Include clothes washer hook up.
- D. Furnish and install all water piping and shut-off valves necessary to complete work.
- E. Retrofit the water meter to comply with existing code.
- F. Install components level and plumb.

- G. Seal fixtures to wall and floor surfaces with sealant as specified in Section 07 9005, color to match fixture.
- H. Seal around plumbing penetrations in all exterior surfaces, surfaces that border on unconditioned spaces, between floors, and through the exterior of the building.
- I. Clean out basement floor drain at end of construction period and verify operation and function.
 - 1. Install new drain cover.

3.02 LOCATIONS

- A. Exterior:
 - 1. Hose bib – located east side of home.
- B. Basement:
 - 1. Domestic Water
 - 2. Indirect-Fired Water Heater
- C. Main Level:
 - 1. Kitchen:
 - a. Kitchen Sink
 - b. Dishwasher
 - 2. Bathroom:
 - a. Dual Flush Toilet
 - b. Pedestal Sink
 - c. Shower
- D. Second Floor:
 - 1. Bathroom
 - a. Dual Flush Toilet
 - b. Vanity Sink
 - c. Tub / Shower
 - d. Laundry appliance hook up

**SECTION 23 0000
RESIDENTIAL VENTILATION**

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 BATHROOM VENT FAN/LIGHT FIXTURE:

- A. All vent fans shall be energy star rated ceiling mounted fan/light fixtures rated for a minimum 100 watt exterior ducted vent fan capable of a minimum of 80 CFM
- B. Product: NuTone QTREN080FLT or like product to be approved by the Project Manger
- C. Switch: Light and fan shall use same switch with a time delay for fan such as the EFI/Light Time Delay Switch Part # 5100.505 or equipped with a humidistat sensor.
- D. Ducting: Install 4" metal duct and vent to the exterior ideally through a gable end using a 4" hooded vent with damper.
 - 1. All duct seams shall be sealed with duct mastic. Insulate duct work with vinyl or foil faced R-6 minimum duct insulation.
 - 2. Repair any damage to the ceiling installation or air seal fan/light assembly to the ceiling with low VOC caulk.

2.02 DUCT ASSEMBLIES

- A. Low Pressure Supply (Heating Systems): 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.
- B. Low Pressure Supply (System with Cooling Coils): 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.
- C. General Exhaust: 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.
- D. Kitchen Cooking Hood Exhaust: 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.

2.03 DUCTWORK FABRICATION

- A. Fabricate and support in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated.
- B. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- C. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
- D. Fabricate continuously welded round and oval duct fittings in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.

2.04 KITCHEN HOOD EXHAUST DUCTWORK

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, SMACNA Kitchen Ventilation Systems and Food Service Equipment Fabrication & Installation Guidelines and NFPA 96.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Bathroom
- B. Kitchen

END OF SECTION

SECTION 23 5400
FORCED AIR FURNACE AND DUCTS

PART 1 GENERAL

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1.01 SUBMITTALS

- A. Product Data: Provide rated capacities, weights, accessories, electrical nameplate data, and wiring diagrams.
- B. Product data indicating Heating, Cooling equipment and Ducts are in compliance with Air Conditioning Contractors of America (ACCA) Manuals, Parts J, S, and D. Alternate Compliance paths are as Follows:
 - 1. ASHRAE Handbooks

PART 2 PRODUCTS

2.01 GAS FIRED FURNACES

- A. Annual Fuel Utilization Efficiency (AFUE): 0.95 ("condensing").
- B. Units: Self-contained, packaged, factory assembled, pre-wired unit consisting of cabinet, supply fan, heating element, controls, air filter, humidifier, and accessories; wired for single power connection with control transformer.
 - 1. Safety certified by CSA in accordance with ANSI Z 21.47.
 - 2. Venting System: Direct.
 - 3. Combustion: Sealed
 - 4. Air Flow Configuration: Upflow.
 - 5. Heating: Natural gas fired.
- C. Performance:
 - 1. HVAC contractor will be responsible to determine heat load using Manual J.
- D. Cabinet: Steel with baked enamel finish, easily removed and secured access doors with safety interlock switches, glass fiber insulation with reflective liner.
- E. Primary Heat Exchanger:
 - 1. Material: Hot-rolled steel
 - 2. Shape: Tubular type.
- F. Secondary Heat Exchanger:
 - 1. Material: Aluminized steel.
 - 2. Coating: Polypropylene.
- G. Gas Burner:
 - 1. Atmospheric type with adjustable combustion air supply,
 - 2. Gas valve, two stage provides 100 percent safety gas shut-off; 24 volt combining pressure regulation, safety pilot, manual set (On-Off), pilot filtration, automatic electric valve.
 - 3. Electronic pilot ignition, with electric spark igniter.
- H. Supply Fan: Centrifugal type rubber mounted with direct drive with adjustable variable pitch motor pulley.
- I. Motor: Refer to Section 22 0513; 1750 rpm two-speed, permanently lubricated, hinge mounted.
- J. Air Filters: 1 inch (25 mm) thick glass fiber, disposable type arranged for easy replacement.
- K. Ducts: Install all new supply and return air ducting to code.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with NFPA 90A.
- B. Install gas fired furnaces in accordance with NFPA 54.
- C. Provide vent connections in accordance with NFPA 211.

- D. The Contractor shall have all HVAC ducting cleaned by a professional duct cleaning company after all interior repairs are completed inside the house.

END OF SECTION

**SECTION 23 6213
FORCED AIR A/C**

PART 1 GENERAL

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1.01 SUBMITTALS

- A. Product Data: Provide rated capacities, weights specialties and accessories, electrical nameplate data, and wiring diagrams. Include equipment served by condensing units in submittal, or submit at same time, to ensure capacities are complementary.
- B. Design Data: Indicate pipe and equipment sizing.

PART 2 PRODUCTS

2.01 MANUFACTURED UNITS

- A. Units: Self-contained, packaged, factory assembled and pre-wired units suitable for outdoor use consisting of cabinet, compressors, condensing coil and fans, integral sub-cooling coil, controls, liquid receiver, wind deflector, and screens.
- B. Performance Ratings: Seasonal Energy Efficiency Ratio of 16

2.02 CASING

- A. House components in welded steel frame with galvanized steel panels with weather resistant, baked enamel finish.

2.03 CONDENSER COILS

- A. Coils: Aluminum fins mechanically bonded to seamless copper tubing. Provide sub-cooling circuits. Air test under water to 425 psig (2900 kPa), and vacuum dehydrate. Seal with holding charge of nitrogen.

2.04 FANS AND MOTORS

- A. Weatherproof motors suitable for outdoor use, single phase permanent split capacitor or 3 phase, with permanent lubricated ball bearings and built in current and thermal overload protection.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Provide piping for refrigeration system as required.
- B. Provide connection to refrigeration piping system and evaporators. Comply with ASHRAE Std 15.

3.02 LOCATION

- A. See Drawing A001 for location of new A/C Compressor

END OF SECTION

SECTION 26 0001
POWER, WIRING AND DEVICES

PART 1 GENERAL

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1.01 SUMMARY OF BULLETIN 80-1 (Property Maintenance Code)

- A. All hazardous, improper and/or illegal wiring shall be removed or required to the present Electrical Code. This will include other buildings on the property such as garages, sheds, etc.
- B. Minimum size for all new services for single residential occupancies shall be 100 ampere, 240 Volt.
- C. No additions or extensions will be allowed on an existing ampere services.
- D. The Following are minimum requirements for new service installation:
 - 1. **Electrical outlets required:** Every habitable room 120 square feet or less in area, of a dwelling or dwelling unit of a multiple dwelling shall contain at least two separate and remote duplex outlet shall be required for each additional 80 square feet or fraction thereof. Most new outlets must be Arc-Fault Circuit Interrupters (AFCI) protected according to Section 210.12 of the 2008 National Electrical Code.
 - 2. **In Kitchens:** Three separate and remote duplex outlets shall be required. At least one of the required duplex outlets shall be supplied by a separate twenty ampere circuit. Any new receptacle installed for the counter top shall be of the Ground Fault Circuit Interrupter (GFCI) type.
 - 3. **Every public hall, water closet compartment, bathroom, laundry room and furnace room must contain at least one electric light fixture.** In addition to the light fixture, every bathroom and laundry room must have at least one duplex outlet. The required duplex outlet in each laundry room must be on a separate twenty ampere circuit. The required duplex outlet in each bathroom must be of the (GFCI) type. Any existing outlets in any bathroom must be converted to a GFCI-protected outlet or removed. The required GFCI outlet in the bathroom must be immediately adjacent to the sink. If a bathroom is added or gutted as part of the update, a 20 ampere circuit will be required per NEC 210.11(C)(3).
 - 4. **Every common hall and inside stairway** in every residential structure or dwelling unit shall be adequately lit with an illumination of at least five lumens per square foot in the darkest portion of the normally traveled stairs and passageways.
 - 5. **All exterior exits and entryways** are required to be illuminated a minimum of one footcandle at grade level for security.
 - 6. **Exterior lighting** at garages is required to be adequate so as to not endanger health or safety. An average of one footcandle at the pavement is required. Exterior lighting must be in conformance with other city codes.
 - 7. **Basement:** One lighting outlet is required for each 200 square feet of floor space. At least one of the required basement lighting outlets shall be switched from the head of the stairs.
 - 8. **Smoke Detectors:**
 - a. All single-family dwelling shall have a hard-wired (120 volt electrical, not battery) battery-backup smoke detector installed near (not in) the bedrooms. If there are legal bedrooms on more than one level, the detector shall be installed on the level that has the greater number of bedrooms. If there are an equal number of bedrooms on more than one level, the detector shall be installed on the upper level near the bedrooms.
 - b. If the project includes building construction that requires a Building Permit, additional hard wired interconnected and/or battery-type smoke detectors are required per the Building Code.
 - 9. **Metallic Light Fixtures (Luminaries):** If within five feet horizontally or eight feet vertically of grounded surfaces (metallic piping, concrete floor, etc.) must be grounded.
 - 10. **Residential Closet Lights:** All closet lights must either be a florescent fixture(luminaire) or an enclosed incandescent fixture of the types required by the present Electrical Code. Fixtures must not be directly over the storage area in a closet; they must either be moved or eliminated and blanked off.

11. **Service conduits run in outside walls:** If a 100-ampere service is changed from fuses to circuit breakers, the meter is already outside, and the existing conduit is run in the outside wall, the conduit may be re-used. If the service is an upgrade (increase in amperage), conduit in the wall may not be re-used.

1.02 SECTION INCLUDES:

- A. Rewire house to code
- B. Overhead Garage Door Opener: see Section 08 3323
- C. Certify Electrical Distribution: Electrician shall inspect all exposed wiring, motors, fixtures and devices for malfunction, shorts and hosing code compliance. Non-functioning and dangerous equipment and wiring shall be replaced
- D. Replace existing electrical service with a residential, 150 amp, single phase, 3 wire electric service to the basement.

PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Conduit and Cable: Provide materials that meet code requirements.
- B. New Service: Include a main disconnect, 22 circuit panel board, meter socket, weather head, service cable, and ground rod and cable. Seal exterior service penetrations.
 1. New service panel shall conform to the BOCA Existing Structures code.
- C. Devices and Coverplates: Provide all White or Ivory devices per Project Managers Selection. Provide heavy duty residential grade devices.
- D. Smoke/CO Detectors: Hard wired w/ battery-back up type units
- E. Doorbell system: System containing a low voltage transformer, power connection, buzzer and front door button.
- F. Equipment Wiring: Provide the correct power supply on separate circuit, with over current protection including all connectors for the Water Heater, Boiler, Microwave, Refrigerator, and Dishwasher.
 1. Kitchen Receptacles to be 20 amp Circuits:
 - a. Install small appliance circuits along counter tops to code.
 - 1) Evenly dividing the number of countertop appliance receptacles between 2 circuits.
 - 2) GFCI receptacles when they fall within 6 feet of sink.
 - b. Individual circuits for permanently installed appliances; range, dishwasher, exteriorly vented Microwave with Rangehood and refrigerator to code.
- G. Bathroom Vent Fan/Light Fixture: Shall be Energy Star rated ceiling mounted fan/light fixture rated for a min 100 watt exterior ducted vent fan capable of a minimum of 80 CFM
 1. Product: NuTone QTREN080FLT or like product to be approved by the Project Manger
 2. Switch: Light and fan shall use same switch with a time delay for fan such as the EFI/Light Time Delay Switch Part # 5100.505 or equipped with a humidistat sensor.
 3. Ducting: Install 4" metal duct and vent to the exterior ideally through a gable end using a 4" hooded vent with damper.
 - a. All duct seams shall be sealed with duct mastic. Insulate duct work with vinyl or foil faced R-6 minimum duct insulation.
 - b. Repair any damage to the ceiling installation or air seal fan/light assembly to the ceiling with low VOC caulk.
- H. GFCI Receptacles: Install flush mounted, ground fault circuit interrupted ivory duplex receptacle adjacent to lavatory using copper Romex.

2.02 MATERIALS

- A. All materials shall be UL approved and/or National Electrical Code rated.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Building Codes: The extent of electrical work indicated in the Scope of work is stated generally to indicate end result of work. The Contractor is responsible for making a thorough inspection of the site to determine the full extent of work required to achieve the end results. All electrical work must meet current building code requirements and must pass City of Saint Paul field inspection. Any work that does not meet codes or pass inspection must be corrected to the satisfaction of the city inspector at no additional cost to the Owner.
- C. Remove and dispose of all abandoned wiring and devices. Modify existing wiring and devices as indicated.
- D. All new wiring, when passing through living areas, shall be concealed.
- E. All new receptacles and switches
- F. All new outlet covers: White
- G. All drilling, cutting and fastening shall be neat and true, and shall not critically damage framing members.
- H. All patching shall match the surrounding surface.

3.02 LOCATIONS

- A. Throughout
 - 1. House
 - 2. Garage

END OF SECTION

SECTION 26 5101

HRA LIGHTING

\$ _____

PART 1 GENERAL

1.01 PRICE AND PAYMENT PROCEDURES

PART 2 PRODUCTS

2.01 INTERIOR LIGHTING

- A. Royce Lighting
 - 1. Product Series: Valhalla, Heirloom Bronze Finish
 - a. 3 Light Flush Mount: Model RFM2247
 - b. 2 Light Wall Sconce: Model RW2247
 - c. 3 Light Semi Flush Mount: Model RSF2247
 - d. 3 Light Vanity: Model RV2247
 - e. Pendant Light: Model RP2247/1-46
- B. Bathroom Fan
 - 1. NuTone, Model QTREN080FLT
- C. Other Acceptable Manufacturers: To be approved by Project Manager

2.02 EXTERIOR LIGHTING

- A. Garages: DualBrite 300 watt motion security light with shields: Model SL-5318-WH-D
- B. Exterior Pendants:
 - 1. Patriot Lighting
 - a. Mission, Model #od37276bbz
- C. Exterior Flush Mount
 - 1. Patriot Lighting
 - a. Mission, Model #MND0092A

2.03 BASEMENT LIGHTING

- A. Stairway: One fixture on ceiling of rear entry. One switch at the top of the basement stairway to control this light.
- B. Additional ceiling mounted pull chain lights in various location throughout the basement where necessarily.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. All new wiring when passing through living areas shall be concealed.
- C. Wire mold and surface mount boxes for receptacles.
- D. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.

3.02 LOCATIONS

- A. BASEMENT:
 - 1. Replace all with new pull chain porcelain fixtures where currently existing
- B. MAIN LEVEL:
 - 1. Front Porch – Ceiling mounted fixtures.
 - 2. Living Room - Ceiling mounted fixture at stair.
 - 3. Dining Room – Ceiling mounted fixtures.
 - 4. Dining Room Closet – Wall mounted fixture.
 - 5. West Side Room – Ceiling mounted fixture.
 - 6. Kitchen – Ceiling mounted fixtures and under cabinet fixture.
 - 7. Rear Entry Vestibule – Ceiling mounted fixtures.

8. Bathroom – Vanity light.
- C. SECOND FLOOR
1. South Bedroom – Ceiling mounted fixture
 2. South Bedroom Closet – Ceiling mounted fixtures, wall mount fixture
 3. Hall – Ceiling mounted fixtures
 4. East Bedroom – Ceiling mounted fixture
 5. Laundry Room – Ceiling mounted fixture
 6. Bathroom – Vanity light
 7. North Bedroom – Ceiling mounted fixture
 8. North Bedroom Closet – Ceiling mounted fixture
- D. EXTERIOR:
1. Rear Entry – Wall fixture.
 2. Garage
 3. Exterior fixtures are switched from the interior

END OF SECTION

SECTION 28 1600
INTRUSION DETECTION

PART 1 GENERAL

\$ _____

1.01 SUMMARY

- A. Provide and install a security system, to include a minimum of hardwired control panel with cellular transmitter (no phone line required), 2 hardwired keypads, two (2) Door sensors, motion detector, low temperature monitoring and siren.
- B. Include a monthly monitoring service at a rate not to exceed \$50/month.
- C. Contracts for monitoring must be month to month, not an extended period.
- D. Monitoring shall begin upon completion of construction and be paid by Owner.

1.02 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and indicated.

PART 2 PRODUCTS

2.01 ALARM CONTROL PANEL

- A. Control Panel: Modular construction with surface wall-mounted enclosure.
- B. Power supply: Adequate to serve control panel modules, remote detectors, and alarm signaling devices. Include battery-operated emergency power supply with capacity for operating system in standby mode for 24 hours.

2.02 INITIATING DEVICES

- A. Magnetic Switches:
- B. Motion Detectors:

2.03 SIGNAL DEVICES

- A. Alarm Bells: NFPA 72, electric single stroke, 8 inch (200 mm) bell with operating mechanism behind dome. Sound Rating: 81 dB at 10 feet (3 M).

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Use 18 AWG minimum size conductors for detection and signal circuit conductors. Install wiring in cable.
- C. As soon as System is installed contact HRA Project Manager www.Marty.McCarthy@ci.stpaul.mn.us by email to inform him/her to apply for a security permit.

3.02 CLOSEOUT ACTIVITIES

- A. Demonstrate normal and abnormal modes of operation, and required responses to each.

END OF SECTION

SECTION 31 2200

GRADING

PART 1 GENERAL

\$ _____

1.01 REQUIREMENTS

- A. Follow industry standards for provision and placement of materials.
- B. Locate utilities prior to performing the Work. Do not interrupt existing utilities.
- C. Unauthorized excavation consists of removing material beyond indicated subgrade elevations or dimensions without prior direction by the Construction Manager. Unauthorized excavation or remedial work shall be at the Contractor's expense.

PART 2 PRODUCTS

1.01 MATERIALS

- A. Imported soils shall be clean, finely graded and weed-free.

PART 3 EXECUTION

3.01 ROUGH GRADING

- A. When excavating through roots, perform work by hand and cut roots with sharp axe.

3.02 FINISH GRADING

- A. Build up ground slope at foundation wall using clean fill.
- B. New fill shall have an approximate slope of 1/12 and extend away from the foundation wall approximately five feet.
- C. Adjust window wells for new slope.
- D. Remove roots, weeds, rocks, and foreign material while spreading.
- E. Vigorously tamp or roll new fill to achieve settled depth.
- F. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.

3.03 EXAMINATION

- A. Verify that survey bench mark and intended elevation for the work are as indicated.

3.04 PREPARATION

- A. Identify required lines, levels, contours and datum.
- B. Stake and flag locations of known utilities.

3.05 LOCATIONS

- A. Soils removed from the site may contain lead and must be disposed of using proper waste management techniques that comply with local requirements.
- B. See Landscape Plan.
 - 1. This plan does include a raingarden
 - 2. Add fill and grade as required.

END OF SECTION

**SECTION 32 1313
CONCRETE PAVING**

PART 1 GENERAL

\$ _____

1.01 REQUIREMENTS

- A. Submittals: Design mixes for concrete and laboratory test reports.
- B. Comply with ACI 301, "Specifications for Structural Concrete."

PART 2 PRODUCTS

2.01 PAVING ASSEMBLIES

- A. Concrete Sidewalks and Median Barrier: 3,000 psi (20.7 MPa) 28 day concrete, 4 inches (100 mm) thick, buff color Portland cement, exposed aggregate finish.

2.02 FORM MATERIALS

- A. Wood form material, profiled to suit conditions.

PART 3 EXECUTION

3.01 FORMING

- A. Place and secure forms to correct location, dimension, profile, and gradient.

3.02 COLD AND HOT WEATHER CONCRETING

- A. Follow recommendations of ACI 305R when concreting during hot weather.
- B. Follow recommendations of ACI 306R when concreting during cold weather.

3.03 FINISHING

- A. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch (6 mm) radius.
- B. Curbs and Gutters: Light broom, texture parallel to pavement direction.

3.04 LOCATIONS

- A. See Landscape Plan
- B. Preserve existing concrete paving at driveway as possible. Extend existing concrete driveway, as shown on the Site Plan.
- C. Provide walks from public walk to front entry and from rear entry to garage, as shown in the Site Plan.
- D. Front steps at porch.

END OF SECTION

SECTION 32 3129
WOOD FENCES AND GATES

PART 1 GENERAL

\$ _____

1.01 SUMMARY

- A. Provide a 6' high wood privacy fence and gates

1.02 SECTION INCLUDES

- A. Wood fence, gates and hardware.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Lumber Standards: Comply with PS 'American Softwood Lumber Standard' for lumber and with applicable gradeing rules of inspection agencies.
- B. Wood Moisture Content: Comply with requirements of referenced quality standard and manufacturer's recommendations for mositure content of finish carpentry.
- C. Fence Materials: Provide the Following:
 - 1. Species and Grade: Western Red Cedar, heartwood. No cracks, splits or warps.
 - 2. Posts: 4x4 (3 1/2 x 3 1/2 actual)
 - 3. Rails: 2x4 (1 1/2 x 1/2 actual), 3 per fence section (top, bottom and middle)
 - 4. Pickets: 1x4 (3/4 x 3 1/2 actual), square edges and corners.
- D. Fasteners: Stainless Steel.
- E. Gates:
 - 1. 3' wide gates consisting of 2x4 frame and diagonal bracing with 1x4 pickets. Three heavy duty hinges and heavy duty latch per gate.
- F. Cast -in- place Concrete: See Section 03 3000

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Locate utilities before installation. Locate fence and gates according to site plan. Install all components true and level
- C. Set 12" sonotubes at post locations to allow for concrete footings minimum 42" below grade plus 6" gravel. Install posts per site plan, maximum of 6'-0" o.c.. Set post level on top of gravel before pouring footing.
- D. Slope top of footing to drain away from posts, top of footing at grade level. Allow for concrete footings to cure before installing rails and pickets.
- E. Install rails 2" below finished top of pickets, 2" above bottom, and at midpoint, with outside face of rails flush with outside face of post. Install pickets on exterior side (facing away from house) of rails and post, with 1/4"gap between pickets.
- F. Install pickets with consistent top height across entire fence and minimum 2" maximum 5" between bottom of pickets and grade (consistent height each section between posts).

3.02 LOCATION

- A. See Landscape Plan

END OF SECTION

SECTION 32 9223

SODDING

PART 1 GENERAL

\$ _____

1.01 REQUIREMENTS

- A. Submittals: Product certificates.
- B. Sod: Comply with TPI's "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Transplanting and Installation."

PART 2 PRODUCTS

2.01 MATERIALS

- A. Sod: TPI, Certified Turfgrass Sod quality; cultivated grass sod; type indicated in plant schedule on Drawings; with strong fibrous root system, free of stones, burned or bare spots; containing no more than 5 weeds per 1000 sq ft (100 sq m). Minimum age of 18 months, with root development that will support its own weight without tearing, when suspended vertically by holding the upper two corners.

PART 3 EXECUTION

3.01 LAYING SOD

- A. Moisten prepared surface immediately prior to laying sod.
- B. Lay sod immediately after delivery to site to prevent deterioration.
- C. Lay sod smooth and tight with no open joints visible, and no overlapping; stagger end joints 12 inches (300 mm) minimum. Do not stretch or overlap sod pieces.
- D. Water sodded areas immediately after installation. Saturate sod to 4 inches (100 mm) of soil.

3.02 MAINTENANCE

- A. General Contractor is responsible for the maintenance of sod until project closeout.

3.03 LOCATION

- A. See Landscape Plan
- B. Site Work, as needed. (No bare soil is permitted.)

END OF SECTION

SECTION 32 9300

PLANTS

PART 1 GENERAL

\$ _____

1.01 REQUIREMENTS

- A. Submittal: Plant materials certificates and planting schedule.
- B. Comply with delivery and handling requirements of American Standard for Nursery Stock.
- C. Warranty: Warrant the landscape plants, Trees, Shrubs, Groundcover, and Herbaceous Plants for one year from date of Substantial Completion, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, or incidents that are beyond Contractor's control.

PART 2 PRODUCTS

2.01 PLANTS

- A. Plants: Species, size and quantity identified in Landscape Plan, grown in climatic conditions similar to those in locality of the work.

2.02 MULCH MATERIALS

- A. Mulching Material: Hardwood species wood shavings, free of growth or germination inhibiting ingredients.

PART 3 EXECUTION

3.01 RAINGARDEN INSTALLATION

- A. Remove 18 inches of soil leaving compacted 1 to 1 side slopes rising to finished grade.
- B. Deeply till and break apart basin floor beyond compaction.
- C. Add 2 inches of leaf compost and till into soil.
- D. Finish Raingarden by hand grading a flat, level basin and 2 to 1 side slope, as indicated on Landscape Plan.
- E. Add 2-inches of shredded hard wood mulch, as with slopes
- F. Install edging as indicated on Landscape Plan.
- G. Ensure that downspout runoff enters the raingarden.

3.02 PLANTING

- A. Set plants vertical according to the Landscape Plan.
- B. Saturate soil with water when the pit or bed is half full of topsoil and again when full.

3.03 MAINTENANCE

- A. Provide maintenance at no extra cost to Owner; Owner will pay for water.

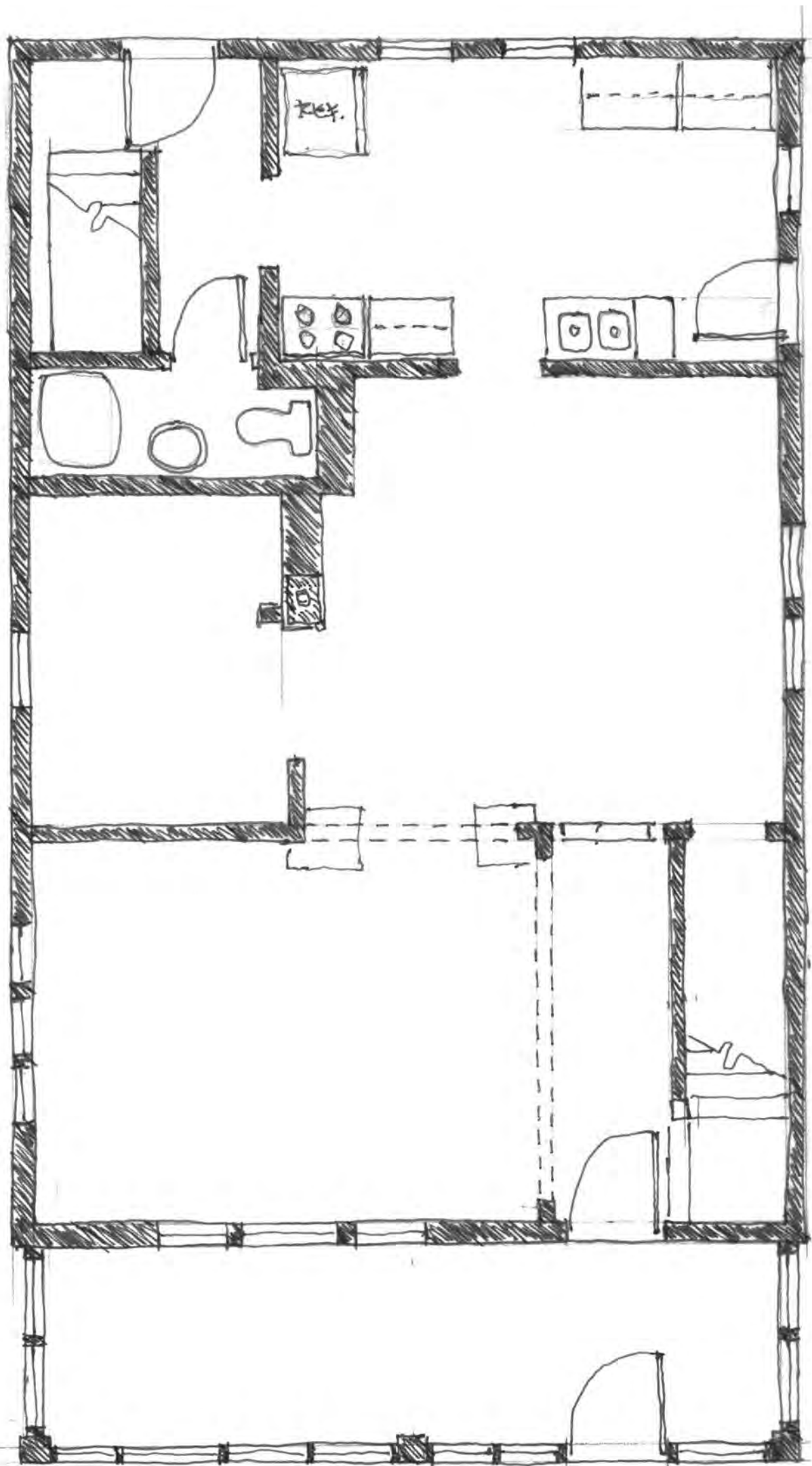
3.04 LOCATION

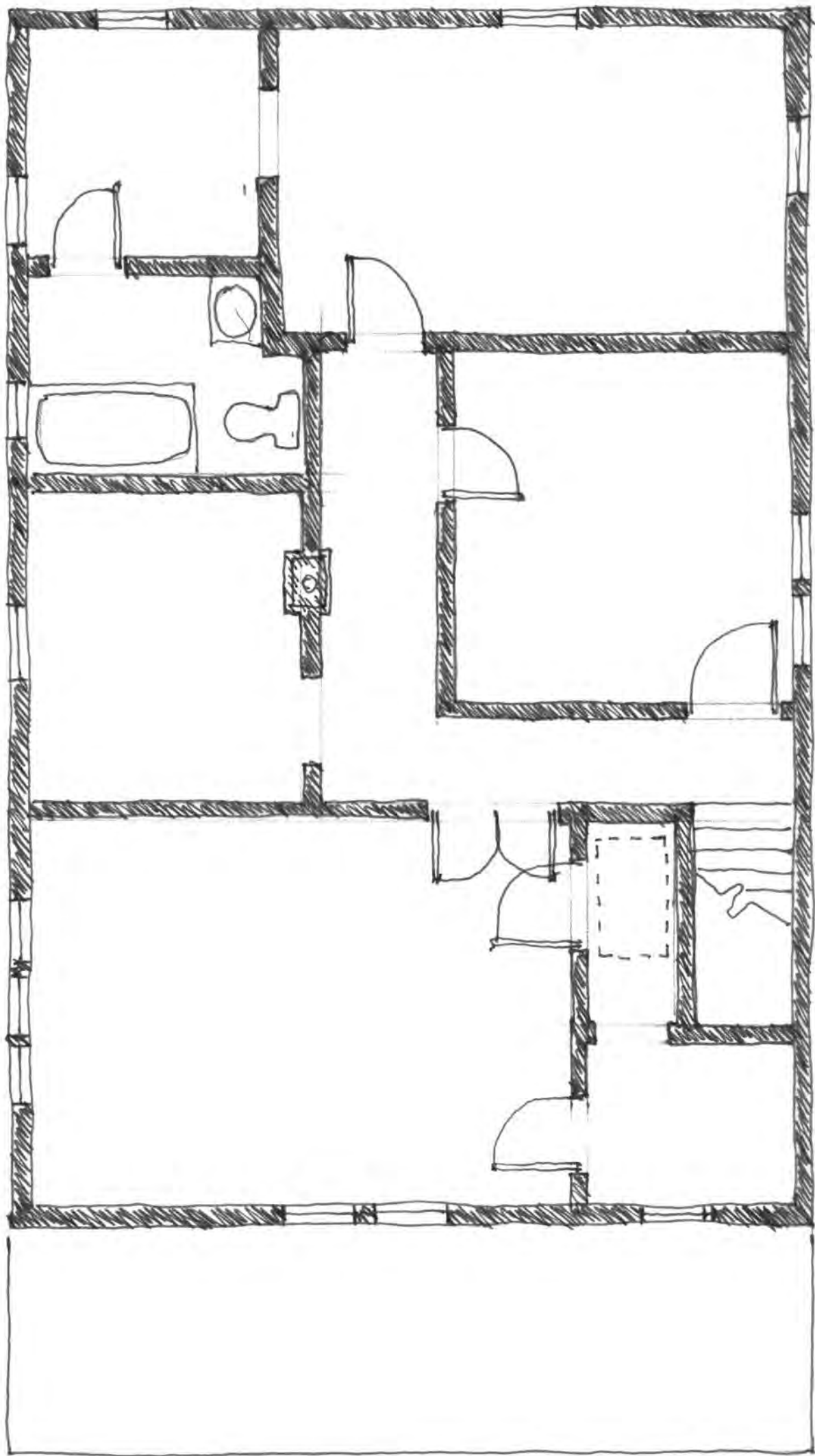
- A. As indicated by the Landscape Plan

END OF SECTION

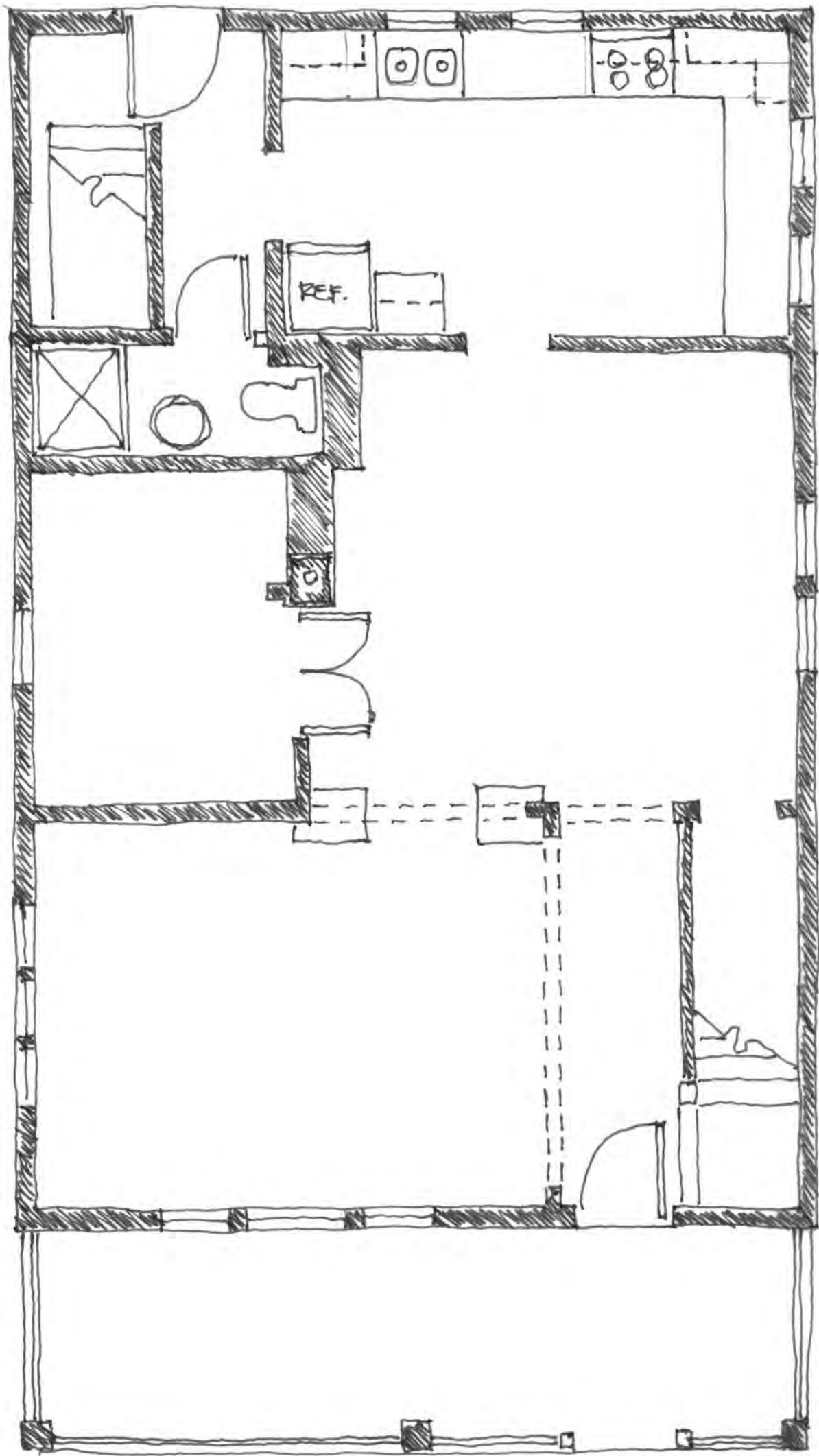
Color and Material Schedule						
	Project Address:	971 Jenks Ave. E.				
	Contractor:					
	Location	Description	Manufacturer	Finish	Color	Notes
Lighting	Dining Room, Kitchen, West Side Room, Rear Hall, Second Floor Hall, Bedrooms, Laundry Room (Total 14)	Flushmount Ceiling	Royce Lighting, Valhalla		Heirloom Bronze	at Menards
	Bathrms - First and Second Floor	3-Light Vanity	Royce Lighting, Valhalla		Heirloom Bronze	at Menards
	Bathrms - First and Second Floor	Fan Light	NuTone, Model QTREN080FLT			
	Dining Room	3 Light Semi-Mount	Royce Lighting, Valhalla		Heirloom Bronze	at Menards
	Overhead Garage Door	Motion Detector Sconce Light	DualBright 300 Watt motion security light with shields Model SL-5318-WH-D			at Menards
	Garage Service Door and Rear Entry to House -2	Non-motion Detector Light	Patriot Lighting, Mission, Model MND0092A			
	Front Entry Porch (Total 2)	Ceiling Light	Twin Pack Flush Mount 15"		Oil-rubbed Bronze with Alabaster	at Menards
	Rear Entry	2 Light Wall Sconce	Royce Lighting, Valhalla		Heirloom Bronze	at Menards
	South Bedroom Closet, Dining Room Closet (Total 3)	Wall Sconce	Royce Lighting, Valhalla		Heirloom Bronze	at Menards
	Outlet and Switchplate Covers				White	
Plumbing Fixtures	Kitchen	Kitchen Faucet	Moen, Model: 7825		Chrome	at Menards
	Kitchen	Kitchen Sink	Moen, 33"X22"X8" Model 2212		Stainless	at Menards
	Bathroom - First Floor	Pedestal Sink	Kohler; Sterling, Sacramento 442121-0		White	at Menards
	Bathrooms- First/Second Floor	Bathroom Faucet	Moen, High Arc CA84003CBN		Nickel	at Menards
	Bathroom - Second Floor	Recessed Oval Bowl Vanity Top	Imperial Marbel, RCxx22SPW		White	at Menards
	Bathroom s - First/Second Floor	Shower	Moen, 82008SRN		Nickel	at Menards
Casework and Furnishings	Kitchen	Kitchen Cabinets	Schock, Medallion or Midcontinent, full overlay flat door and drawer	See Plan	Cider/Wheatfield	Maple cabinet
	Kitchen	Kitchen Cabinet Hardware	Schrock Hardware, Model Pull H63 for drawers and doors		Brushed Nickel	at Menards or Home Depot
	Kitchen	Kitchen Counter Top	WilsonArt, Desert Springs 4904		Desert Springs	at Menards
	Bathroom - First/Second Floor	Medicine Cabinet	Pace, Model: SMC-2530		Meadowood Maple	at Menards
	Bathroom - First/Second Floor	Toilet Topper	Pace, Model: MOJ-2430-MDW		Meadowood Maple	at Menards
	Bathroom - First/Second Floor	Towel Bar (2 Total)	Moen, Model # DN6818xx		Brushed Nickel	at Menards
	Bathroom - First/Second Floor	Toilet Paper Holder	Moen, Model # DN6808xx		Brushed Nickel	at Menards
	Bathroom - First/Second Floor	Hand Towel Ring	Moen, Model # DN6886xx		Brushed Nickel	at Menards
	Bathroom - First/Second Floor	Curved Shower Rod	Moen, Model # DN2160xx		Brushed Nickel	at Menards
	Kitchen	Hardware	Schrock Hardware, Model Pull H63 for drawers and doors		Brushed Nickel	at Menards
Coatings	Walls Throughout (except bathrooms)	Wall Paint	Sherwin Williams No VOC, SW 6148	eggshell	Wool Skein	Knock Down Finish
	Walls Kitchen	Wall Paint	Sherwin Williams No VOC, SW 6148	semi-gloss	Wool Skein	
	Walls Bathrooms	Wall Paint	Sherwin Williams No VOC, SW 6154	semi-gloss	Nacre	
	Ceiling Throughout (except bathrooms)	Ceiling Paint	Sherwin Williams No VOC	flat	ceiling white	Knock Down Finish
	Ceiling Bathrooms	Ceiling Paint	Sherwin Williams No VOC	eggshell	ceiling white	
	Painted Baseboards in Bedrooms, Halls and Kitchen	Trim	Encapsulating Paint			
Flooring	Living Room, Dining Room, West Side Room, Hallway, and South and East Bedrooms	Refinished Wood				
	Kitchen and Rear Stair Vestibule	Floor	Forbo Marmoleum Striato 5220		Ploughed Acre	
	Bathrooms - First/Second Floor	Ceramic Tile	American Olean Midwest, Torre Venato		Sabbia TN86	at American Olean
	North Bedroom	Laminate Flooring	Tarkett -			
Appliances	Kitchen	Range	30", Gas Range		stainless	
	Kitchen	Microhood	Vented to exterior		stainless	
	Kitchen	Refrigerator	Energy STAR, 30" wide		stainless	
	Kitchen	Dishwasher	Energy STAR, 24" Frigidaire		stainless	
	Basement	Washer	Energy STAR, 18 cubic feet		stainless	
	Basement	Dryer	Gas Dryer		stainless	
Doors	Front Entry	Storm and Steel EntryDoor	Rochester, Patina, Model A73190			at Menards
	House Rear Entry	Storm and Steel Entry Door	Mastercraft LT-10 half view w/ internal blind			
	Service Door	Steel Entry Door				at Menards
	Interior doors	Interior Wood Door	Replace interior doors to match existing			at Menards
	Door Hardware	Interior Doors	Schlage, Avanti, Model 221-389x		Satin Nickel	
	Door Hardware	Front and Rear Entry Door	Schlage, Avanti, Model 221-409x		Satin Nickel	
Exterior Finishes	House and Garage Siding	Lap Siding	Hardie-Board	flat	SW7507 - Stone Lion	Pre-Purchase
	Roof - House and Garage	Weathered Wood	GAF Elk 30 year HD shingle			Pre-Purchase
	Door and Window Trim		Safe Encasement Products paint	flat	SW7628 - Windfresh White	at Diamond Vogel
	Soffit/Fascia	White		flat	SW7628 - Windfresh White	
	Exterior Foundation and Under-Deck Screen		Sherwin Williams No VOC, SW 7548	flat	Portico	
	Front Porch Floor	Stain color	Sherwin Williams No VOC, SW 3505		Yankee Barn	
Gutters/Downspouts	Match house color	Edco			at United Products	

FIRST FLR
JENKS

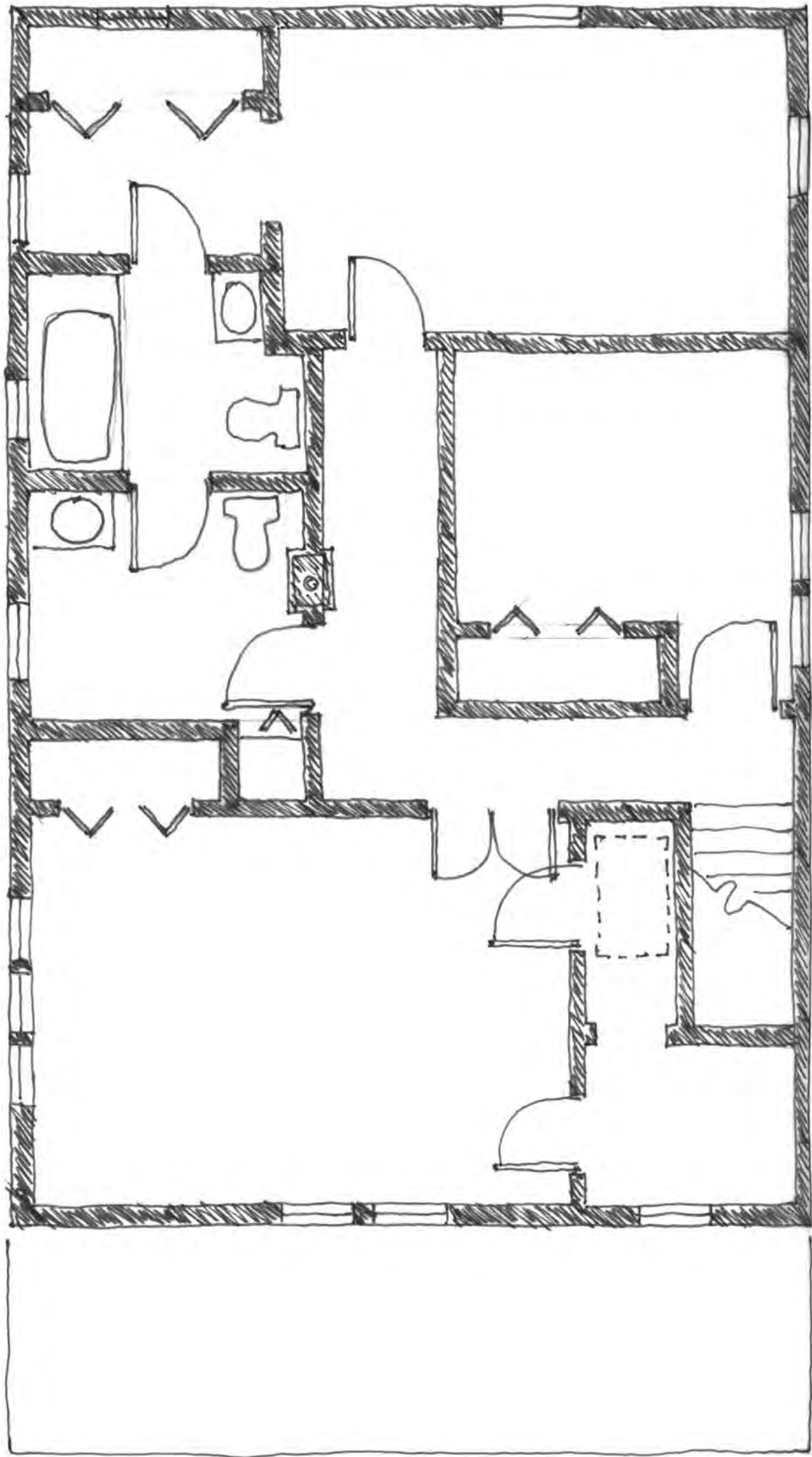




1ST. SECOND FLR.
71 JENKS



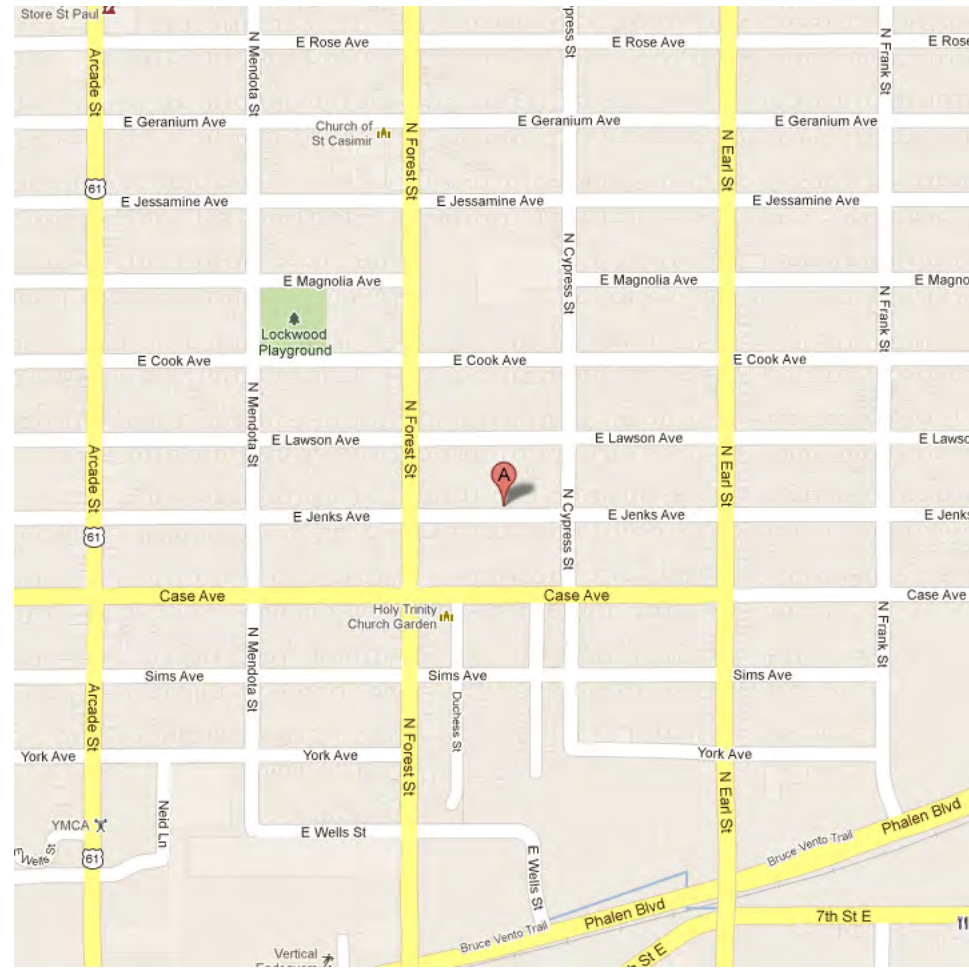
REMODEL
FIRST FLR.



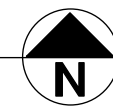
REMODEL
SECOND FLR.

City of Saint Paul • HRA

Residence Remodel
971 Jenks Avenue
Saint Paul, MN



1 Location Map
SCALE: NTS



PROJECT TEAM

PROJECT:
Residence Remodel

LOCATION:
971 Jenks Avenue
Saint Paul, MN

OWNER:
City of Saint Paul HRA
Sarah Corn, Project Manager
25 west 4th Street
Saint Paul, MN 55102
651.266.6552
--@ci.StPaul.mn.us

ARCHITECT:
LUNNING WENDE ASSOCIATES, INC.
275 EAST FOURTH STREET, SUITE 620
SAINT PAUL, MN 55101
Scott Wende
PHONE: 651.221.0915 FAX: 651.222.6259
Scott@LunningWende.com

DRAWING INDEX


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City of Saint Paul • HRA
Residence Remodel
971 Jenks Avenue
Saint Paul, MN

No.	Date	Appr	Revision Notes
△			

No. Date Issue Notes

Not for Construction

Design Firm

Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Consultant

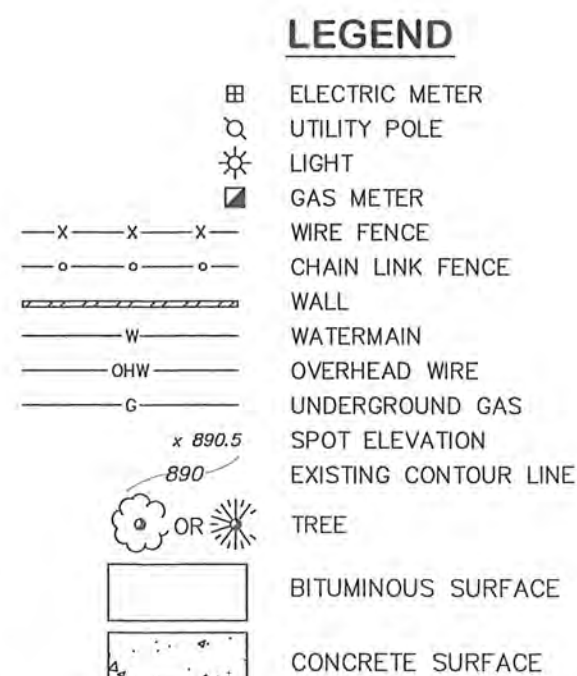
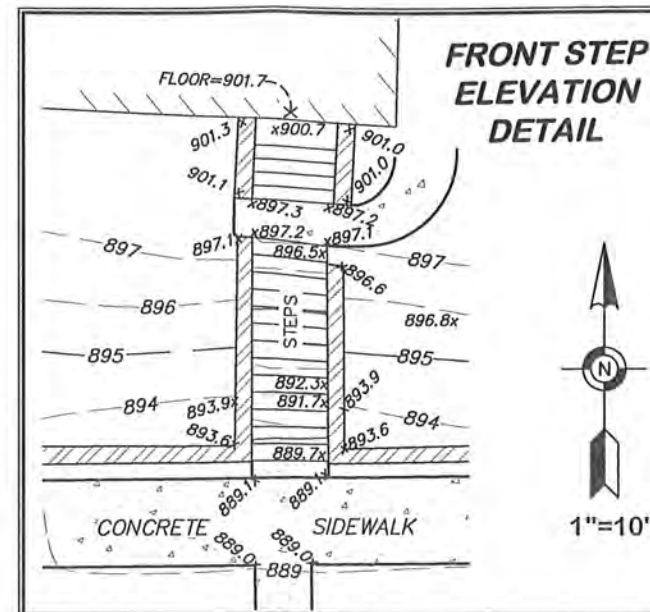
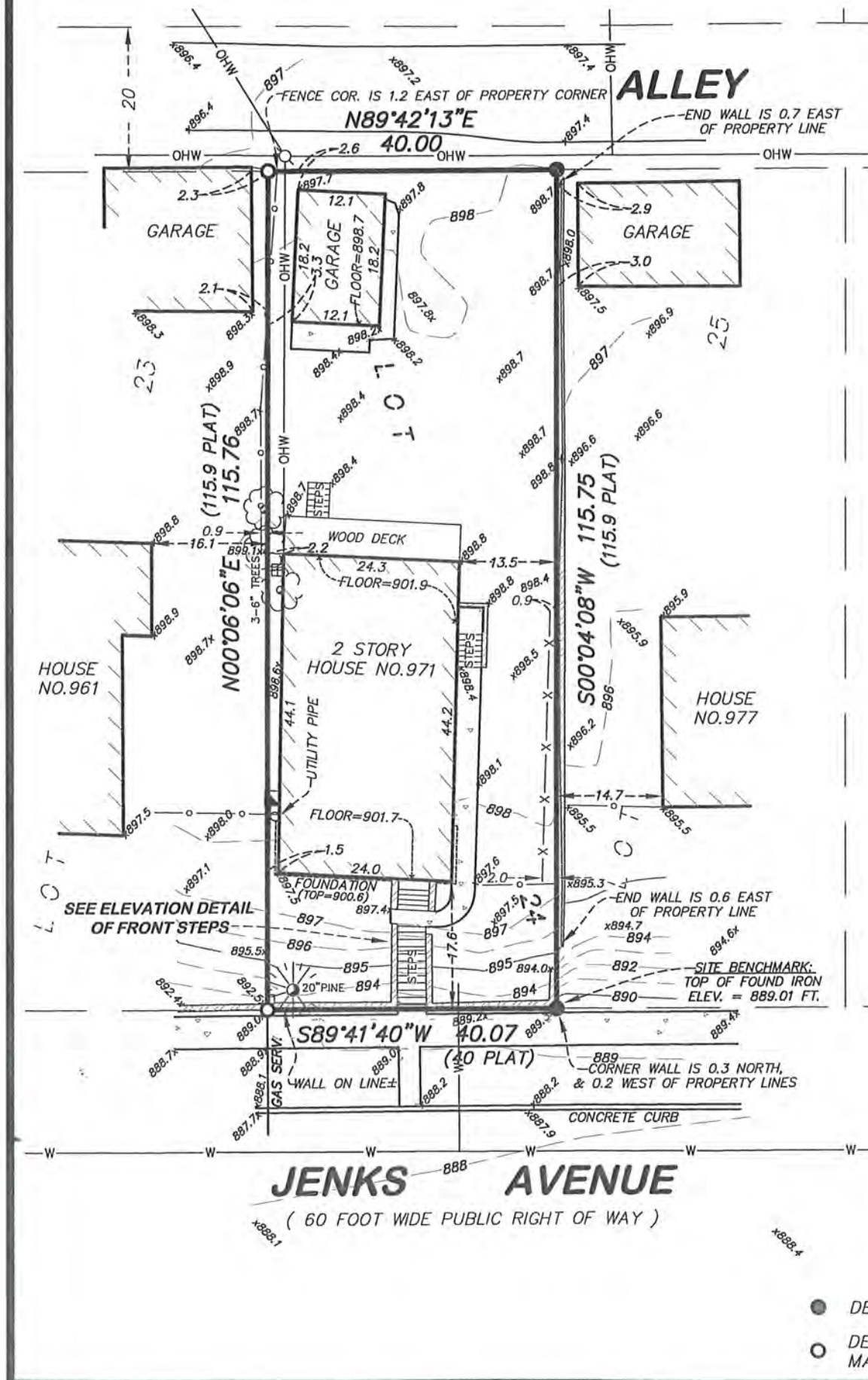
Owner
City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

Project Title
**City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN**

Drawing Title
Title Sheet

Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale No scale
Reviewed By	Drawing No. G-101
Date 20130116	File Name

**CERTIFICATE OF SURVEY FOR:
HOUSING AND REDEVELOPMENT AUTHORITY OF THE CITY OF SAINT PAUL, MINNESOTA**



LEGAL DESCRIPTION:

(per tradition Title & Real Estate Services, File 1007014)

Lot 24, Block 3, Forestdale Addition, Ramsey County, Minnesota.

Abstract Property.

Parcel Number: 28.29.22.24.0172
Parcel Address: 971 Jenks Avenue

NOTES:

- The orientation of this bearing system is based on the Ramsey County coordinate grid (NAD 83-96 Adj.).
- The total area of the property described hereon is 4,635 square feet or 0.1064 acres.
- The legal description and easement information used in the preparation of this survey were based on a Title Policy issued by Tradition Title & Real Estate Services, as agent for Stewart Title Guaranty Company, File No. 1007014, having a policy date of September 2, 2010.
- Existing utilities, services and underground structures shown hereon were located either physically, from existing records made available to us, by resident testimony, or by locations provided by Gopher State One Call, per Ticket No. 123530345. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary. Other utilities and services may be present and verification and location of all utilities and services should be obtained from the owners of the respective utilities prior to any design, planning or excavation.
- Visible improvements are shown on the survey. Other improvements not visible to the surveyor may be present.
- BENCHMARK:** Top found iron monument located at the southeast corner of the property described hereon. Elevation=889.01 feet (NAVD 88) per MNDOT VRS Network.

CERTIFICATION:

I hereby certify that this survey was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Date of survey: December 19, 2012.
Date of signature: December 28, 2012.

Lee J. Nord, P.L.S.
Minnesota License No. 22033

1229 Tyler Street NE, Suite 100
Minneapolis, Minnesota 55413
PHONE: (612) 466-3300
FAX: (612) 466-3383
WWW.EFNSURVEY.COM



Egan, Field & Nowak, Inc.
land surveyors since 1872

SURVEY FOR:
HOUSING & REDEVELOPMENT AUTHORITY
OF THE CITY OF SAINT PAUL, MINNESOTA
971 JENKS AVENUE, SAINT PAUL, MN

FIELD BOOK	PAGE	FIELDWORK CHIEF	S.W.	DRAWN BY:	CHECKED
2792	32			kgf	BY: L.J.N.
DRAWING NAME:		JOB NO.		FILE NO.	
35440.dwg		35440		4490	

Consultant	
Owner	City of Saint Paul HRA Marty McCarthy, Project Manager 25 west 4th Street, Saint Paul, MN 55102 651.266.6552
Project Title	City of Saint Paul • HRA Residence Remodel 971 Jenks Avenue Saint Paul, MN
Drawing Title	Survey
Project Manager	Project ID
Scott Wende	2012-04
Drawn By	Scale
EB	Varies
Reviewed By	Drawing No.
Date	V-101
20130116	
File Name	

City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

- General Notes - New Construction**
1. Provide radon ventilation in basement per radon test report recommendations.
 2. All interior walls 2x4 WD framing UNO.
 3. Provide paper free GWB or cement fiberboard at all interior wall locations with plumbing fixture(s).
 4. Clean and reinstall existing door hardware as noted if to be reused.
 5. Fully encapsulate lead-paint at locations per code (see HRA Report)
 6. All occupiable spaces to have a minimum ceiling height Of 7'-0" per code (application for variance per client request).
 7. Refinish hardwood floors when present (see schedule).
 8. Verify all existing mechanical & electrical for code compliance. Install new outlets & fixtures as required (see specifications).
 9. Provide fire blocking/fire safing as required per code.
 10. Verify existing Smoke detection system. Reuse if possible; replace per code as required.

- New Construction Notes**
1. All Roofs: new roofing and vents to code. See Specifications.
 2. New siding and house trim. See specifications for type.
 3. All windows are replacement windows. Unless noted otherwise.


- Demolition Site Notes**
- (D1) Demolish garage, garage slab and apron
 - (D2) Demolish existing concrete walk
 - (D3) Demolish existing wood deck, stair and grade beam; repair and prepare existing ledger for new wood deck. Coordinate with new construction plans.
 - (D4) Demolish front porch entry steps
 - (D5) Demolish portion of front retaining wall
 - (D6) Demolish front steps at sidewalk and entry sidewalk
 - (D7) Demolish side entry steps and sidewalk

- New Construction Site Notes**
- (1) New garage and concrete pad.
 - (2) New wood deck, stairs and footings.
 - (3) New concrete walk.
 - (4) New concrete porch landing and stairs with wrought iron railing to code.
 - (5) New concrete apron.
 - (6) New concrete stairs and wrought iron railing to code.
 - (7) Repaired block wall with new parging to match house base.
 - (8) Relocate down spout to north side of new stair and landing?

No.	Date	Appr	Revision Notes

No.	Date	Issue Notes

Not for Construction

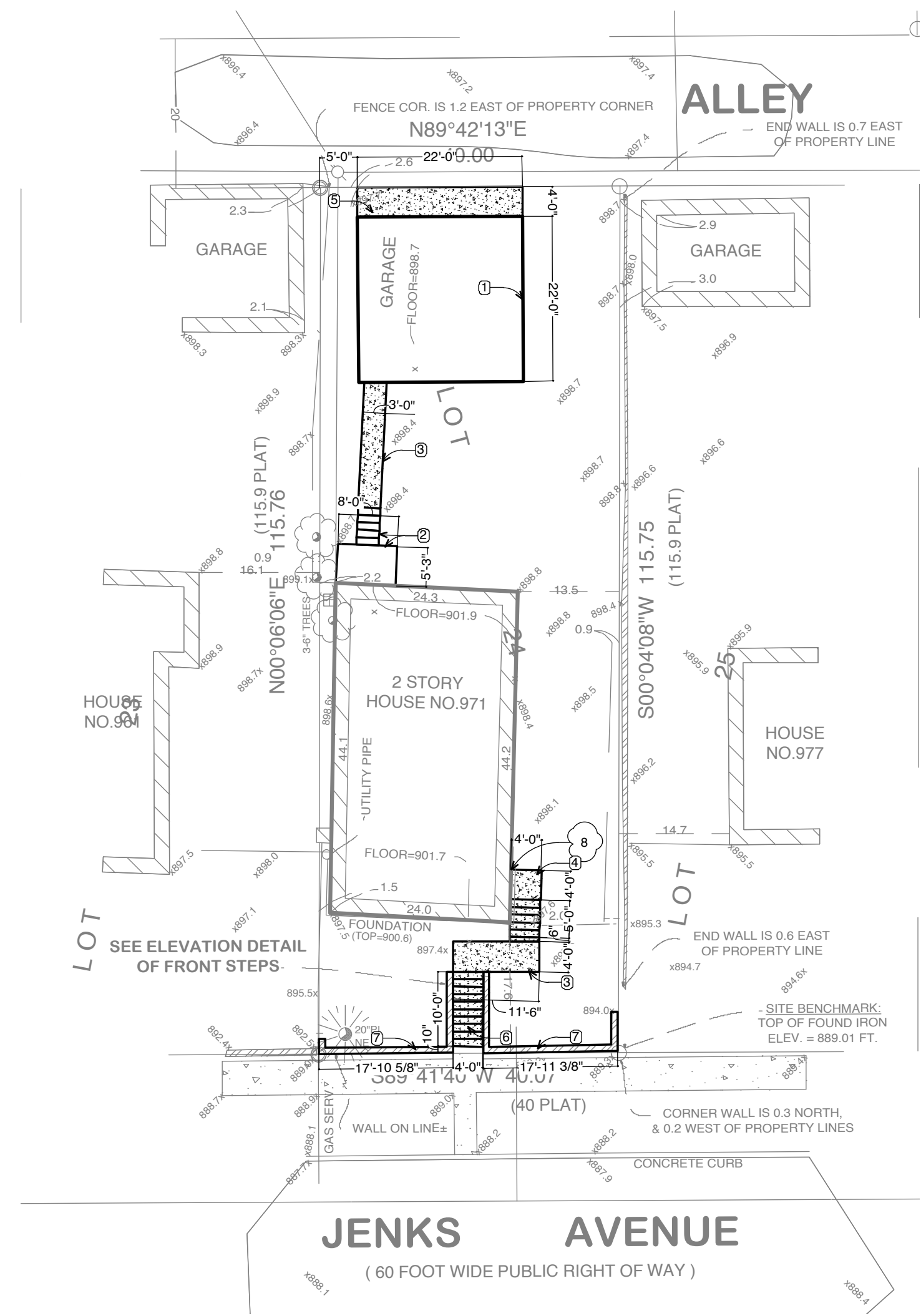
Design Firm

Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

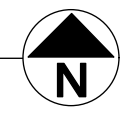
Owner
City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

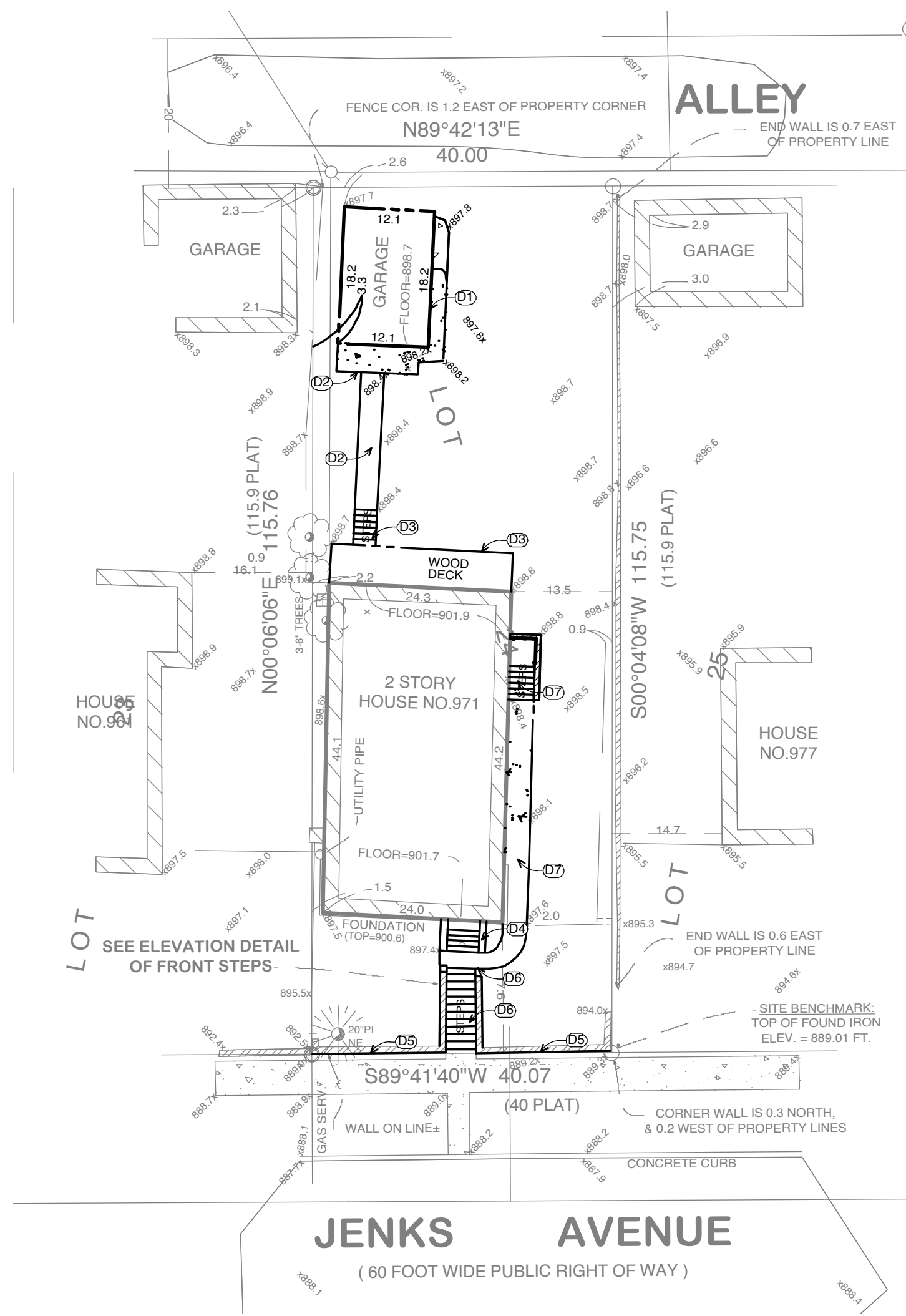
Project Title
City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN


Drawing Title
Architectural Site Plan

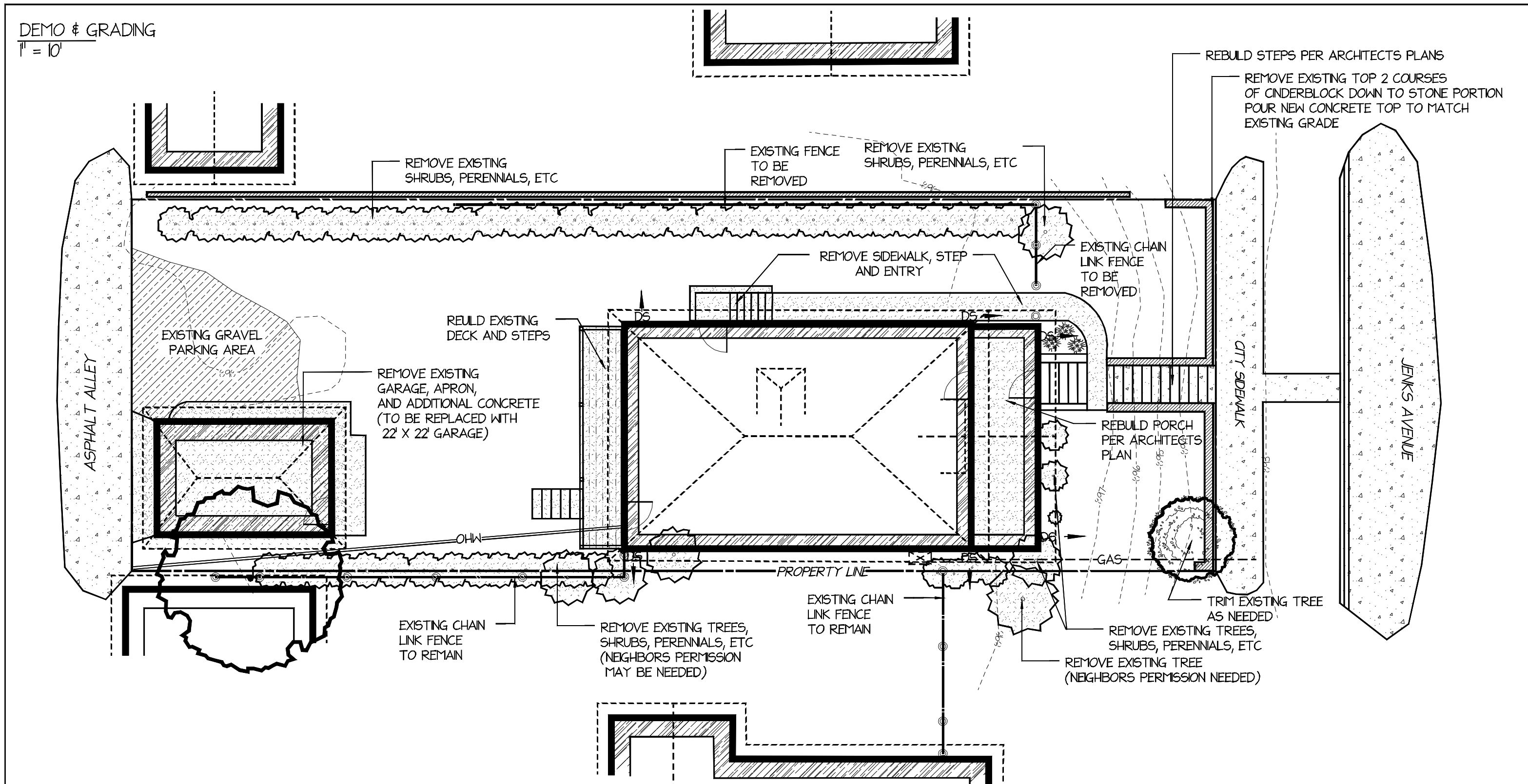
Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 1/8" = 1'-0"
Reviewed By	Drawing No. AS101
Date 20130116	File Name



2 Architectural Site Plan (New Construction)
 Scale: 1/16" = 1'-0"


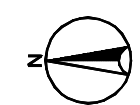


1 Architectural Site Plan (Demolition)
 Scale: 1/16" = 1'-0"




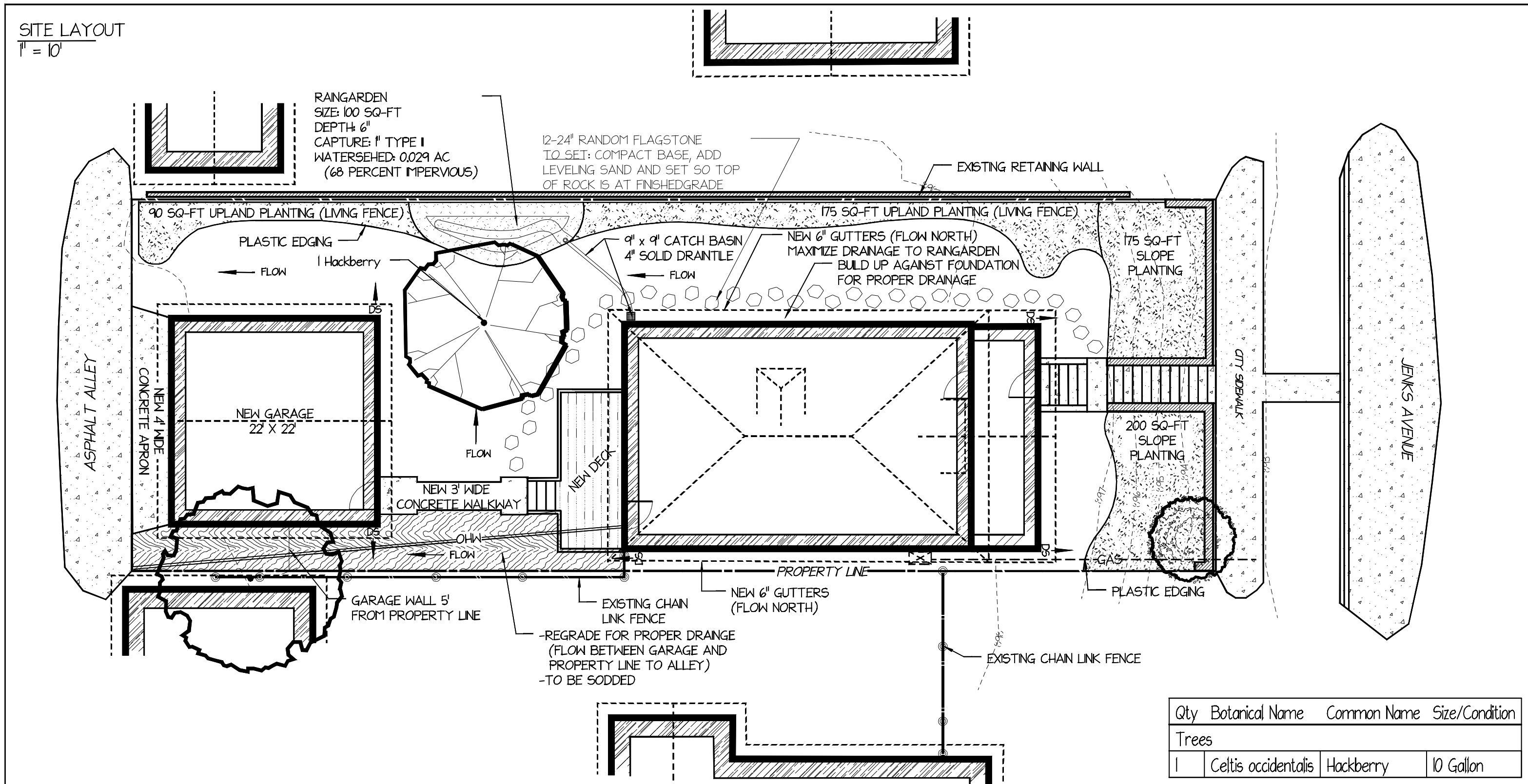
NOTES:
 -CALL GOPHER ONE 48 PRIOR TO DIGGING AT 651-454-0002 TO HAVE UTILITIES MARKED
 -CALL THE CRWD (651-644-8888) OR RCD (651-266-7275) WITH ANY QUESTIONS

EXISTING CONTOUR
 DS
 DOWNSPOUTS
 AND FLOW DIRECTION



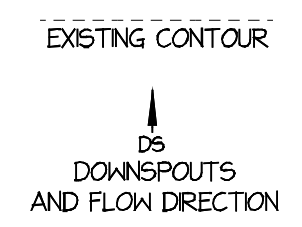
DEMO & GRADING									
NSP 971 JENKS AVENUE EAST, SAINT PAUL 55106									
PREPARED & DEVELOPED BY: CAPITOL REGION WATERSHED DISTRICT (CRWD) AND RAMSEY CONSERVATION DISTRICT (RCD)	<table border="1"> <tr> <td>PAGE</td> <td>1 OF 4</td> </tr> <tr> <td>DATE</td> <td>10-JAN-13</td> </tr> <tr> <td>SCALE</td> <td>1" = 10'</td> </tr> <tr> <td>ORIGINAL</td> <td>11" x 17"</td> </tr> </table>	PAGE	1 OF 4	DATE	10-JAN-13	SCALE	1" = 10'	ORIGINAL	11" x 17"
PAGE	1 OF 4								
DATE	10-JAN-13								
SCALE	1" = 10'								
ORIGINAL	11" x 17"								

Consultant	
Owner City of Saint Paul HRA Marty McCarthy, Project Manager 25 west 4th Street, Saint Paul, MN 55102 651.266.6552	
Project Title City of Saint Paul • HRA Residence Remodel 971 Jenks Avenue Saint Paul, MN	
Drawing Title Landscape Demolition Plan	
Project Manager Scott Wende	Project ID 2012-04
Drawn By EB	Scale Varies
Reviewed By	Drawing No. LD101
Date 20130116	File Name



Qty	Botanical Name	Common Name	Size/Condition
Trees			
1	Celtis occidentalis	Hackberry	10 Gallon

NOTES:
 -CALL GOPHER ONE 48 PRIOR TO DIGGING AT 651-454-0002 TO HAVE UTILITIES MARKED
 -CALL THE CRWD (651-644-8888) OR RCD (651-266-7275) WITH ANY QUESTIONS
 -GRADED AREAS TO RECEIVE NEW SOD

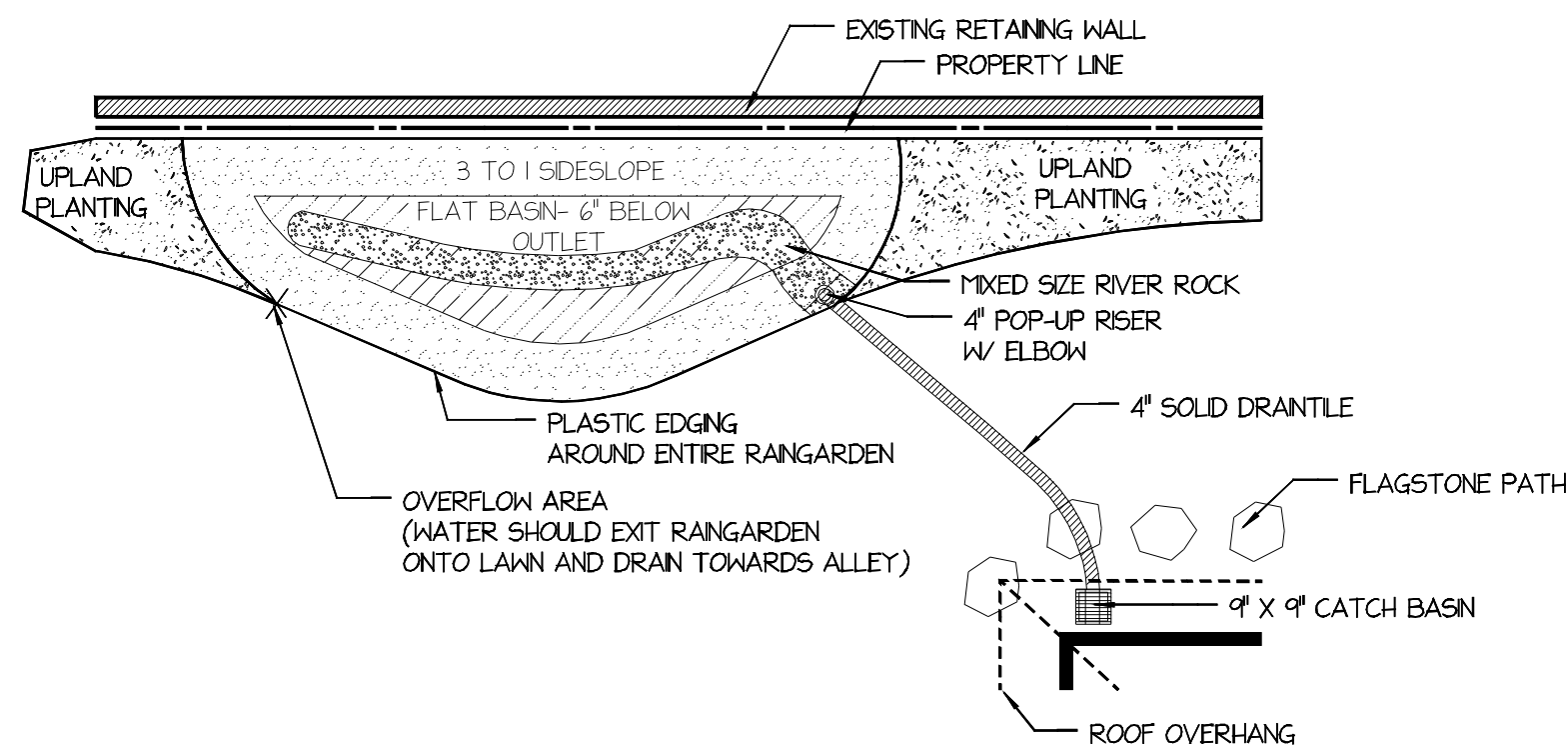


SITE LAYOUT
NSP
971 JENKS AVENUE EAST, SAINT PAUL 55106

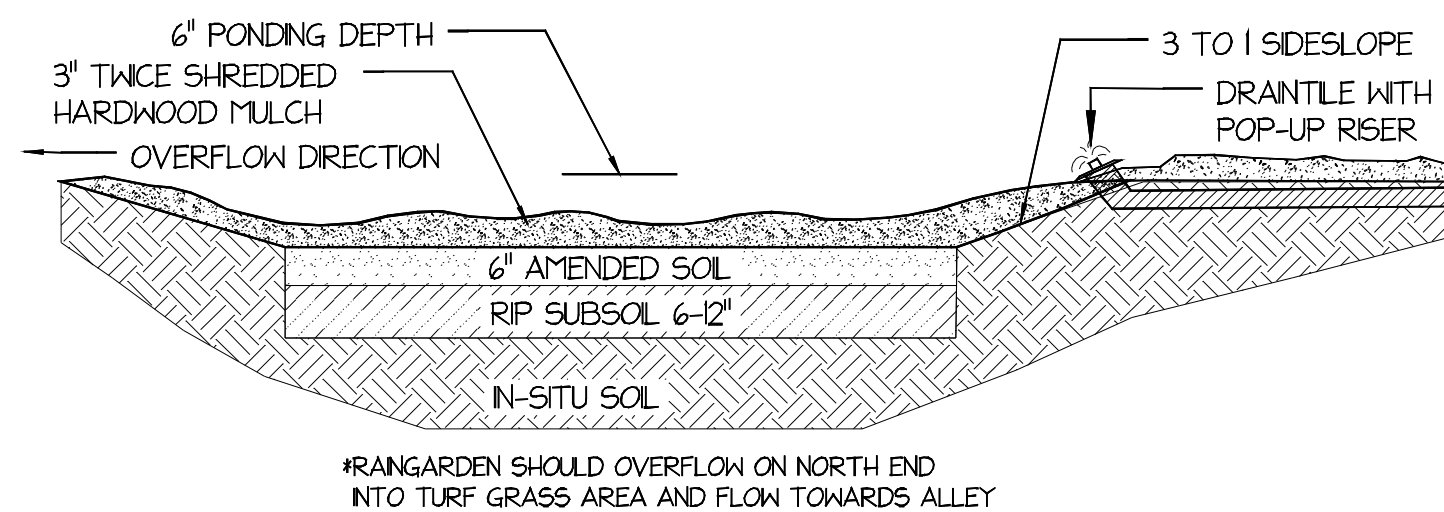
PREPARED & DEVELOPED BY: CAPITOL REGION WATERSHED DISTRICT (CRWD) AND RAMSEY CONSERVATION DISTRICT (RCD)	PAGE 2 OF 4 DATE 10-JAN-13 SCALE 1" = 10' ORIGINAL 1" x 17"
---	--

Consultant	
Owner City of Saint Paul HRA Marty McCarthy, Project Manager 25 west 4th Street, Saint Paul, MN 55102 651.266.6552	
Project Title City of Saint Paul • HRA Residence Remodel 971 Jenks Avenue Saint Paul, MN	
Drawing Title Landscape Site Layout Plan	
Project Manager Scott Wende	Project ID 2012-04
Drawn By EB	Scale Varies
Reviewed By	Drawing No. L-101
Date 20130116	File Name

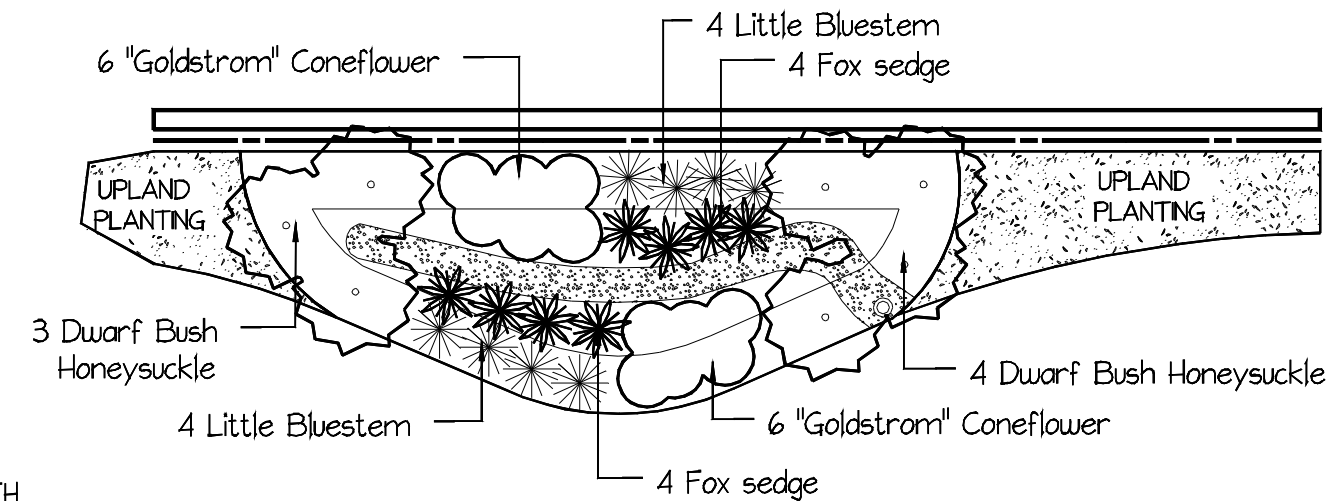
RAINGARDEN DETAILS
1" = 5'



RAINGARDEN SECTION
NTS



RAINGARDEN PLANTING
1" = 5'



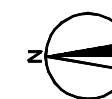
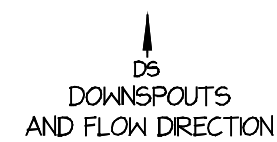
Qty	Botanical Name	Common Name	Size/Condition
Shrubs			
7	<i>Diervilla lonicera</i>	Dwarf Bush Honeysuckle	1 Gal
Perennials and Annuals			
12	<i>Rudbeckia fulgida</i>	"Goldstrom" Coneflower	1 Gal
8	<i>Carex vulpinoidea</i>	Fox sedge	Plug #
8	<i>Schizachyrium scaparium</i>	Little Bluestem	Plug #

NOTES:

- CALL GOPHER ONE 48 PRIOR TO DIGGING AT 651-454-0002 TO HAVE UTILITIES MARKED
- CALL THE CRWD (651-644-8888) OR RCD (651-266-7275) WITH ANY QUESTIONS

- EXCAVATE RAINGARDEN WITH TRACKED EQUIPMENT ONLY (NO WHEELED MACHINES)
- CREATE SIDESLOPES AT 3 TO 1 AND GRADE TO A DEPTH OF 6 INCHES
- OVEREXCAVATE THE BASIN AN ADDITIONAL 6 INCHES AND RIP UNDERLYING SOIL 6-12 INCHES
- AFTER RIPPING SUBSOL, ADD 6" OF AMENDED SOIL (75 PERCENT SAND & 25 PERCENT MINDOT GRADE I COMPOST)
- ADD PLASTIC EDGING AROUND ENTIRE RAINGARDEN
- ADD 3" TWICE SHREDDED HARDWOOD MULCH

EXISTING CONTOUR



RAINGARDEN DETAILS

NSP
971 JENKS AVENUE EAST, SAINT PAUL 55106

PREPARED & DEVELOPED BY:
CAPITOL REGION WATERSHED DISTRICT (CRWD)
AND
RAMSEY CONSERVATION DISTRICT (RCD)

PAGE	3 OF 4
DATE	10-JAN-13
SCALE	NA
ORIGINAL	1" x 17"

Consultant

Owner

City of Saint Paul HRA
Marty McCarthy, Project Manager
25 west 4th Street, Saint Paul, MN 55102
651.266.6552

Project Title

City of Saint Paul • HRA
Residence Remodel
971 Jenks Avenue
Saint Paul, MN

Drawing Title

Landscape Details

Project Manager

Scott Wende

Project ID

2012-04

Drawn By

EB

Scale

Varies

Reviewed By

20130116

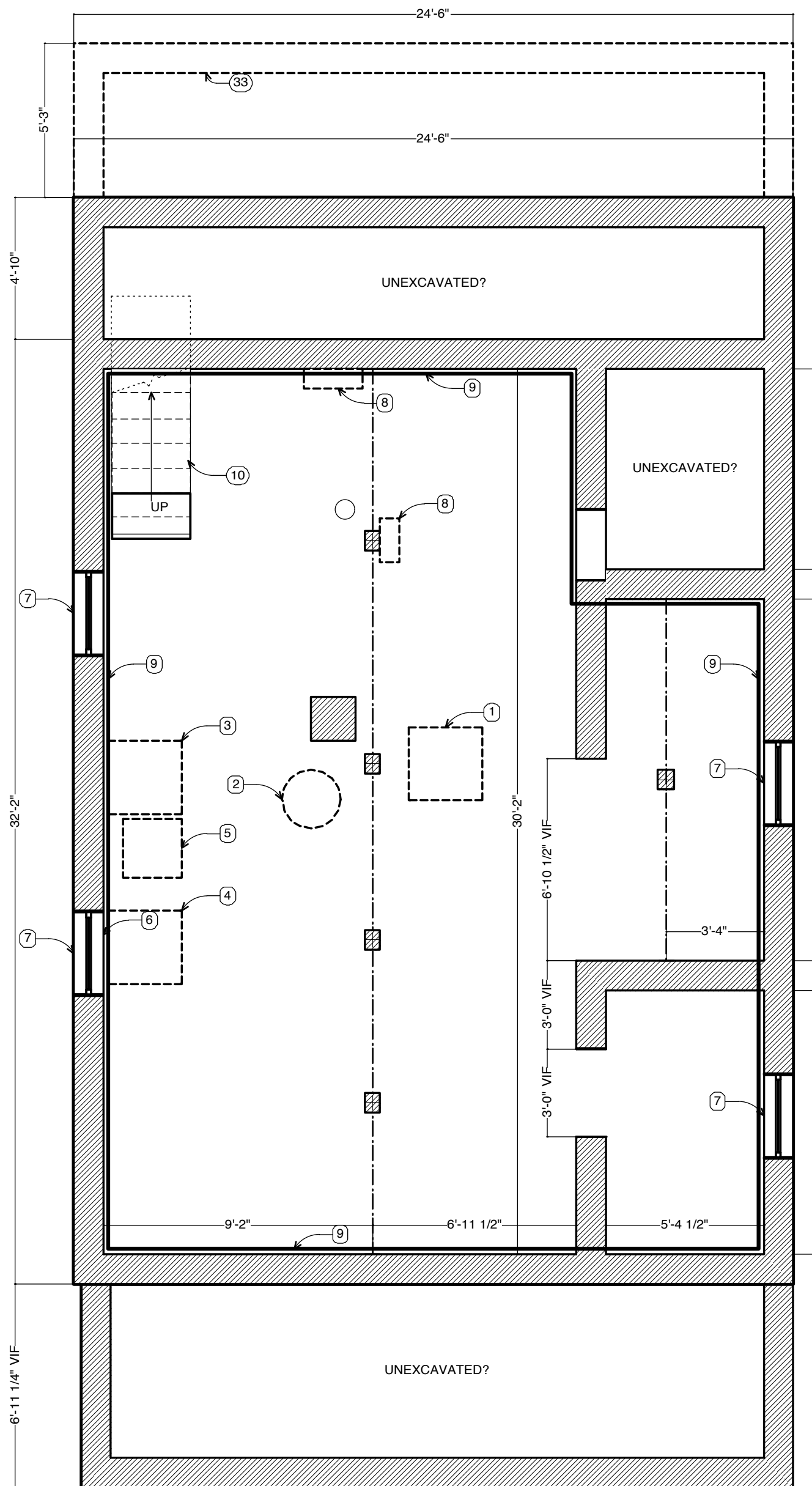
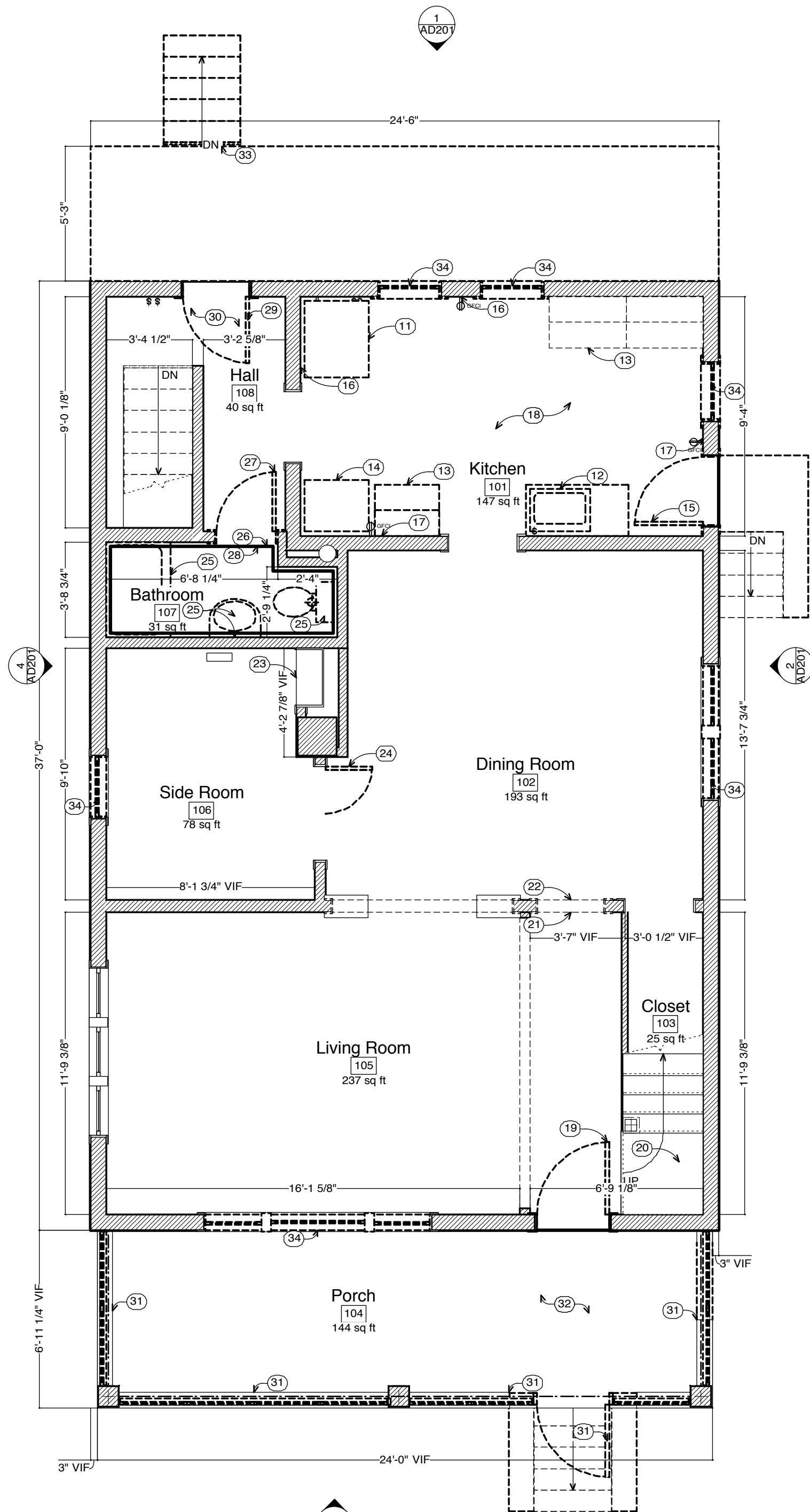
Drawing No.

L-102

Date

20130116

File Name



General Notes - Demolition

1. Field verify all existing conditions and dimensions.
2. Demo work shown dashed.
3. See specifications for construction waste removal and landfill diversion instructions.
4. Remove landscaping per HRA & Saint Paul Forestry recommendations.
5. Test for radon levels in existing basement (see specifications).
6. Clean, sand and refinish all existing stored materials for reuse (see specifications).
7. Remove existing asbestos siding whenever/wherever present.
8. Modify, relocate or cap existing mechanical & electrical as required.
9. Verify structural integrity of all existing framing, columns & beams.
10. Coordinate all structural modifications with qualified engineers.
11. Verify conditional & code compliance of all mechanical & electrical fixtures & outlets (see HRA Code Report)
12. See new plans to coordinate location and dimensions of new openings.
13. Upon removal of existing floor finishes, field verify condition of existing substrate and if hardwood floor exists.
14. Remove and retain all existing interior trim before demolishing interior walls. Reuse as needed.

Demolition Notes

1. Replace all windows. Verify condition for trim repair. See plans for noted exceptions.
2. Demo existing siding. Verify sheathing condition for repair.
3. Demo existing roof shingles and underlayment. Repair sheathing as needed.
4. Clean and tuckpoint existing foundation as required


Demolition Keynotes

- 1 Basement - Remove furnace
- 2 Basement - Remove water heater
- 3 Basement - Remove washer
- 4 Basement - Remove dryer
- 5 Basement - Remove utility sink ???
- 6 Basement - Remove dryer vent
- 7 Basement - Demolish windows; prepare openings for glass block.
- 8 Basement - Demolish electrical box.
- 9 Basement - Remove thin plaster coat at foundation wall
- 10 Basement - Demolish stairs to first floor
- 11 Kitchen - Demolish refrigerator
- 12 Kitchen - Demolish sink
- 13 Kitchen - Demolish base and wall cabinets and counter tops
- 14 Kitchen - Demolish stove
- 15 Kitchen - Demolish east exit door
- 16 Kitchen - Demolish faux brick wall covering
- 17 Kitchen - Demolish wainscot at east and south walls
- 18 Kitchen - Demolish flooring material including subflooring
- 19 Living Room - Demolish front exterior door
- 20 Living Room - Demolish carpet and pad on stairs
- 21 Living Room - Demolish wood surround and infill shelving
- 22 Dining Room - Demolish wood surround and infill shelving
- 23 Side Room - Demolish shelving
- 24 Side Room - Demolish wood door; retain wood frame
- 25 Bathroom - Plumbing fixtures - demolish sink, medicine cabinet, toilet, tub and faucet
- 26 Bathroom - Demolish miscellaneous items: grab bar, bath fan, mirrors, lights, etc.
- 27 Bathroom - Demolish wood door and frame
- 28 Bathroom - Demolish tile wall and flooring and wood wainscot
- 29 Rear Entry Hall - Demolish wood exterior door
- 30 Rear Entry Hall - Demolish flooring material
- 31 Front Porch - Demolish enclosure of windows, walls and porch entry door
- 32 Front Porch - Demolish floor
- 33 Rear Deck - Demolish wood deck, stair and grade beam
- 34 Throughout - Demolish window

City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

No.	Date	Appr	Revision Notes

No.	Date	Issue Notes

Design Firm

 Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Consultant
 (Blank)

Owner
 City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

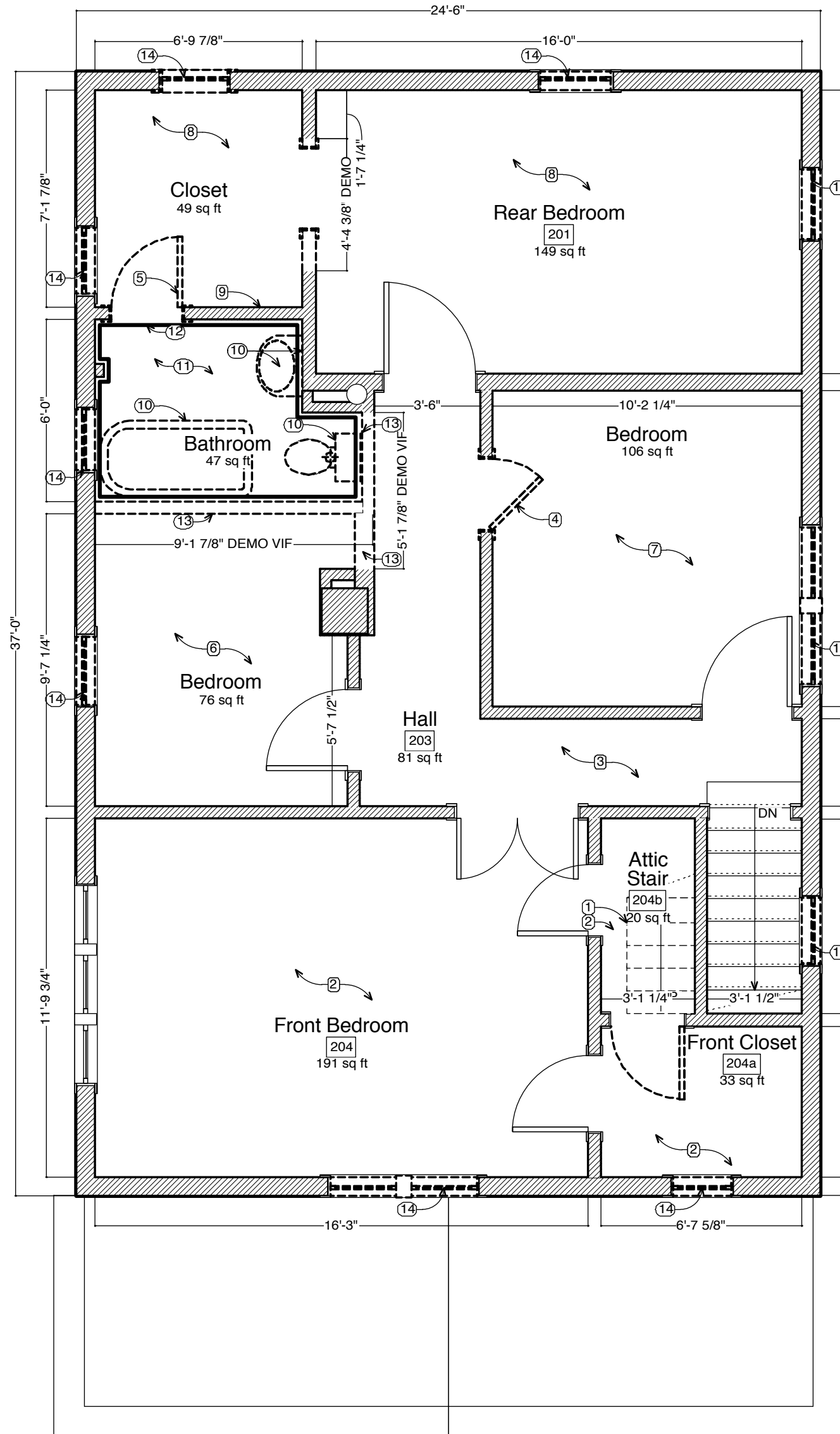
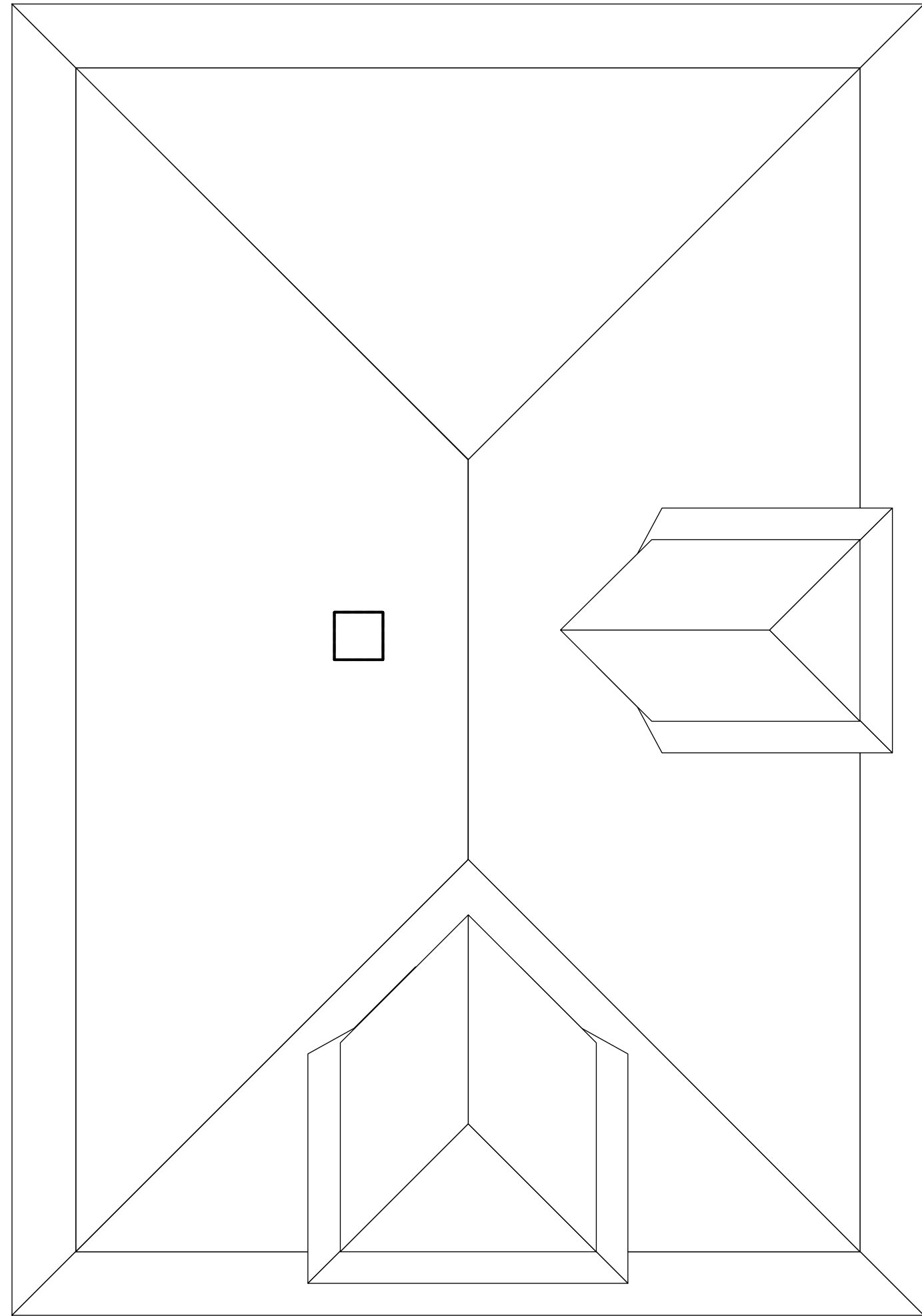
Project Title
 City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

Drawing Title
 Demo Basement/First Floor Plan

Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 1/4" = 1'-0"
Reviewed By	Drawing No. AD101
Date 20130116	File Name

2 Demolition-First Floor Plan
 Scale: 1/4" = 1'-0"

1 Demolition-Basement Floor Plan
 Scale: 1/4" = 1'-0"



General Notes - Demolition

1. Field verify all existing conditions and dimensions.
2. Demo work shown dashed.
3. See specifications for construction waste removal and landfill diversion instructions.
4. Remove landscaping per HRA & Saint Paul Forestry recommendations.
5. Test for radon levels in existing basement (see specifications).
6. Clean, sand and refinish all existing stored materials for reuse (see specifications).
7. Remove existing asbestos siding whenever/wherever present.
8. Modify, relocate or cap existing mechanical & electrical as required.
9. Verify structural integrity of all existing framing, columns & beams.
10. Coordinate all structural modifications with qualified engineers.
11. Verify conditional & code compliance of all mechanical & electrical fixtures & outlets (see HRA Code Report)
12. See new plans to coordinate location and dimensions of new openings.
13. Upon removal of existing floor finishes, field verify condition of existing substrate and if hardwood floor exists.
14. Remove and retain all existing interior trim before demolishing interior walls. Reuse as needed.

Demolition Notes

1. Replace all windows. Verify condition for trim repair. See plans for noted exceptions.
2. Demo existing siding. Verify sheathing condition for repair.
3. Demo existing roof shingles and underlayment. Repair sheathing as needed.
4. Clean and tuckpoint existing foundation as required.

Floor Plan Demolition Keynotes


- ① Front Bedroom - Demolish stair to attic
- ② Front Bedroom - Demolish carpet and pad
- ③ Front Hall - Demolish carpet and pad
- ④ East Bedroom - Demolish west door and trim
- ⑤ North Bedroom Closet - Demolish wood door and frame
- ⑥ West Bedroom - Demolish carpet and pad
- ⑦ East Bedroom - Demolish carpet and pad
- ⑧ North Bedroom and Closet - Demolish carpet and pad
- ⑨ North Bedroom Closet - Demolish south wall sheetrock
- ⑩ Bathroom - Demolish plumbing fixtures - sink, vanity, mirror, toilet, tub and faucet; retract and cap discontinued electrical, water and waste lines - coordinate with new construction plans
- ⑪ Bathroom - Demolish flooring material
- ⑫ Bathroom - Demolish miscellaneous items: grab bar(s), bath fan, mirror(s), lights, etc.
- ⑬ Bathroom - Demolish wall
- ⑭ Throughout - Demolish window

City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

No.	Date	Appr	Revision Notes

No.	Date	Issue Notes

Not for Construction

Design Firm

Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Owner
City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

Project Title
City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

Drawing Title
Demo Second Floor/Roof Plan

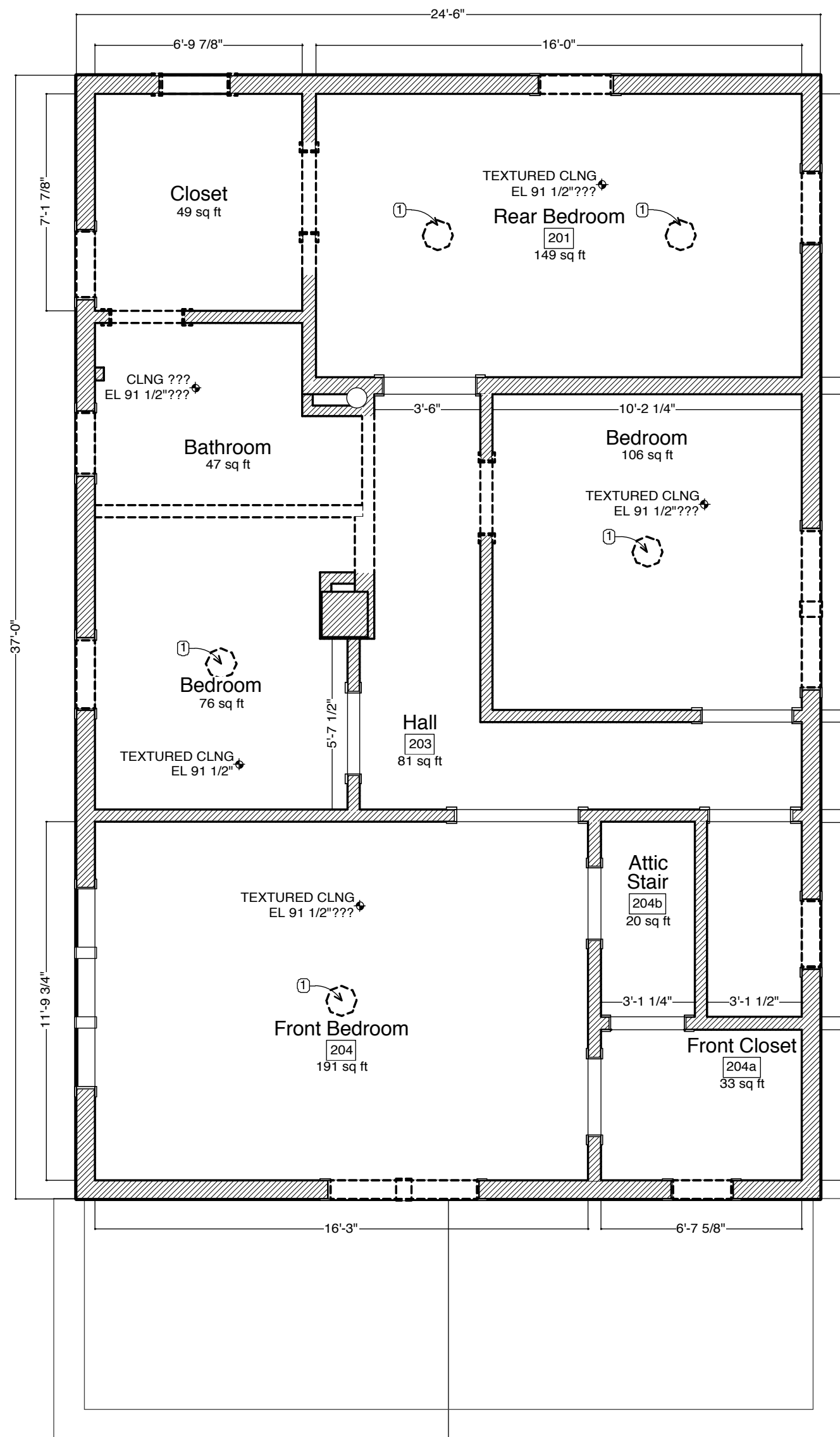
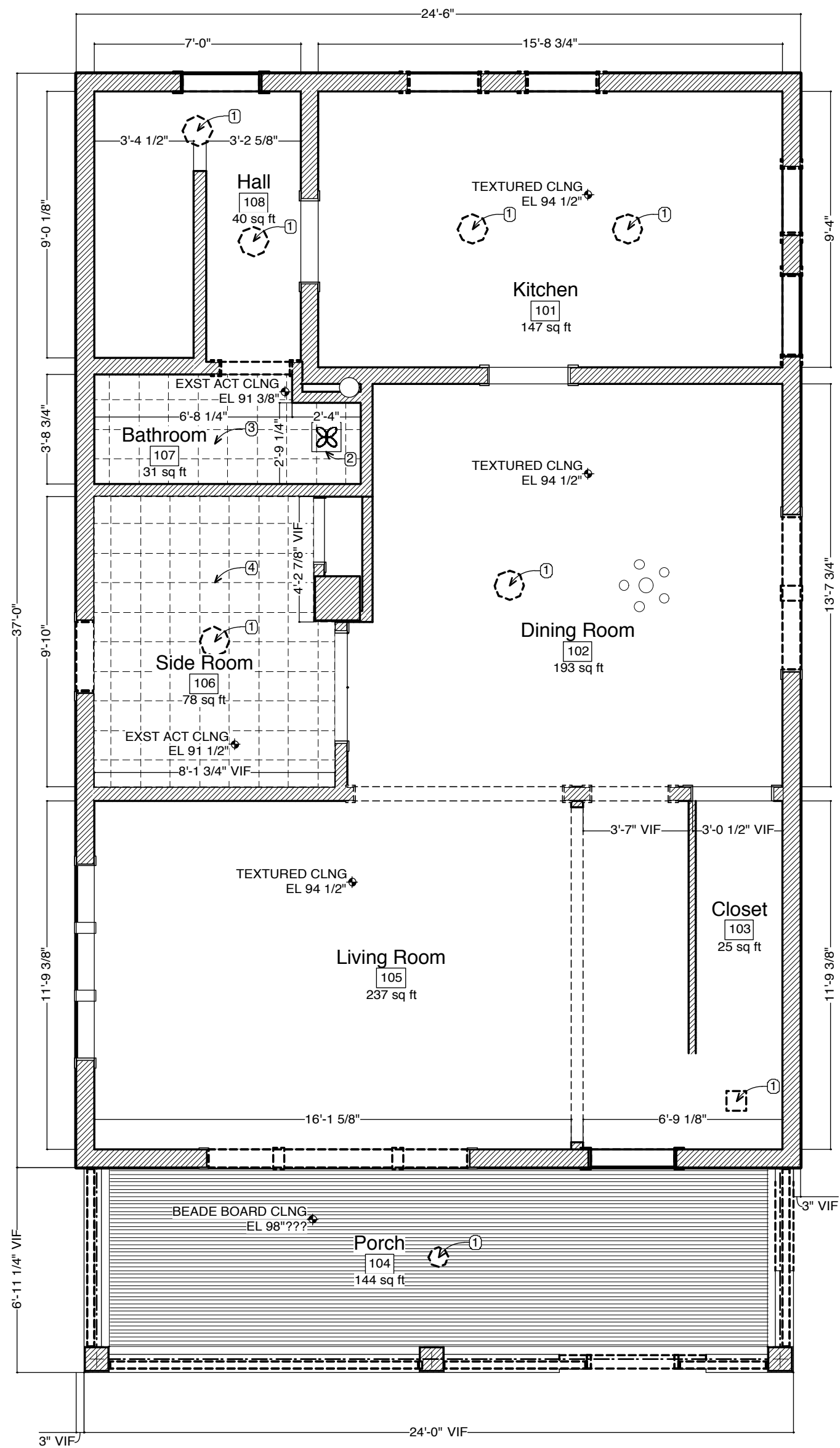
Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 1/4" = 1'-0"
Reviewed By	Drawing No. AD102
Date 20130116	File Name

2 Demolition-Roof Plan
 Scale: 1/4" = 1'-0"



1 Demolition-Second Floor Plan
 Scale: 1/4" = 1'-0"





General Notes - Demolition

1. Field verify all existing conditions and dimensions.
2. Demo work shown dashed.
3. See specifications for construction waste removal and landfill diversion instructions.
4. Remove landscaping per HRA & Saint Paul Forestry recommendations.
5. Test for radon levels in existing basement (see specifications).
6. Clean, sand and refinish all existing stored materials for reuse (see specifications).
7. Remove existing asbestos siding whenever/wherever present.
8. Modify, relocate or cap existing mechanical & electrical as required.
9. Verify structural integrity of all existing framing, columns & beams.
10. Coordinate all structural modifications with qualified engineers.
11. Verify conditional & code compliance of all mechanical & electrical fixtures & outlets (see HRA Code Report)
12. See new plans to coordinate location and dimensions of new openings.
13. Upon removal of existing floor finishes, field verify condition of existing substrate and if hardwood floor exists.
14. Remove and retain all existing interior trim before demolishing interior walls. Reuse as needed.

Demolition Notes

1. Replace all windows. Verify condition for trim repair. See plans for noted exceptions.
2. Demo existing siding. Verify sheathing condition for repair.
3. Demo existing roof shingles and underlayment. Repair sheathing as needed.
4. Clean and tuckpoint existing foundation as required

Reflected Ceiling Plan Demolition Keynotes

- ① Throughout - Demolish lighting fixtures - all
- ② Bathroom - Demolish ceiling fan
- ③ Bathroom - Demolish acoustical tile ceiling
- ④ Side Room - Demolish acoustical tile ceiling

City of Saint Paul • HRA
Residence Remodel
971 Jenks Avenue
Saint Paul, MN

No.	Date	Appr	Revision Notes

No.	Date	Issue Notes

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 Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Owner
 City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

Project Title
 City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

Drawing Title
 Demo Reflected Ceiling Plans

Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 1/4" = 1'-0"
Reviewed By	Drawing No. AD121
Date 20130116	File Name

2 Demolition-Reflected Ceiling Plan-First Floor
 Scale: 1/4" = 1'-0"



1 Demolition-Reflected Ceiling Plan-Second Floor
 Scale: 1/4" = 1'-0"



City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

General Notes - Demolition

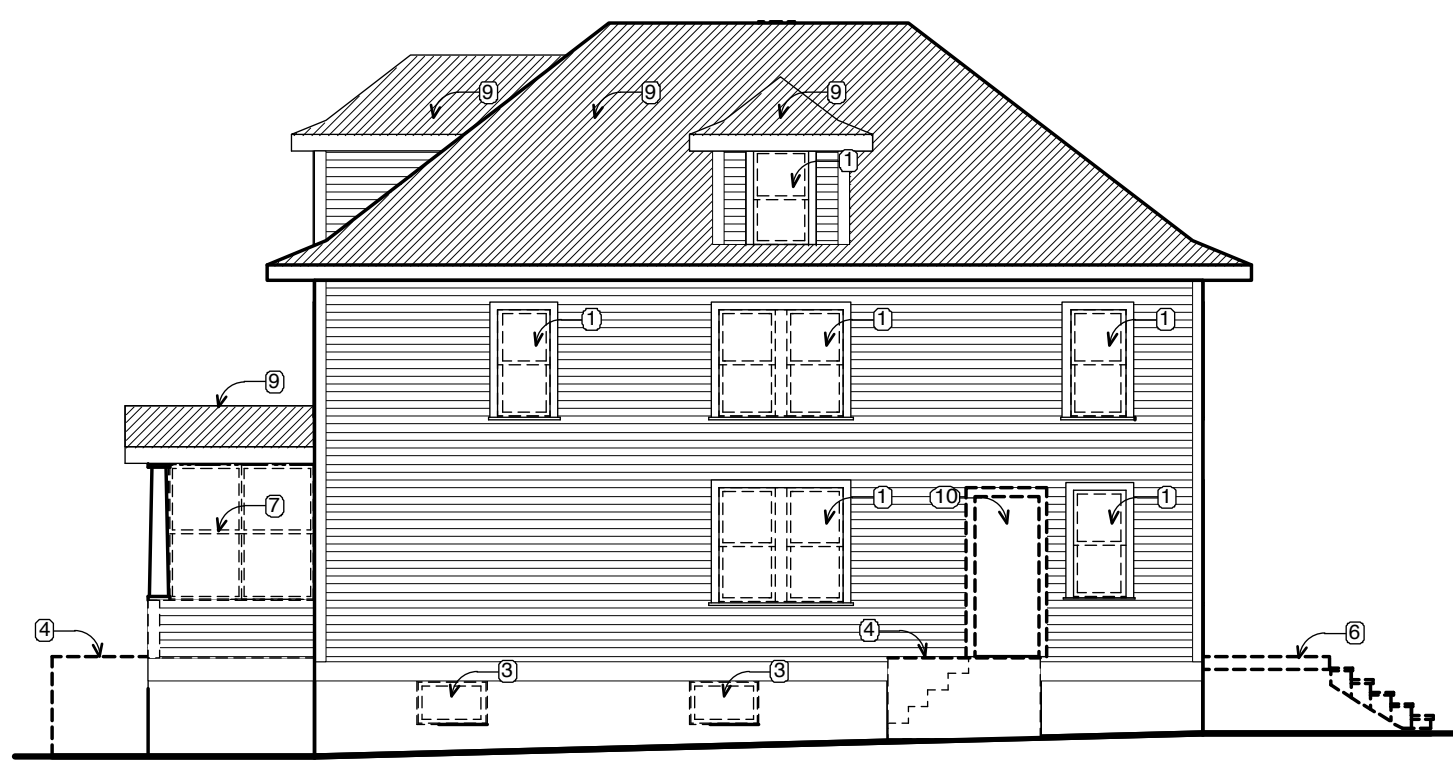
1. Field verify all existing conditions and dimensions.
2. Demo work shown dashed.
3. See specifications for construction waste removal and landfill diversion instructions.
4. Remove landscaping per HRA & Saint Paul Forestry recommendations.
5. Test for radon levels in existing basement (see specifications).
6. Clean, sand and refinish all existing stored materials for reuse (see specifications).
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9. Verify structural integrity of all existing framing, columns & beams.
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12. See new plans to coordinate location and dimensions of new openings.
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Demolition Notes

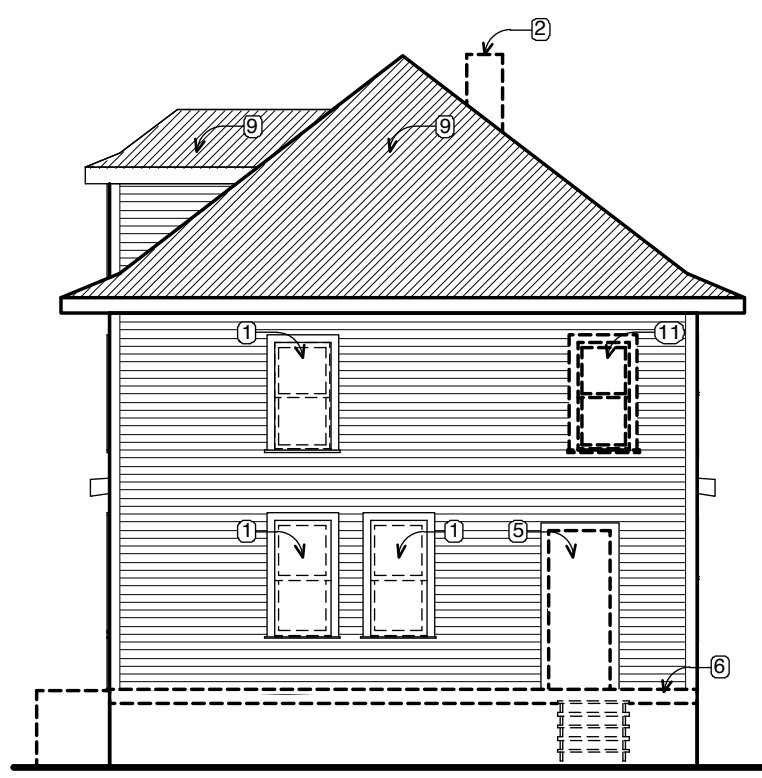
1. Replace all windows. Verify condition for trim repair. See plans for noted exceptions.
2. Demo existing siding. Verify sheathing condition for repair.
3. Demo existing roof shingles and underlayment. Repair sheathing as needed.
4. Clean and tuckpoint existing foundation as required

Demolition Elevation Keynotes

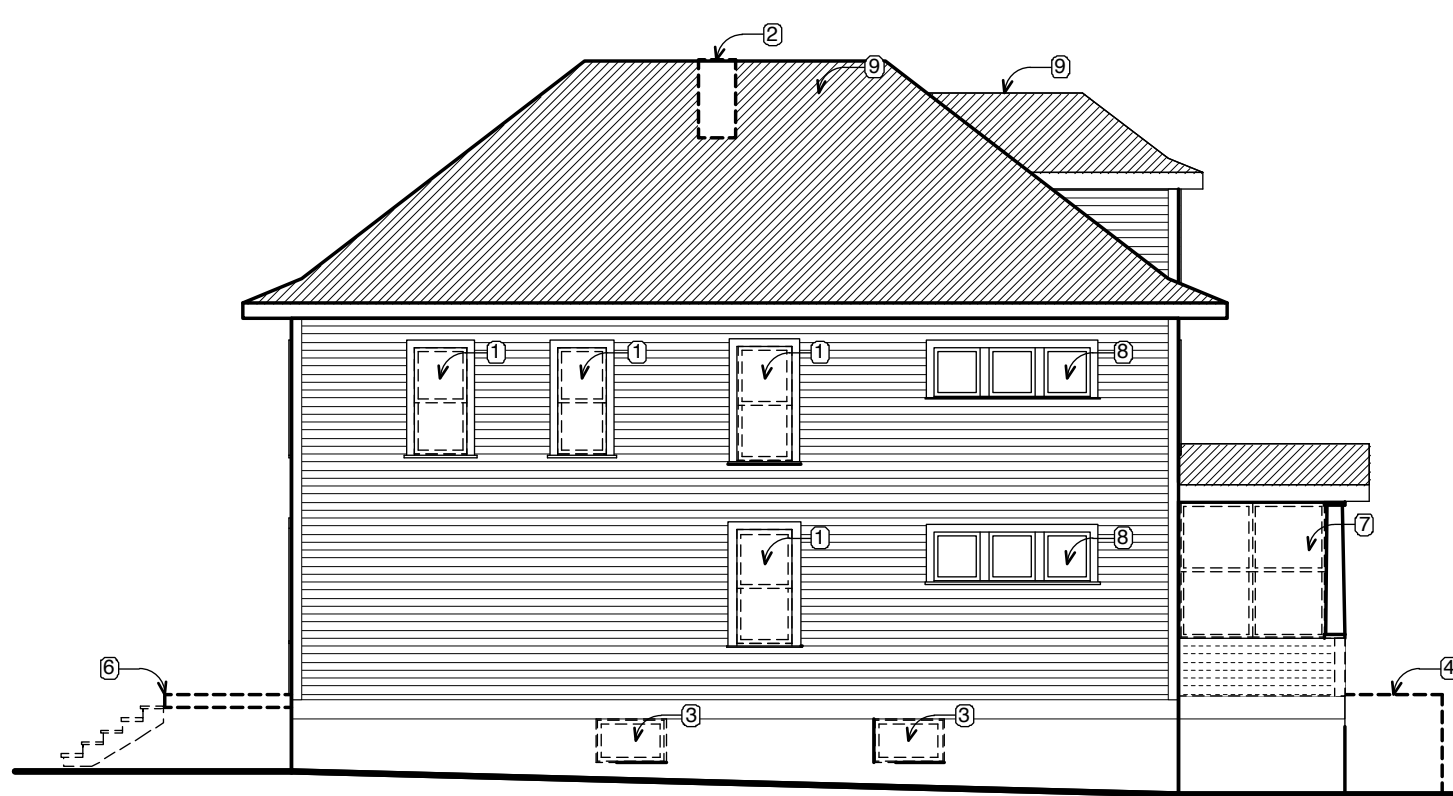
- ① Remove existing window unit; prepare existing opening for new window. See specifications
- ② Retract chimney below roof structure; infill hole in roof and prepare for new roof system
- ③ Remove existing window and prepare for new glass block system; see specifications
- ④ Remove existing concrete stair and side walls
- ⑤ Remove existing door and prepare opening for new door
- ⑥ Remove existing wood deck, stair and grade beam; repair/prepare existing ledger for new work
- ⑦ Remove existing storm window system, partial height walls, screen door and flooring; shore up roof and floor structure as needed for new work
- ⑧ Retain existing window
- ⑨ Remove shingles, flashings and related roofing materials
- ⑩ Remove and infill door opening; prepare for new siding system
- ⑪ Remove existing window unit, frame and trim; prepare opening for infill and new siding system



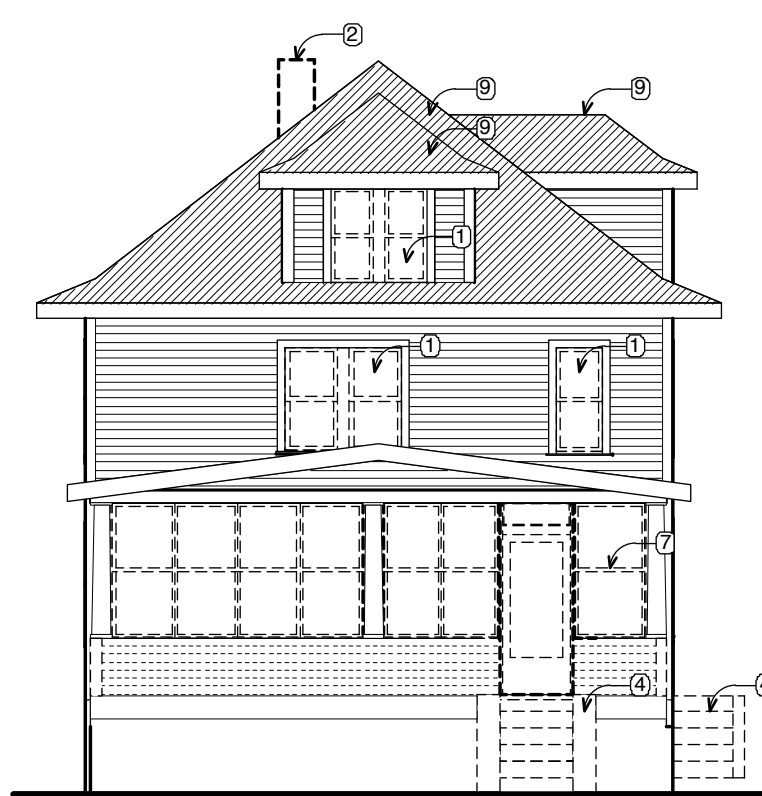
2 Demolition Elevation-East
 Scale: 1/8" = 1'-0"



1 Demolition Elevation-North
 Scale: 1/8" = 1'-0"




4 Demolition Elevation-West
 Scale: 1/8" = 1'-0"



3 Demolition Elevation-South
 Scale: 1/8" = 1'-0"

No.	Date	Appr	Revision Notes

No.	Date	Issue Notes
<i>Not for Construction</i>		

Design Firm

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 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Consultant

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City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

Project Title
City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

Drawing Title
Demo Elevations

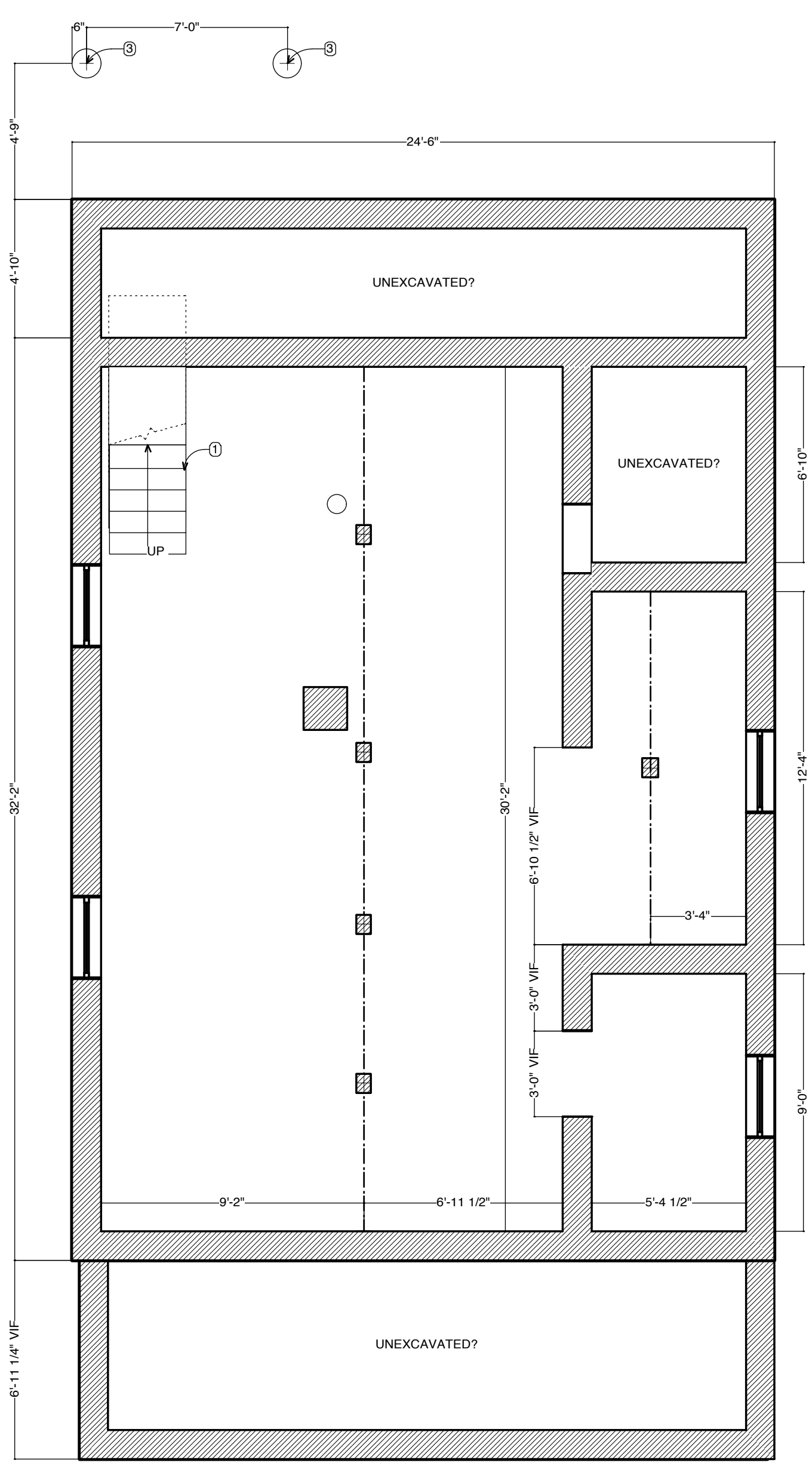
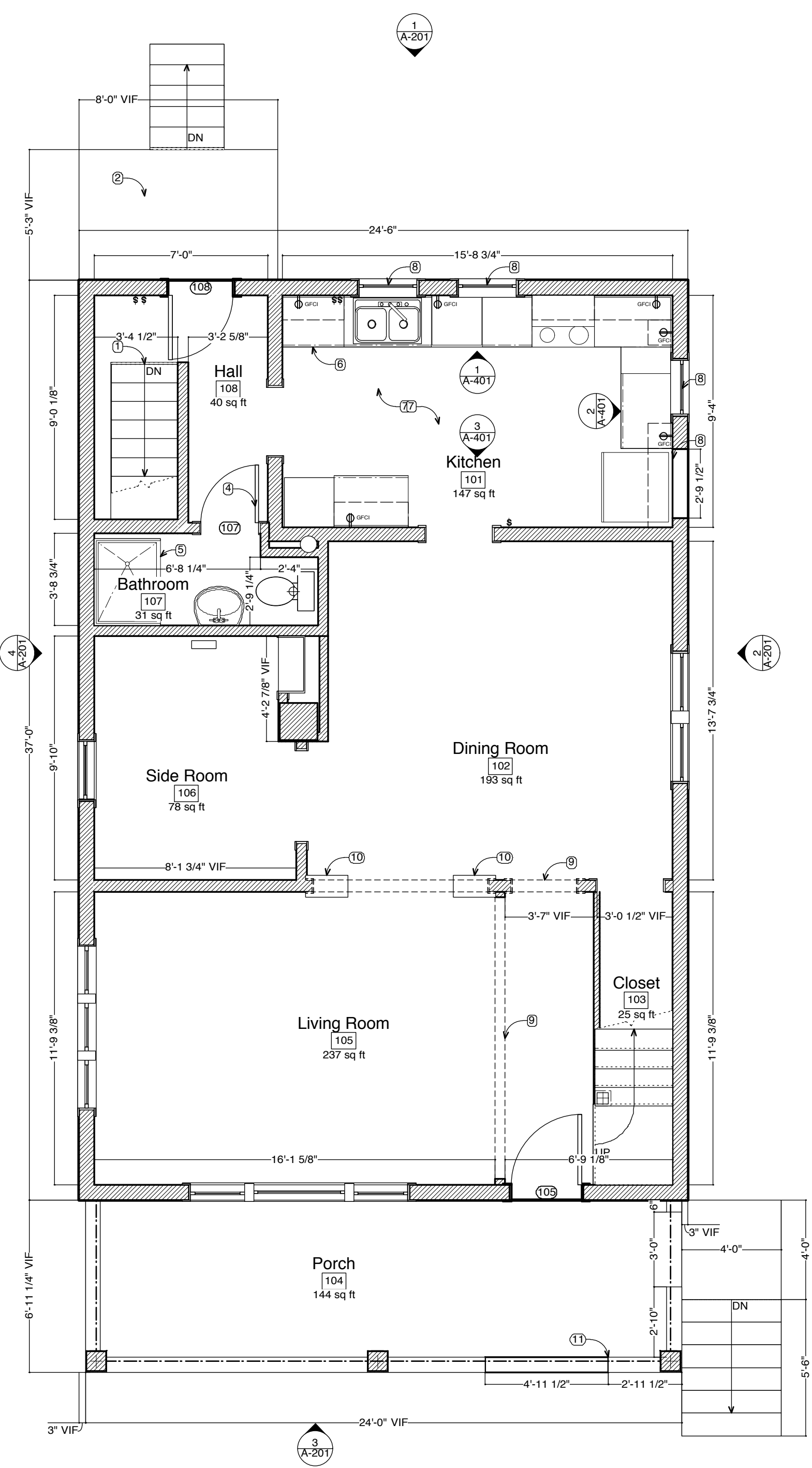
Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 1/8" = 1'-0"
Reviewed By	Drawing No. AD201
Date 20130116	File Name

City of Saint Paul • HRA
Residence Remodel
971 Jenks Avenue
Saint Paul, MN

- General Notes - New Construction**
1. Provide radon ventilation in basement per radon test report recommendations.
 2. All interior walls 2x4 WD framing UNO.
 3. Provide paper free GWB or cement fiberboard at all interior wall locations with plumbing fixture(s).
 4. Clean and reinstall existing door hardware as noted if to be reused.
 5. Fully encapsulate lead-paint at locations per code (see HRA Report)
 6. All occupiable spaces to have a minimum ceiling height Of 7'-0" per code (application for variance per client request).
 7. Refinish hardwood floors when present (see schedule).
 8. Verify all existing mechanical & electrical for code compliance. Install new outlets & fixtures as required (see specifications).
 9. Provide fire blocking/fire safing as required per code.
 10. Verify existing Smoke detection system. Reuse if possible; replace per code as required.


- New Construction Notes**
1. All Roofs: new roofing and vents to code. See Specifications.
 2. New siding and house trim. See specifications for type.
 3. All windows are replacement windows. Unless noted otherwise.

- New Construction Keynotes**
- ① Basement - Frame in new stair at existing stair location
 - ② Rear Deck - Install deck footings, floor, railing and stair
 - ③ Rear Deck - New 12" Sono Tube footings.
 - ④ Bathroom - Install new door and frame
 - ⑤ Bathroom - Prepare Bathroom walls for tile where noted. Frame in shower.
 - ⑥ Kitchen - Install new kitchen cabinetry and baseboard
 - ⑦ Kitchen - Install new flooring and insulation
 - ⑧ Kitchen - Frame in window and door openings as indicated.
 - ⑨ Living/Dining Room - Restore and repair arch
 - ⑩ Living/Dining Room - Restore book case
 - ⑪ Front Porch - Remove existing windows, enclosure walls and flooring. Retain existing roof and front soffit; temporarily support existing roof as needed. Level floor structure as needed. Install porch floor and railing Porch detailing with standard posts and railings. Construct stair and landing for front entry.



2 Floor Plan-First Floor
Scale: 1/4" = 1'-0"

1 Floor Plan-Basement
Scale: 1/4" = 1'-0"

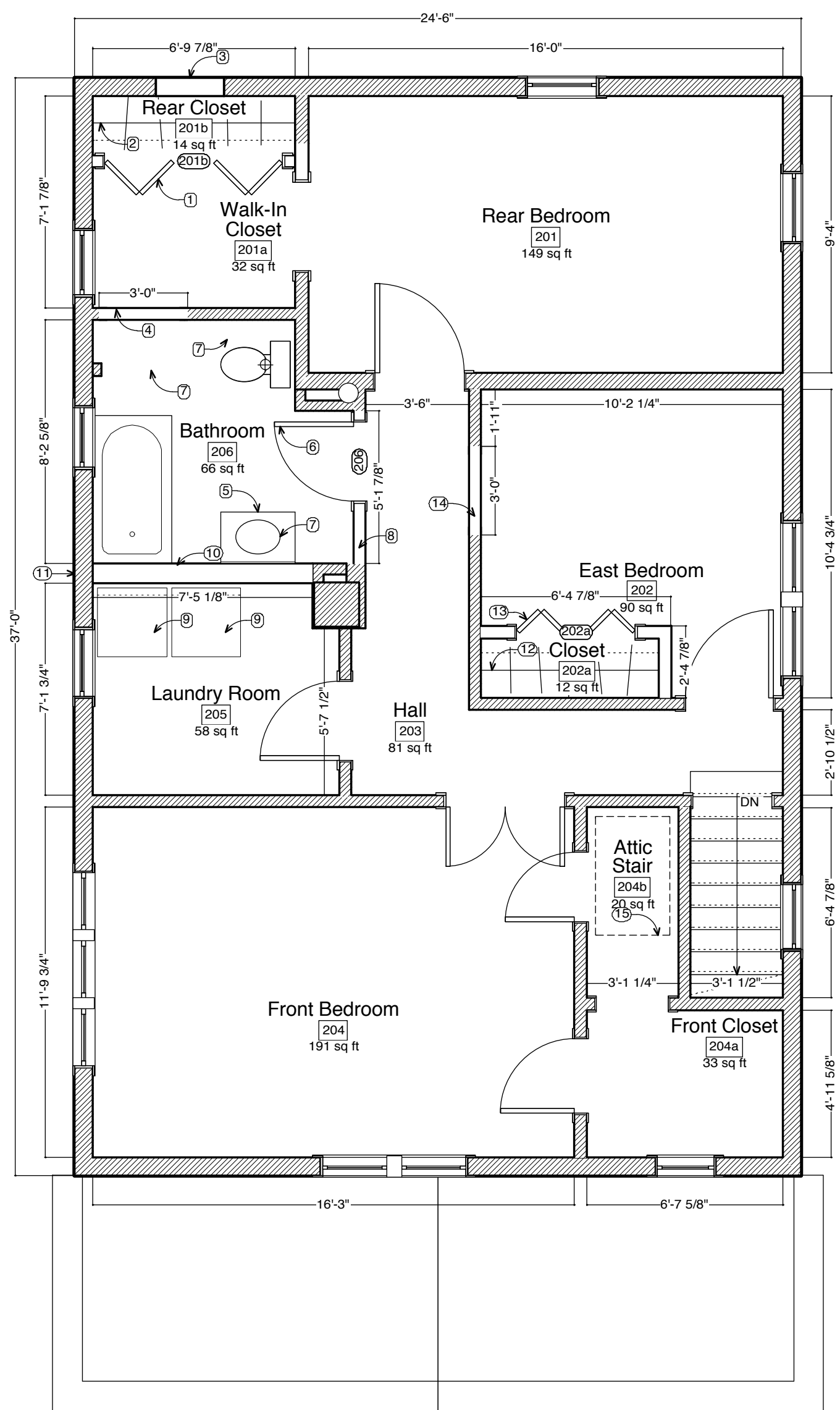
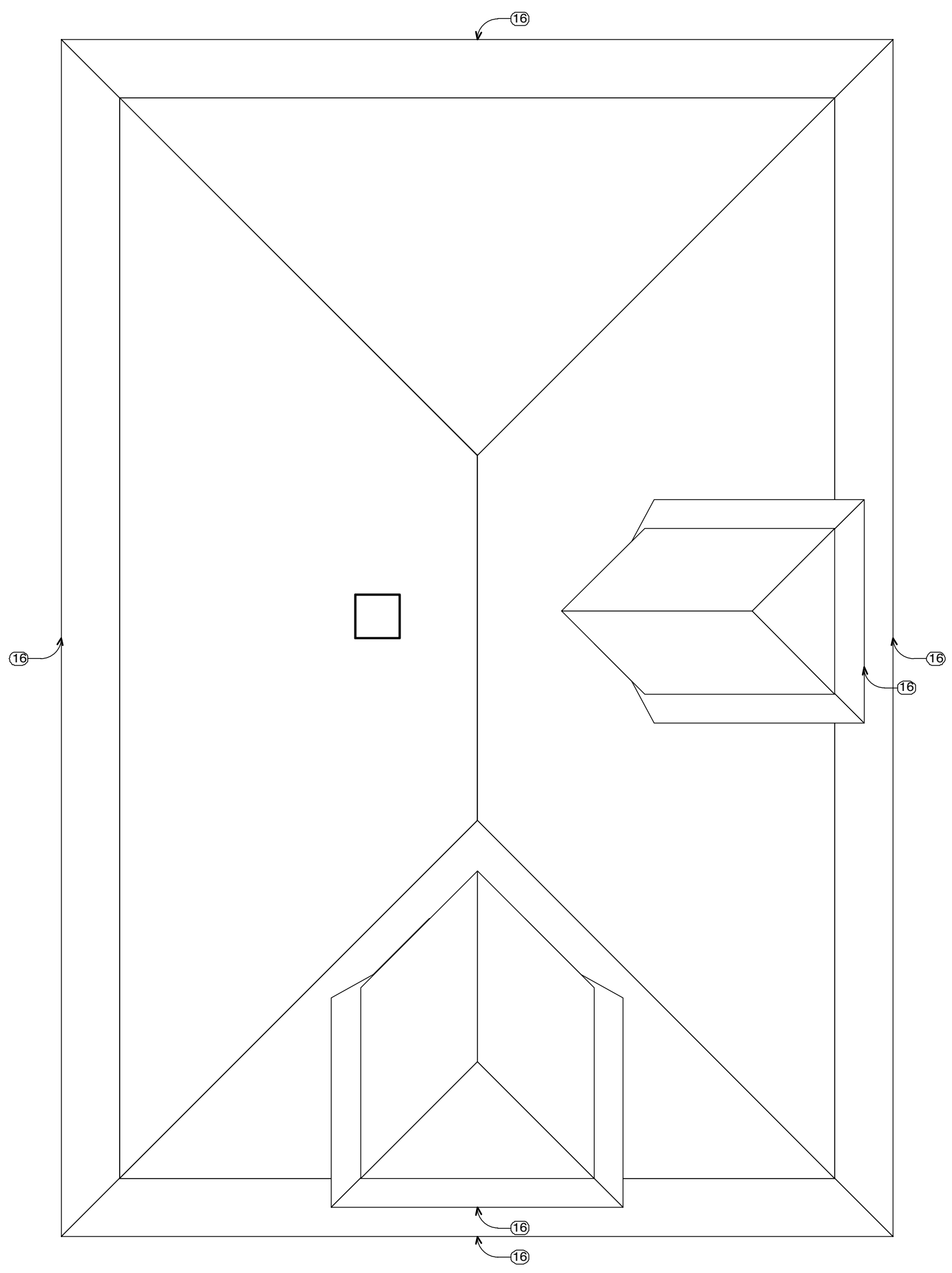
No.	Date	Appr	Revision Notes
No.	Date	Issue Notes	
Not for Construction			
Design Firm			
 Lunning Wende Associates, Inc. 275 Fourth Street East, Suite 620 Saint Paul, MN 55101 P: 651.221.0915 F: 651.222.6259			
Consultant			
Owner			
City of Saint Paul HRA Marty McCarthy, Project Manager 25 west 4th Street, Saint Paul, MN 55102 651.266.6552			
Project Title			
City of Saint Paul • HRA Residence Remodel 971 Jenks Avenue Saint Paul, MN			
Drawing Title			
Basement/First Floor Plan			
Project Manager		Project ID	
Scott Wende		2012-04	
Drawn By		Scale	
SM		1/4" = 1'-0"	
Reviewed By		Drawing No.	
		A-101	
Date			
20130116			
File Name			

City of Saint Paul • HRA
Residence Remodel
971 Jenks Avenue
Saint Paul, MN

- General Notes - New Construction**
1. Provide radon ventilation in basement per radon test report recommendations.
 2. All interior walls 2x4 WD framing UNO.
 3. Provide paper free GWB or cement fiberboard at all interior wall locations with plumbing fixture(s).
 4. Clean and reinstall existing door hardware as noted if to be reused.
 5. Fully encapsulate lead-paint at locations per code (see HRA Report)
 6. All occupiable spaces to have a minimum ceiling height Of 7'-0" per code (application for variance per client request).
 7. Refinish hardwood floors when present (see schedule).
 8. Verify all existing mechanical & electrical for code compliance. Install new outlets & fixtures as required (see specifications).
 9. Provide fire blocking/fire safing as required per code.
 10. Verify existing Smoke detection system. Reuse if possible; replace per code as required.

- New Construction Notes**
1. All Roofs: new roofing and vents to code. See Specifications.
 2. New siding and house trim. See specifications for type.
 3. All windows are replacement windows. Unless noted otherwise.

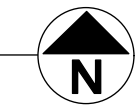
- New Construction Keynotes**
- ① Rear Closet - Install closet door and frame
 - ② Rear Closet - Frame in new closet. Install closet shelving and rods
 - ③ Rear Closet - Frame in existing window opening
 - ④ Bathroom - Infill door opening with new wood stud and sheetrock
 - ⑤ Bathroom - Install bathroom cabinet
 - ⑥ Bathroom - New door and frame
 - ⑦ Bathroom - Frame in new tub, sink and toilet
 - ⑧ Bathroom - Frame in new east wall door and frame
 - ⑨ Laundry Room - New washer and dryer; vent dryer to exterior through west wall.
 - ⑩ Laundry Room - Frame in new north wall
 - ⑪ Laundry Room - New dryer vent to outside
 - ⑫ East Bedroom - Frame in new closet. Install closet shelving and rods
 - ⑬ East Bedroom - Install closet door and frame
 - ⑭ East Bedroom - Frame in new west wall in former door opening
 - ⑮ Front Bedroom - Install attic access door and stair
 - ⑯ Exterior - Repair wood soffits, fascia, brackets and trim at roof



2 Roof Plan
A-102 Scale: 1/4" = 1'-0"




1 Floor Plan-Second Floor
A-102 Scale: 1/4" = 1'-0"



No.	Date	Appr	Revision Notes

No.	Date	Issue Notes

Not for Construction

Design Firm
 Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Consultant

Owner
 City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

Project Title
 City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

Drawing Title
 Second Floor/Roof Plan

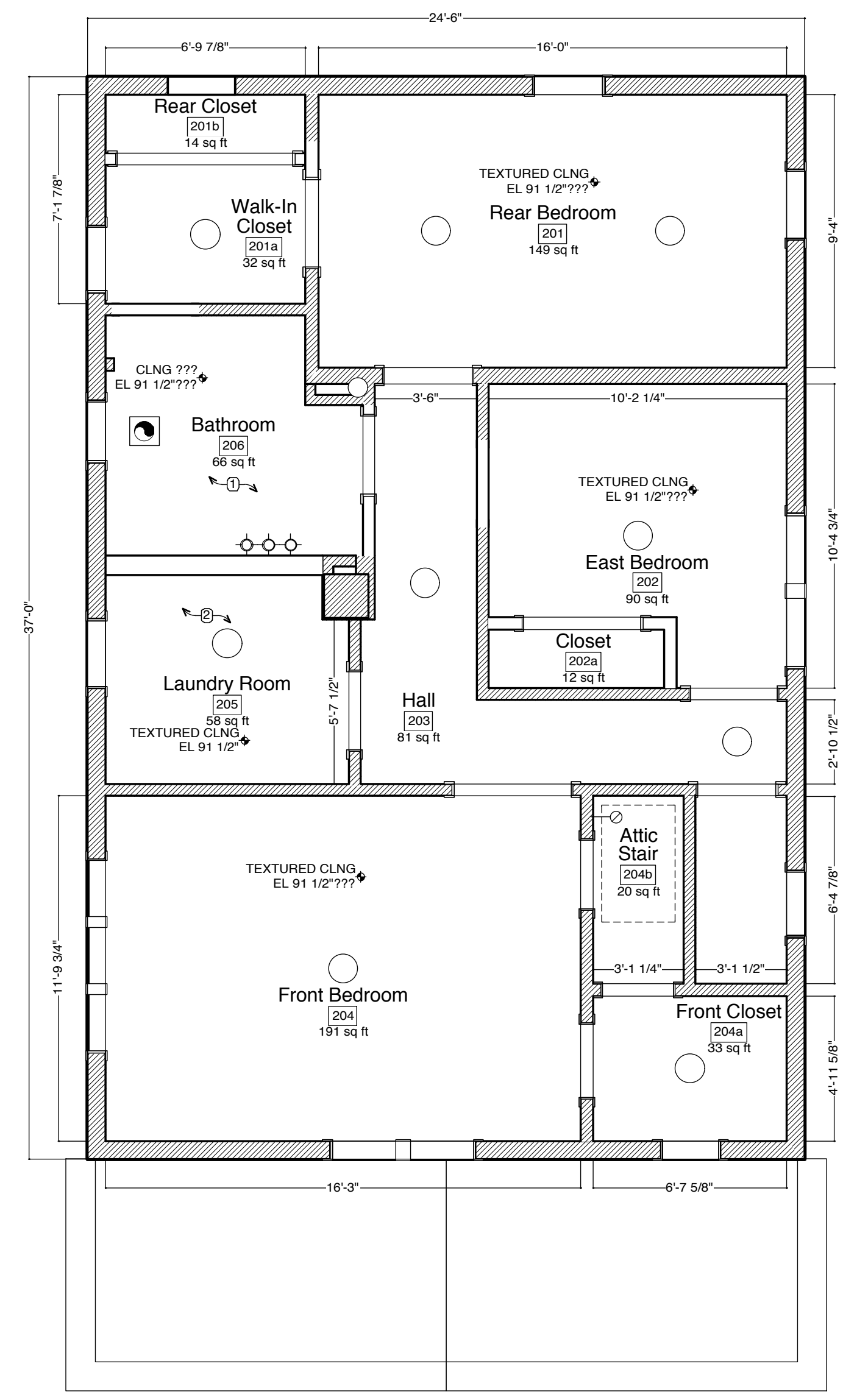
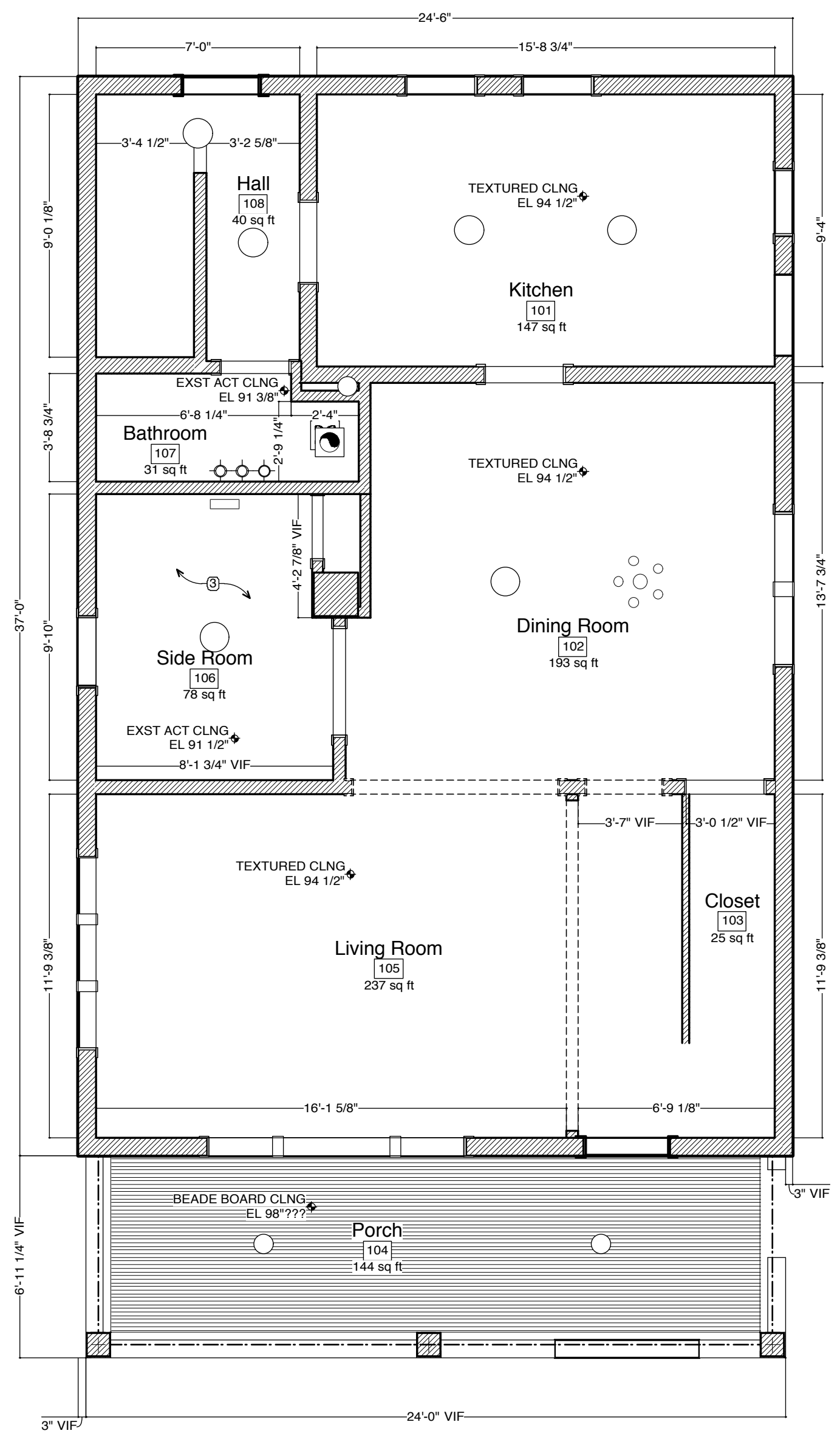
Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 1/4" = 1'-0"
Reviewed By	Drawing No. A-102
Date 20130116	File Name

City of Saint Paul • HRA
Residence Remodel
971 Jenks Avenue
Saint Paul, MN

- General Notes - New Construction**
1. Provide radon ventilation in basement per radon test report recommendations.
 2. All interior walls 2x4 WD framing UNO.
 3. Provide paper free GWB or cement fiberboard at all interior wall locations with plumbing fixture(s).
 4. Clean and reinstall existing door hardware as noted if to be reused.
 5. Fully encapsulate lead-paint at locations per code (see HRA Report)
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 7. Refinish hardwood floors when present (see schedule).
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 9. Provide fire blocking/fire safing as required per code.
 10. Verify existing Smoke detection system. Reuse if possible; replace per code as required.

- New Construction Notes**
1. All Roofs: new roofing and vents to code. See Specifications.
 2. New siding and house trim. See specifications for type.
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- New Construction RCP Keynotes**
- ① Bathroom - Install/repair sheetrock ceiling
 - ② Laundry Room - Install/repair sheetrock ceiling
 - ③ Side Room - Install sheetrock ceiling



2 Reflected Ceiling Plan-First Floor-Existing
Scale: 1/4" = 1'-0"




1 Reflected Ceiling Plan-Second Floor-Existing
Scale: 1/4" = 1'-0"



No.	Date	Appr	Revision Notes

No.	Date	Issue Notes

Not for Construction

Design Firm
 Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Owner
 City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

Project Title
 City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

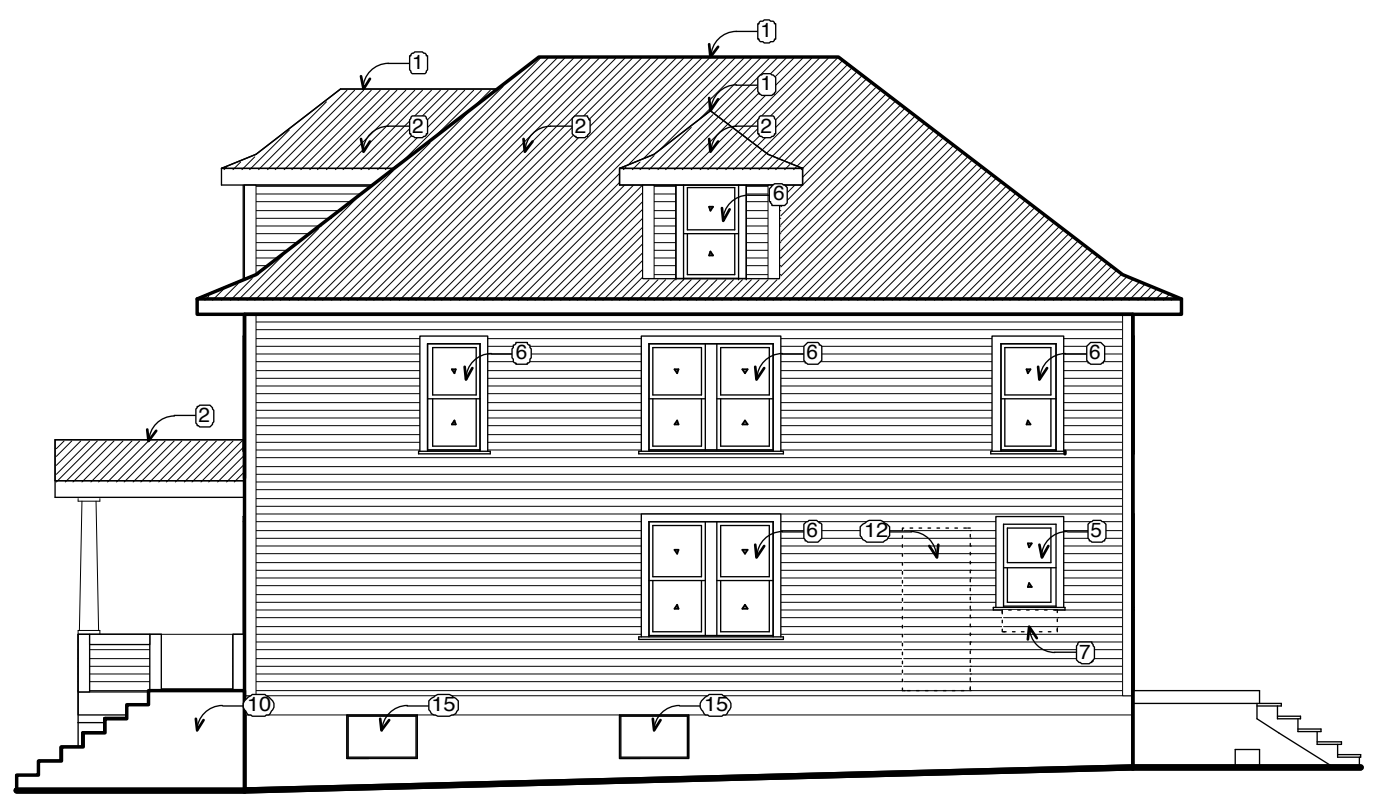
Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 1/4" = 1'-0"
Reviewed By	Drawing No. A-121
Date 20130116	File Name

City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

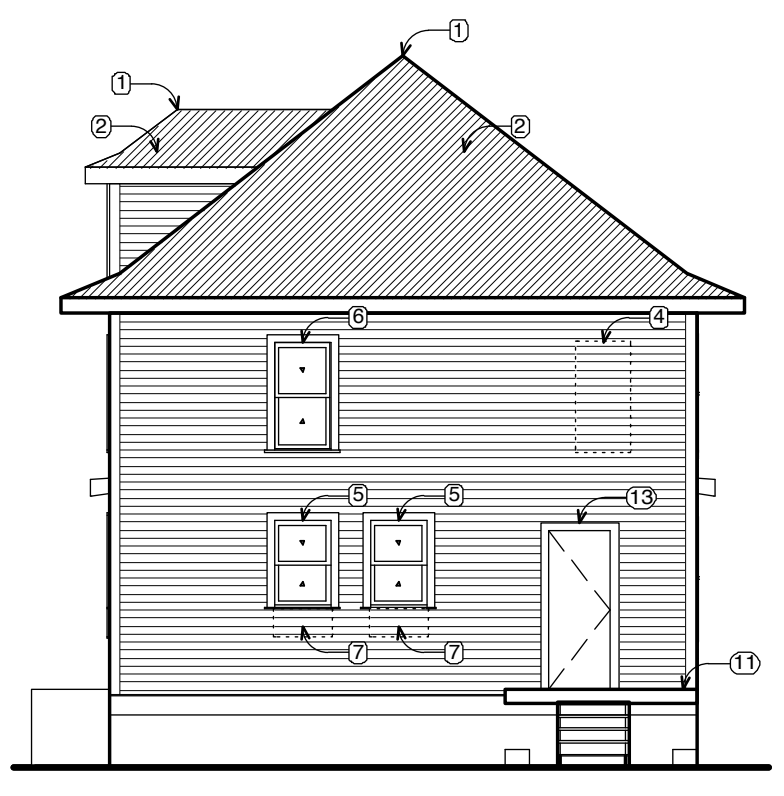
- General Notes - New Construction**
1. Provide radon ventilation in basement per radon test report recommendations.
 2. All interior walls 2x4 WD framing UNO.
 3. Provide paper free GWB or cement fiberboard at all interior wall locations with plumbing fixture(s).
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- New Construction Notes**
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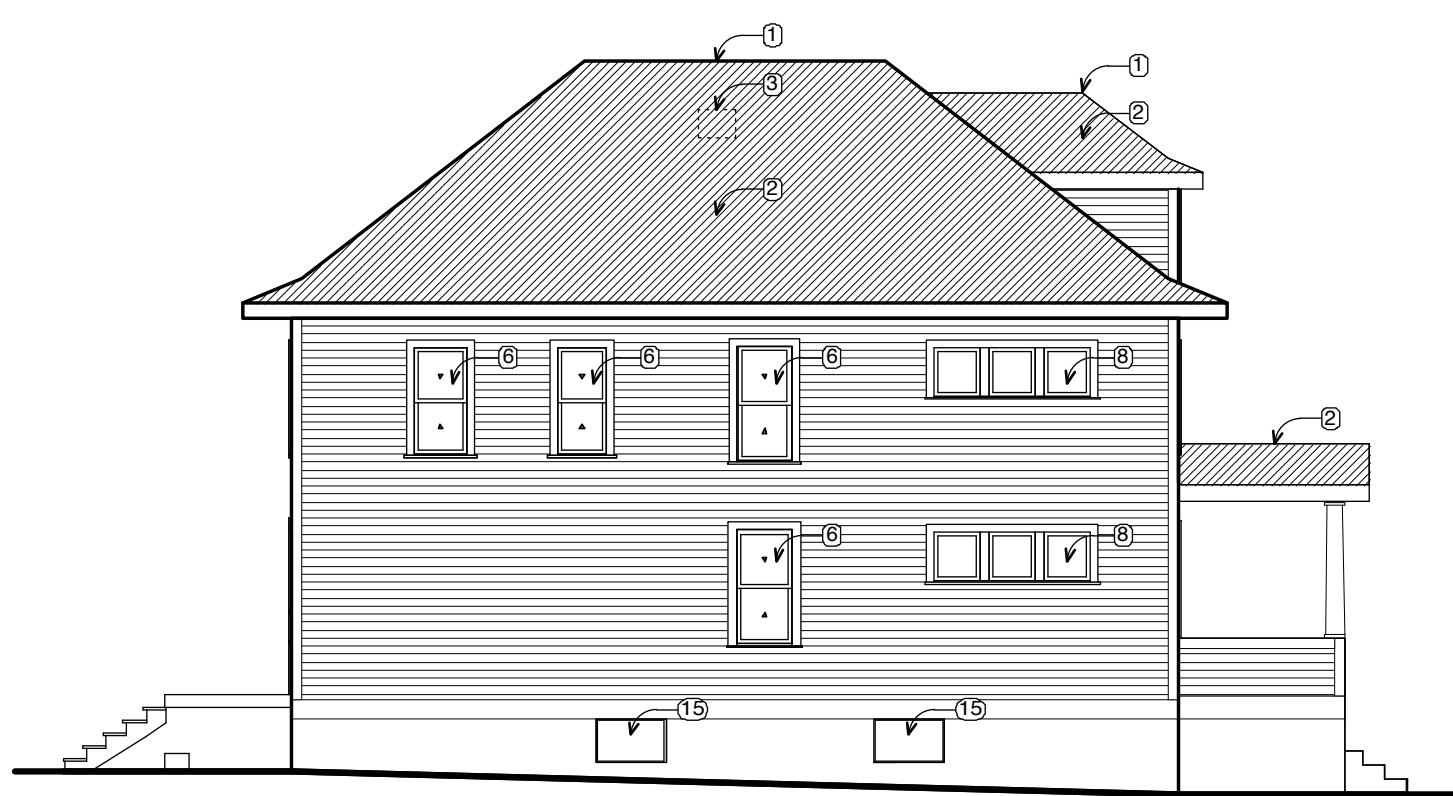
- Elevation Keynotes**
- ① New ridge vent
 - ② New shingles, flashings and related roofing materials
 - ③ Infill hole in roof from retracted chimney; prepare for new roof system
 - ④ Infill window opening and prepare for new sheathing system
 - ⑤ New window in existing opening with raised sill
 - ⑥ New window in existing opening
 - ⑦ Partially infill window opening to raised sill height and prepare for new sheathing system
 - ⑧ Existing window to remain
 - ⑨ Existing fixed glass windows in central bay to remain; affix storm window to exterior
 - ⑩ New concrete stair and landing with guard rail to code; see specifications
 - ⑪ New footings, wood deck and stair; see structural and landscape sheets
 - ⑫ Infill door opening and prepare for new sheathing system
 - ⑬ New door in existing opening
 - ⑭ New front porch partial height wall with siding system
 - ⑮ New glassblock window infill



2 Elevation-East
 Scale: 1/8" = 1'-0"



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



4 Elevation-West
 Scale: 1/8" = 1'-0"




3 Elevation-South
 Scale: 1/8" = 1'-0"

No.	Date	Appr	Revision Notes

No.	Date	Issue Notes

Not for Construction

Design Firm

Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Consultant

Owner
City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

Project Title
City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

Drawing Title
Elevations

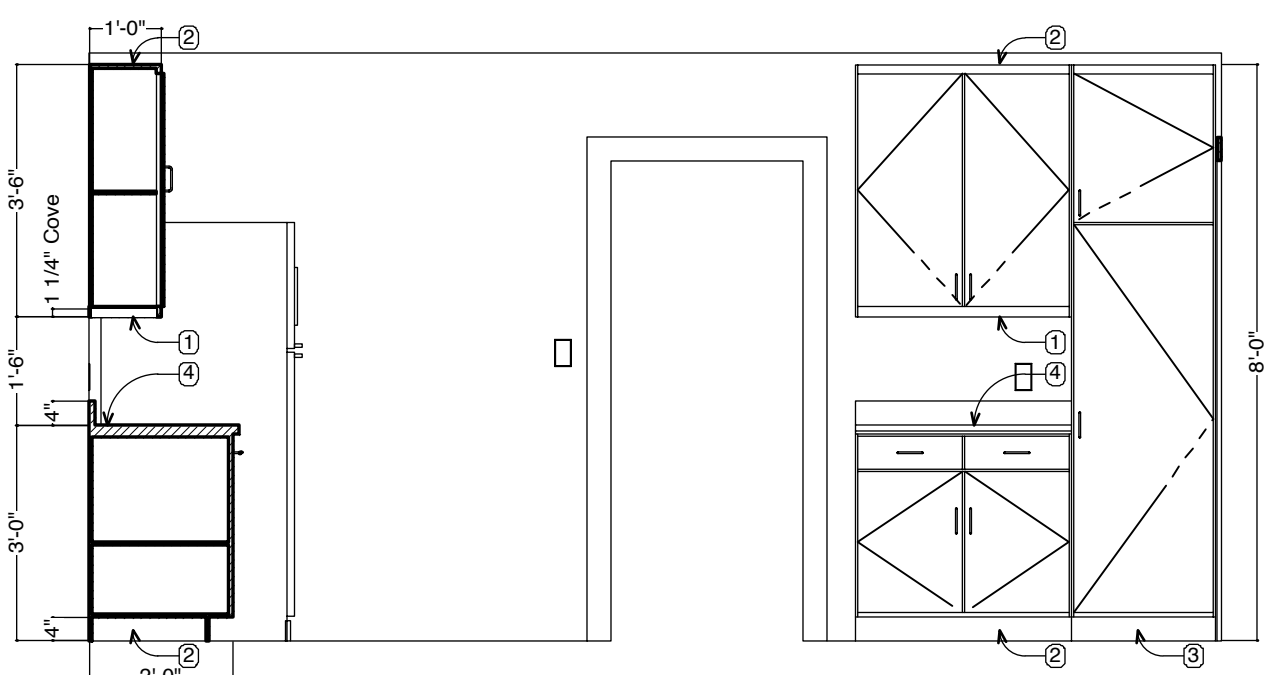
Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 1/8" = 1'-0"
Reviewed By	Drawing No. A-201
Date 20130116	File Name

City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

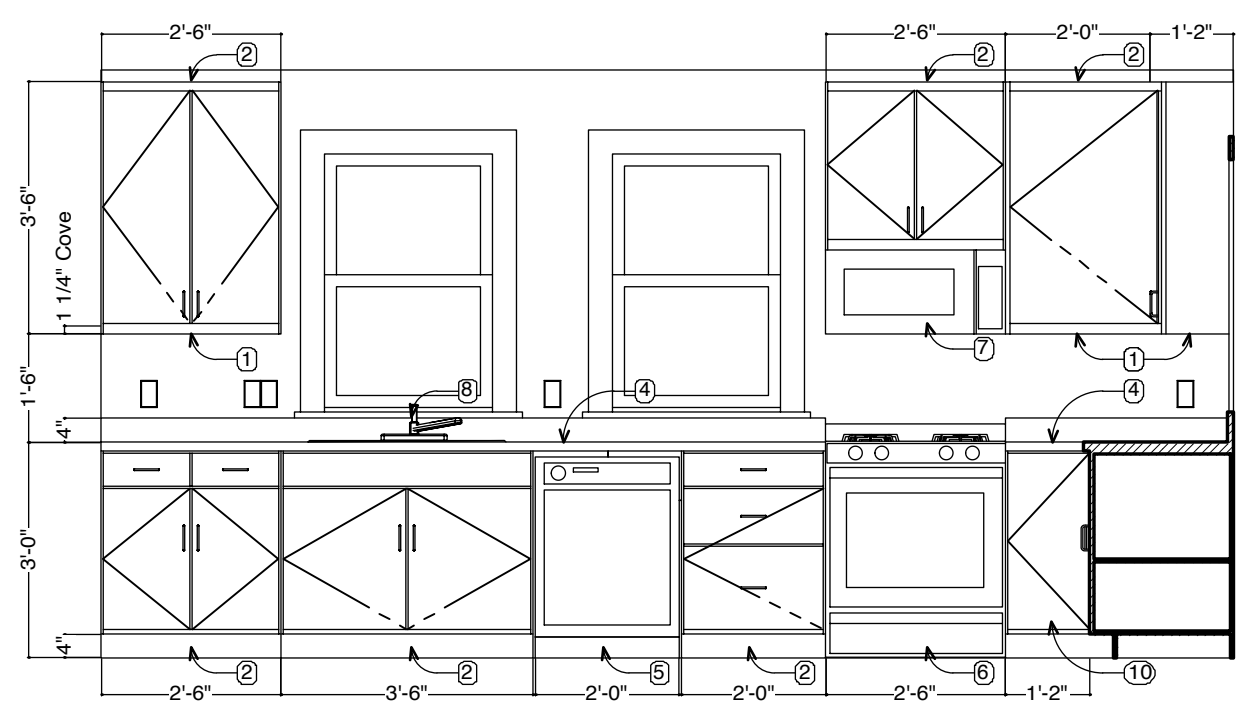
- General Notes - New Construction**
1. Provide radon ventilation in basement per radon test report recommendations.
 2. All interior walls 2x4 WD framing UNO.
 3. Provide paper free GWB or cement fiberboard at all interior wall locations with plumbing fixture(s).
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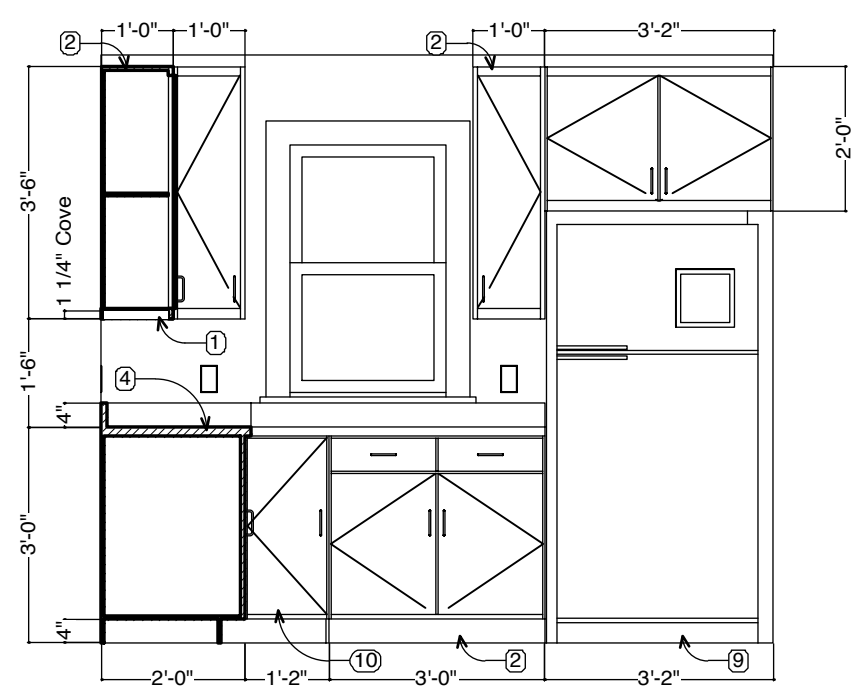
- Interior Elevation Keynotes**
- ① Kitchen - New undercabinet lighting. See specifications
 - ② Kitchen - New cabinetry. See Specifications
 - ③ Kitchen - New cabinetry - full-height pantry. See Specifications
 - ④ Kitchen - New plastic laminate counter and backsplash. See specifications
 - ⑤ Kitchen - New dishwasher
 - ⑥ Kitchen - New range
 - ⑦ Kitchen - New microwave
 - ⑧ Kitchen - New sink and faucet. See specifications
 - ⑨ Kitchen - New refrigerator. See Specifications
 - ⑩ Kitchen - New cabinetry - corner cabinet with 'lazy suzan'. See Specifications



3 Interior Elevation-South
 A-401 Scale: 3/8" = 1'-0"




1 Interior Elevation-North
 A-401 Scale: 3/8" = 1'-0"



2 Interior Elevation-East
 A-401 Scale: 3/8" = 1'-0"

No.	Date	Appr	Revision Notes
△			

No.	Date	Issue Notes
Not for Construction		

Design Firm

Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Consultant

Owner
City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

Project Title
City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

Drawing Title
Interior Elevations

Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 3/8" = 1'-0"
Reviewed By	Drawing No. A-401
Date 20130116	File Name


Room Finish Schedule forthcoming; see specifications.

City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

No.	Date	Appr	Revision Notes
△			
A	7/19/12		Issue for Bid

No.	Date	Issue Notes

Not for
Construction

Design Firm

 Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 620
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Consultant

Owner
 City of Saint Paul HRA
 Marty McCarthy, Project Manager
 25 west 4th Street, Saint Paul, MN 55102
 651.266.6552

Project Title
 City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

Drawing Title
 Schedules

<small>Project Manager</small> Scott Wende	<small>Project ID</small> 2012-04
<small>Drawn By</small> SM	<small>Scale</small> No scale
<small>Reviewed By</small>	<small>Drawing No.</small> A-601
<small>Date</small> 20130116	
<small>File Name</small>	



Date: January 14, 2013
To: Lunning/Wende Associates, Inc.
275 East Fourth St.
Suite 620
St. Paul, MN 55101
Attn: Scott Wende
From: Eric Bunkers
Project: Residence
971 E. Jenks Ave.
St. Paul, MN
Proj. No.: 12255
Subject: Proposed Structural Reinforcements & Remodel

Dear Scott:

As requested, we designed new structural members for the above referenced project. We have designed the new members using a roof and floor dead load of 15 psf, a roof snow load of 35 psf and a floor live load of 40 psf in accordance with the Minnesota State Building Code. Our work only includes designing the new members as shown at the above reference project and is based on drawings provided by you, our conversations, and our site visit.


Attached are 3 framing sheets with annotated framing notes showing the new members and connections. All framing shall be shored and temporarily braced as required by the contractor and all minimum nailing shall be in accordance with IRC Table R602.3(1). Lumber shall be minimum #2 SPF with treated lumber to be #2 S. Pine and engineered lumber to have $F_b = 2600$ psi with $E = 1.9$. Our calculations assume all lumber is of good quality and does not have large splits and checks and shall be visually inspected by the contractor at the time of construction. All fasteners in contact with treated lumber shall be G185 hot dipped galvanized or equal. Rebar shall be grade 60.

Concrete used for footings (4" slump) and masonry core grout (8" slump) shall have a 28 day compressive strength of 3000 psi. The new footings have been designed as a typical spread footing based on a presumptive load-bearing value of 2000 psf in accordance with Table R401.4.1 of the IRC. The existing footings have been assumed to be typical spread footings on good soils that are assumed to be performing adequately. The contractor shall also verify the condition of structural members and foundations affected by the remodeling and repairs. Exterior grade shall slope away from the building and gutters with long downspouts should be used whenever possible. Foundation backfill shall be granular when excavated for foundation repair.

When installed as indicated above, the new framing members and new foundations shown on the attached sheets shall support the loads as required in accordance with the Minnesota State Building Code. If you have any questions or concerns, please feel free to contact us.

Sincerely,

Bunkers and Associates, LLC

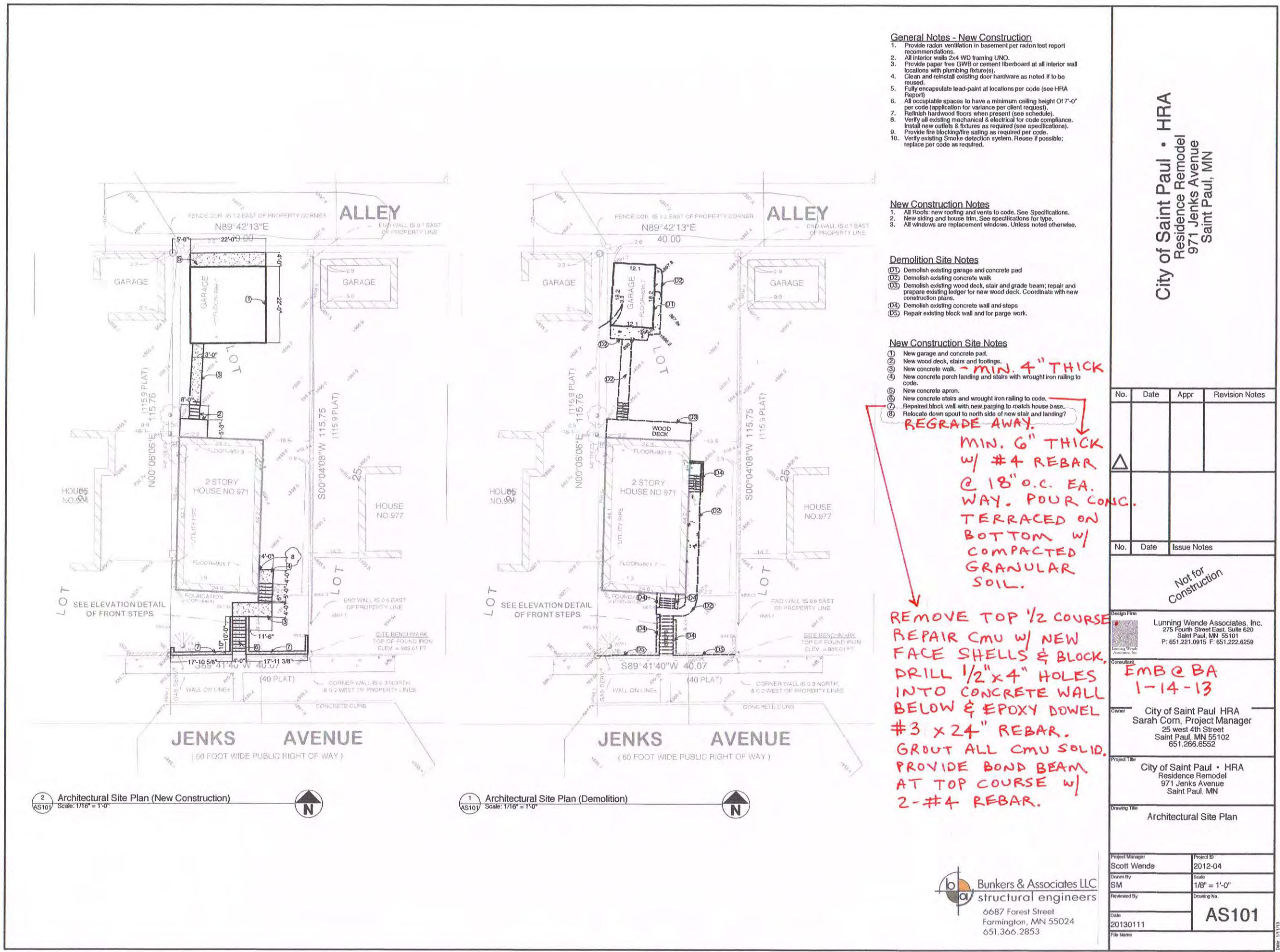

Eric M. Bunkers, P.E.
MN Reg. Num. 26490

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.


Eric M. Bunkers

Date: January 14, 2013 Reg. No. 26490

Consultant	
Owner City of Saint Paul HRA Marty McCarthy, Project Manager 25 west 4th Street, Saint Paul, MN 55102 651.266.6552	
Project Title City of Saint Paul • HRA Residence Remodel 971 Jenks Avenue Saint Paul, MN	
Drawing Title Structural Letter	
Project Manager Scott Wende	Project ID 2012-04
Drawn By EB	Scale Varies
Reviewed By	Drawing No. S-100
Date 20130116	File Name



City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

No.	Date	Appr	Revision Notes

No.	Date	Issue Notes

Not for Construction

Design Firm
 Lunning Wende Associates, Inc.
 275 Fourth Street East, Suite 820
 Saint Paul, MN 55101
 P: 651.221.0915 F: 651.222.6259

Owner
 City of Saint Paul HRA
 Sarah Corn, Project Manager
 25 West 4th Street
 Saint Paul, MN 55102
 651.266.6552

Project Title
 City of Saint Paul • HRA
 Residence Remodel
 971 Jenks Avenue
 Saint Paul, MN

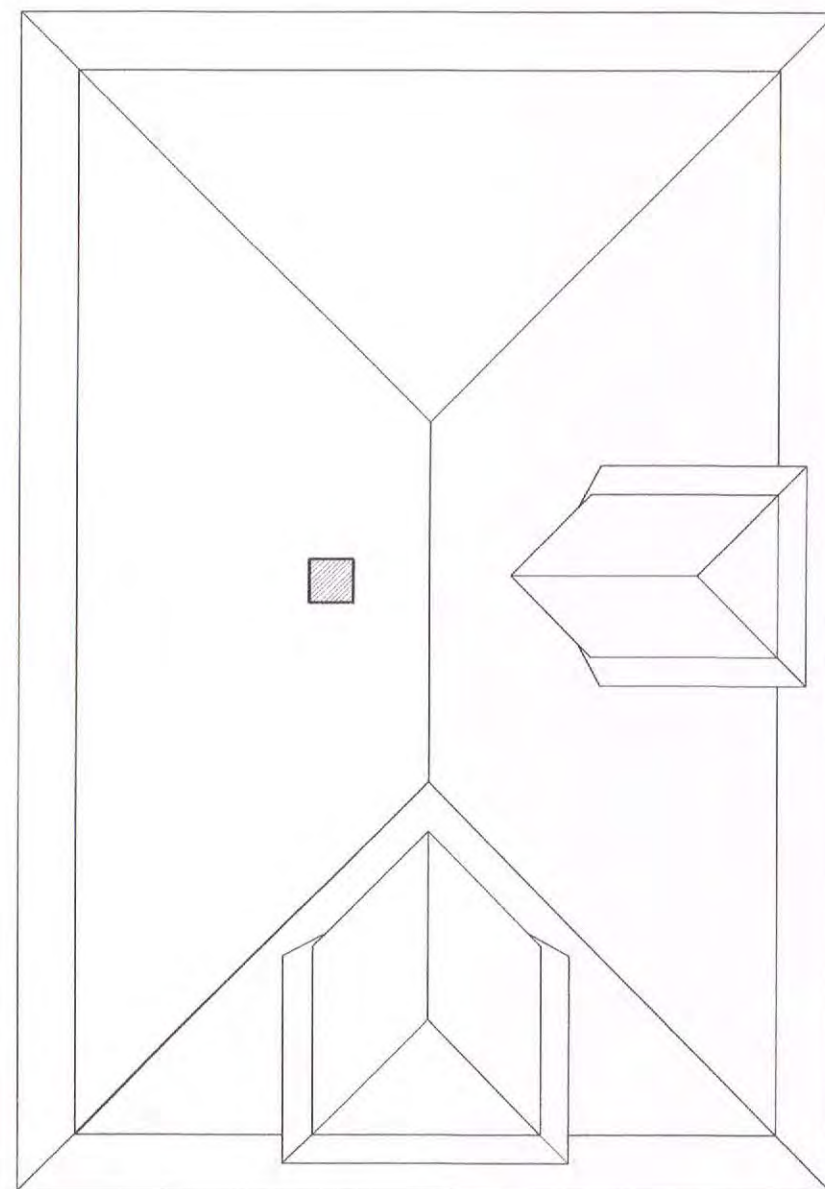
Drawing Title
 Architectural Site Plan

Project Manager Scott Wende	Project ID 2012-04
Drawn By SM	Scale 1/8" = 1'-0"
Reviewed By	Drawing No. AS101
Date 20130111	File Name

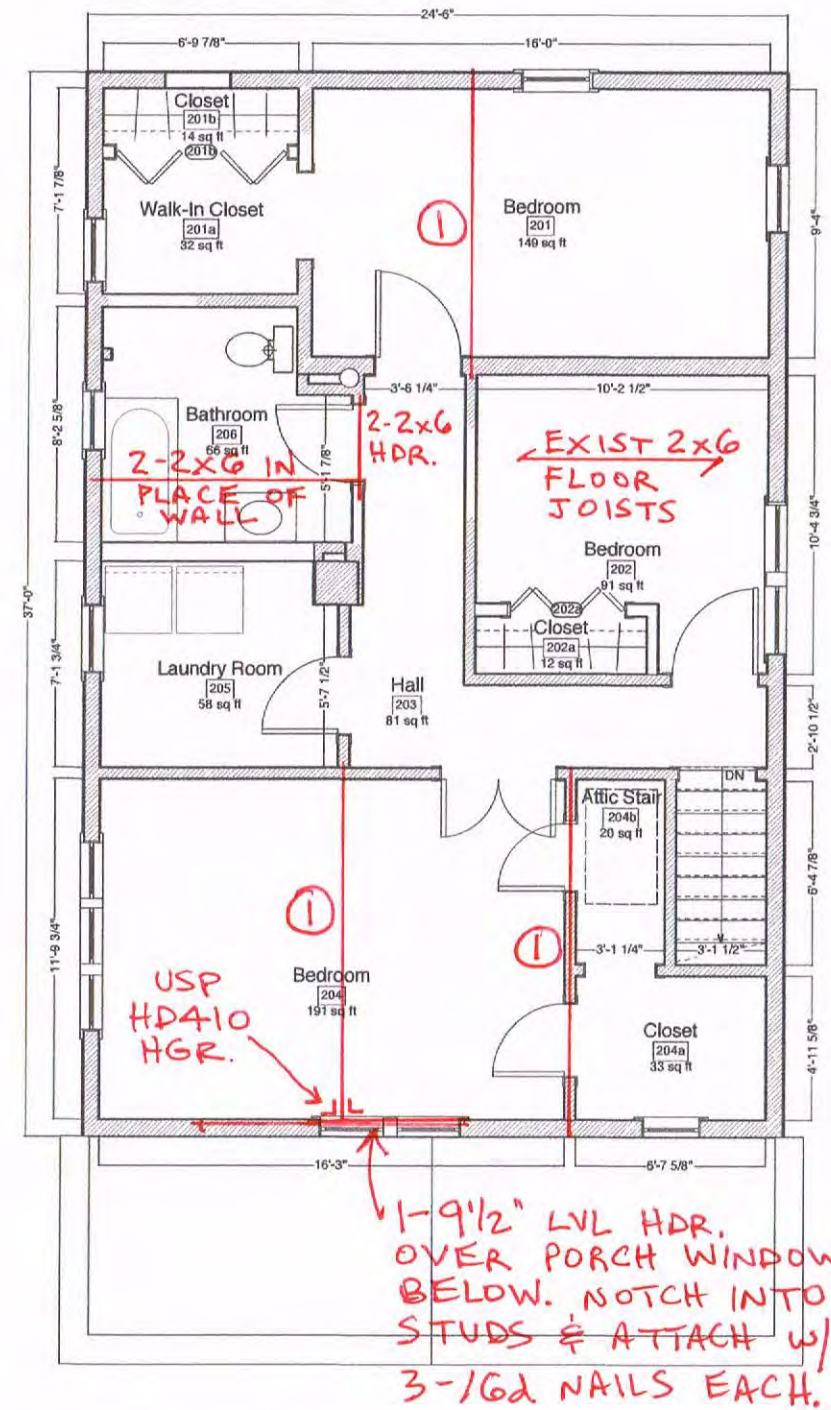
Bunkers & Associates LLC
 structural engineers
 6687 Forest Street
 Farmington, MN 55024
 651.366.2853

Consultant	
Owner	City of Saint Paul HRA Marty McCarthy, Project Manager 25 West 4th Street, Saint Paul, MN 55102 651.266.6552
Project Title	City of Saint Paul • HRA Residence Remodel 971 Jenks Avenue Saint Paul, MN
Drawing Title	Structural Site Plan Notes
Project Manager Scott Wende	Project ID 2012-04
Drawn By EB	Scale Varies
Reviewed By	Drawing No. SS101
Date 20130116	File Name

① = PLACE 2-9 1/2" LVL BEAM ON TOP OF ATTIC SUBFLOOR. ATTACH BOTTOM OF BEAM TO EACH ATTIC FLOOR JOIST @ 16" o.c. w/ USP BL4 CLIP w/ 1/8"x3" HIGH STRENGTH SCREWS.



2 Roof Plan Structural Notes
Scale: 1/4" = 1'-0"



1 Second Floor Plan Structural Notes
Scale: 1/8" = 1'-0"

Bunkers & Associates LLC
structural engineers
6687 Forest Street
Farmington, MN 55024
651.366.2853

EMB Q BA
1-14-13
City of Saint Paul HRA
Sarah Corn, Project Manager
25 West 4th Street
Saint Paul, MN 55102
651.266.6552

City of Saint Paul - HRA
Residence Remodel
971 Jenks Avenue
Saint Paul, MN

Floor Plan Structural Notes

Project Manager	Project ID
Scott Wende	2012-04
Drawn By	Scale
EB	Varies
Reviewed By	Drawing No.
	S-102
Date	
20130116	
File Name	

Owner
City of Saint Paul HRA
Marty McCarthy, Project Manager
25 West 4th Street, Saint Paul, MN 55102
651.266.6552

Project Title
City of Saint Paul - HRA
Residence Remodel
971 Jenks Avenue
Saint Paul, MN

Drawing Title
Floor Plan Structural Notes

Project Manager	Project ID
Scott Wende	2012-04
Drawn By	Scale
EB	Varies
Reviewed By	Drawing No.
	S-102
Date	
20130116	
File Name	

Radon Test Result: 0.9 ±0.6 pCi/L

Test Started 09/19/14 at 12:00 pm

Test Ended 09/23/14 at 12:00 pm

Closed house conditions maintained during test.

Location 1st Floor
BASEMENT



Air Chek, Inc.

PO Box 2000

Naples, NC 28760

www.radon.com



TCHU YAJH
971 JENKS AVE
SAINT PAUL, MN 55106

INTERPRETING YOUR TEST RESULT

The US EPA action level for indoor radon is 4.0 pCi/L. The EPA indicates that there is little short-term risk with test results in this range (0.6 to 1.9 pCi/L). However, because radon levels fluctuate daily, as well as seasonally, you may want to retest during another season. Additionally, if you make any structural changes or start to use a lower level of the building more frequently, you should test again.

You may be able to obtain additional information about radon related subjects by contacting your state radon office at "www.health.mn.gov/radonkit" or by calling the "Radon Fix-It Line" at 800-644-6999 Monday thru Friday between NOON and 8PM EST.

Your Test Result

This result has been rounded to one-tenth (0.1) of a pCi/L (picocurie per liter). This test result reflects the amount of radon measured in this sample AFTER it arrived at our laboratory. All analysis calculations are automatically adjusted to reflect the length of test, the amount of moisture in the sample, temperature, time from the end of test, and the amount of radiation measured. If your test kit was used prior to the Use By date, ALL the testing protocols and instructions were carefully followed, and the data recorded properly on the test packet, then it is reasonable to assume this is an accurate assessment of the average level of the radon this sample was exposed to during the test period.

Health Risks

The primary health risk from long-term exposure to radon is lung cancer. The risk of developing a lung cancer from radon exposure depends both on how much radon is present and how long you are exposed to radon. The higher the radon level or the longer the time of exposure, even if the levels are relatively low, the greater the risk. EPA has set an Action Level for radon at 4 pCi/L; however radon concentrations less than 4 pCi/L still pose some health risks. The Indoor Radon Abatement Act set a goal for indoor radon concentrations to equal the amount of radon found outdoors, which is estimated to be ~ 0.4 pCi/L.

Conducting Follow-up Measurements

USEPA protocol describes two general types of radon measurements: short-term tests conducted from 48 hours up to 90 days, and long-term tests that last from 91 to 365 days. Your first test (initial/screening) should be a short-term 'worst-case' screening to see if there is a potential for high exposure to radon. Screening tests should be conducted under closed-building conditions, in the lowest lived-in area in the house, because the highest concentrations of radon will usually be found in a room closest to the underlying soil. Tests made under these conditions are less likely to miss a house with a potential for high concentrations. On the other hand, if the results of worst-case screening tests are very low, there is a high probability that the average annual concentrations in the house are also low.

(Continued on Back)

Most states have a radon office to assist citizens with general questions about radon and radon reduction techniques. Many states maintain a list of licensed or certified radon testing and mitigation professionals. You can visit www.state-radon.info to find the list of state radon contacts, as well as links to additional radon resources in your area.

Conducting Follow-up Measurements

The higher your initial (screening) tests, the sooner you should conduct follow-up measurements. The EPA states that you should retest the same location that was tested initially.

For additional or follow-up testing, make sure at least one test is conducted in the **lowest lived-in level** of the home. Also choose regularly used rooms, such as family rooms, dens, playrooms, or bedrooms. A bedroom on the lower level may be a good choice, because people generally spend the most time in their bedrooms (approximately one-third of the year). If there are children, it may be appropriate to test their rooms or other areas where they spend a lot of time, especially at the lower levels. All short-term follow-up tests **must** be conducted under closed-building conditions. If closed-building conditions cannot be maintained, a long-term measurement conducted under normal living conditions could be used to help estimate average annual exposures.

Tests **should not be conducted** in a kitchen or a bathroom because high humidity, exhaust fans, and other factors can adversely affect the test results. Tests **should not be conducted** in storage areas or laundry rooms, because relatively little time is spent there. Although radon in water may be a contributor to the concentration of airborne radon, radon in air should be **confirmed** before a test for radon in water is performed.

It is recommended that before spending any time or money on radon mitigation, one should conduct multiple (two or more) tests to be certain there is a need. A few more tests will most certainly cost considerably less than any mitigation work.

If follow-up measurements have **confirmed** that the average annual level of radon is equal to or greater than 4 pCi/L, the USEPA recommends that the building or home be mitigated for radon. Consider also that a future buyer is likely to demand that the building pass a radon test before purchasing.

Variations in Radon Levels – What can affect your test results and why it may be important to conduct confirmation tests.

When tests are performed in different seasons or under different weather conditions, the initial screening and follow-up tests may vary considerably. Radon levels can vary significantly between seasons, so different results **are often expected**. Even during normal weather, indoor radon levels may rise and fall by a factor of two on a daily cycle; for example, from 5 pCi/L to 10 pCi/L in 24 hours. During rapidly changing or stormy weather, the levels may change more dramatically.

If you are comparing tests, or are averaging a series of tests, bear in mind that any radon test returns only the average of the levels present during a **specific period of time** at the **precise location** of the test. Conditions during a different test period or at a different location in the building are **expected to be different**.

Test results can also vary if the radon test instructions were not carefully followed. A laboratory measuring radon in samples taken outside the lab **must rely on the person conducting the test**. For example, the wrong starting or ending date of a test will significantly affect the calculated result. The location of each radon test can also influence the result. For example, a test placed in the blowing air stream of a fan is likely to collect more radon than it would under normal conditions. Also, three tests conducted in one home, but in three different rooms, **would be expected to have at least slightly different test results**.

Test results from a properly used activated charcoal test will more closely reflect the average radon concentrations over the last three to four days of the test period. This happens because the radon collected by the activated charcoal has a radioactive half-life of only four days. This means, for example, over one-half of the radon collected during the first three days of a seven day test 'died' before the test ended.

If you have further questions regarding this test or need advice on follow-up testing, call fax or email our technical service department listed below.

Thank you for choosing the Air Chek test device

PERFORMING RADON TESTS FOR A REAL ESTATE TRANSACTION

EPA guidelines recommend that at least two short-term tests should be conducted, either together or sequentially, in the lowest level of the building usable by the buyers. If the average of all the tests is 4 pCi/L or more, the recommendation is to have the building mitigated by a certified professional. If the average is below 4 pCi/L, then no further action is necessary at this time, although testing in the future is recommended. It is **highly recommended** that any property transaction tests be conducted by a certified radon professional. To locate a listed or certified radon tester, contact your state radon office (www.state-radon.info) or go to www.nrpp.info to download a list of professionals certified by the National Radon Proficiency Program (NRPP).

Also visit www.epa.gov/radon to download the latest copy of their publication: *Home Buyer's and Seller's Guide to Radon*.

Limitation of Liability: While we at Air Chek, Inc. make every effort to maintain the highest possible quality control and include several checks and verification steps in our procedures, we make **NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS** with respect to any item furnished, information supplied or services rendered you by Air Chek, Inc. Before any action is taken on the basis of test results given to you by Air Chek, Inc. we recommend that further testing be done. Neither Air Chek, Inc., nor any of our employees or agents, shall be liable under any claim, charge, or demand, whether in contract, tort or otherwise, for any and all losses, costs, charges, claims, demands, fees, expenses, injuries or damages (including without limitation **INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH ARE EXCLUDED**) of any nature or kind arising out of, connected with, resulting from, or sustained as a result of any item furnished, information supplied, or service rendered to you by Air Chek, Inc.

Notice to Pennsylvania Residents: The Radon Certification Act requires that anyone who provides any radon-related service or product to the general public must be certified by the Pennsylvania Department of Environmental Protection. You are entitled to evidence of certification from any person who provides such services or products. You are also entitled to a price list for services or products offered. All radon measurement data will be sent to the Department as required in the Act and will be kept confidential. If you have any questions, comments, or complaints concerning persons who provide radon-related services, please contact the Department of Environmental Protection, P.O. Box 8469, Harrisburg, PA 17105-8469 (717-783-4594).

The radon test kit(s) used for this report is certified by the National Radon Proficiency Program (NRPP), Lab ID: 101138AL, for use in all fifty states. It is also listed or certified for use in all states that have a radon program.

For technical information, call (800) 247-2435. Office hours are Mon-Fri 8:30 to 5:30 Eastern
You can reach us by Fax at (828) 684-8498 or by email at info@radon.com

Web Site: www.radon.com



City of Saint Paul
Department of Safety Inspections
375 Jackson St, Suite 220
Truth-in-Sale of Housing Program

File#: 14-331894

Date of Evaluation: Sep 23, 2014

Address: 971 JENKS AVE

Owner: Hra City Of St Paul

Client Name: St Paul Redevelopment Authority

Client Contact: Cindy Carlson

Evaluator Name: Gary Scott Lighthouse Home Inspe

Evaluator Phone: Work: 651-482-8382

Evaluator Email: lighthouse.gary@gmail.com

Truth-in-Sale of Housing Disclosure Report

This Report:

1. is intended to provide basic information to the home buyer and seller prior to the time of sale. This report WILL NOT be used to enforce the requirements of the Legislative Code; however, this evaluation form will be used to determine if there is compliance with the requirements for a hard-wired smoke detectors.
2. is based on the current Truth-in-Sale of Housing Evaluator Guidelines and is based upon different standards than the lender, Federal Housing Administration (FHA) or Veterans Administration (VA).
3. is not warranted, by the City of Saint Paul nor by the evaluator for the condition of the building component, nor of the accuracy of this report.
4. covers only the items listed on the form and only those items visible at the time of the evaluation. The Evaluator is not required to operate the heating plant (except during the heating season), use a ladder to observe the condition of the roofing, disassemble items or evaluate inaccessible areas.
5. is valid for one year from the date of issue and only for the owner named on this report.

Questions regarding this report should be directed to the evaluator. Complaints regarding this report should be directed to Department of Safety and Inspections, Truth-in-Sale of Housing Program, Phone 651-266-8989.

IMPORTANT NOTIFICATIONS AND WARNINGS

For questions on these items, call the City's information and Complaint line at 651-266-8989.

Description/Comment:

This property was evaluated as Single Family Dwelling

This property is NOT within a designated historical preservation district, nor is it a specifically designated historical property.

SD Present: H SD Properly Located: H SD HardWired: N

SD Comment: Missing Smoke detectors - No power to house

This property has No Moratorium Warning

This property has No Sewer Warning.

This property has No Open Permits.

This property is Category 1 Registered Vacant Building. New owners must re-register the building, pay all outstanding fees and obtain permission for occupancy.

Property Address: _____

Rating Key: M = Meets minimum B = Below minimum C = See Comment H = Hazardous Y = Yes N = No NV = Not Visible/Viewed NA = Not Applicable

BASEMENT/CELLAR

- 1. Stairs and Handrails..... B
- 2. Basement/cellar floor..... M
- 3. Foundation..... C
- 4. Evidence of dampness or staining..... Yes
- 5. First floor, floor system..... M
- 6. Beams and columns..... B

ELECTRICAL SERVICE(s) # of Services 1

- 7. Service size:
Amps: 30 60 100 X 150 Other _____
Volts: 115 115/220 X
- 8. Electrical service installation/grounding..... H
- 9. Electrical wiring, outlets and fixtures..... H

PLUMBING SYSTEM

- 10. Floor drain(s) (basement)..... M
- 11. Waste and vent piping (all floors)..... M
- 12. Water piping (all floors)..... B
- 13. Gas piping (all floors)..... H
- 14. Water heater(s) installation..... C
- 15. Water heater(s) venting..... C
- 16. Plumbing fixtures (basement)..... B

HEATING SYSTEM(S) # of 1

- 17. Heating plant(s): Fuel: Gas Type: Forced Air
 - a. Installation and visible condition..... B
 - b. Viewed in operation (required in heating season) No
 - c. Combustion venting..... B

The Evaluator is not required to operate the heating plant(s), except during heating season Oct 15 – April 15.

- 18. Additional heating unit(s) Fuel: N/A Type: N/A
 - a. Installation and visible condition..... N/A
 - b. Viewed in operation..... _____
 - c. Combustion venting..... N/A

19. **ADDITIONAL COMMENTS (1 through 18)** N/A

Item# Comments

- 01 B Low headroom - B Uneven tread & Riser -
- 03 Crawlspace walls not visible
- 04 C Stained in areas -
- 06 Not fully supported in areas on beams

- 08 Open panel - not connected - wiring missing
- 09 Electrical system is compromised by vandals

- 12 All visible water lines have been removed - vandals
- 13 Open gas lines - Compromised by vandals
- 14 Removed/disconnected flue/water pipes/gas
- 15 Removed
- 16 LT in place but no water lines

- 17a Damaged deteriorated furnace - Replace
- 17c Opne venting in areas

EVALUATOR: Gary Scott DATE: 9/23/2014

Property Address: 971 Jenks

Rating Key: M = Meets minimum B = Below minimum C = See Comment H = Hazardous Y = Yes N = No NV = Not Visible/Viewed NA = Not Applicable

Where there are multiple rooms to a category, the Evaluator must specify the room to which a Comment is related.

	<u>Item #</u>	<u>Comments</u>
KITCHEN		
20. Walls and ceilings	B	20 B Damaged wall/ceiling -
21. Floor condition and ceiling height	B	23 C No power to house - electrical off -
22. Evidence of dampness or staining	No	24 Mechanical vent in place on sink
23. Electrical outlets and fixtures	C	25 C Unable to test water turned off -
24. Plumbing fixtures	B	26 Windows boarded Up /damaged
25. Water flow	C	27 Windows damaged/broken
26. Window size/openable area/mechanical exhaust	B	
27. Condition of windows/doors/mech. Exhaust	B	
LIVING AND DINING ROOM(S)		
28. Walls and ceiling	B	28 B Damaged wall/ceiling -
29. Floor condition and ceiling height	M	31 C No power to house - electrical off -
30. Evidence of dampness or staining	No	33 B Broken window -
31. Electrical outlets and fixtures	C	
32. Window size and openable area	M	
33. Window and door condition	B	39 C Smoke detector not testable - No power
HALLWAYS, STAIRS AND ENTRIES		
34. Walls ceilings and floors	M	39a H Missing detector(s) -
35. Evidence of dampness or staining	No	39b H Missing detector(s) -
36. Stairs and handrails to upper floors	M	
37. Electrical outlets and fixtures	M	
38. Window condition	M	
39. Smoke detector(s)	H	
Properly Located	H	
Hard-wired (HWSD)	* H	
*If N or H in Single Family Home then SPF Fire Dept requires HWSD Installation		
BATHROOM(S)		
40. Walls and ceiling	B"	42 C Stained in areas -
41. Floor condition	M	43 C No power to house - electrical off -
42. Evidence of dampness or staining	Yes	45 C Unable to test water turned off -
43. Electrical outlets and fixtures	C	47 No power/no window
44. Plumbing fixtures	M	
45. Water flow	C	
46. Window size/openable/mechanical exhaust	M	
47. Condition of windows/doors/mech. Exhaust	C	
SLEEPING ROOM(S)		
48. Walls and ceiling	B	48 B Damaged wall/ceiling -
49. Floor condition, area, and ceiling height	B	49 Dog excrement problems
50. Evidence of dampness or staining	Yes	50 C Stained in areas -
51. Electrical outlets and fixtures	C	51 C No power to house - electrical off -
52. Window size and openable are	M	53 B Broken window - both floors
53. Window and door condition	B	
ENCLOSED PORCHES AND OTHER ROOMS		
54. Walls and floor condition	B	54 Porch pulling away from house - no access W
55. Evidence of dampness or staining	Yes	57 Damaged front screen door
56. Electrical outlets and fixtures	C	
57. Window condition	C	
ATTIC SPACE (Visible Areas)		
58. Roof boards and rafters	M	
59. Evidence of dampness or staining	Yes	59 C Stained in areas -
60. Electrical wiring/outlets/fixtures	C	60 C No power to house - electrical off -
61. Ventilation	M	62 No CO detector within 10 feet of each bedroom
62. ADDITIONAL COMMENTS (20 through 61)	H	

CO Detector Information Reported Here

Gary Scott

Page 3 of 4

EVALUATOR: _____

DATE: 9/23/2014

Rev 3/2009



CITY OF SAINT PAUL

Christopher B. Coleman, Mayor

September 26, 2014

Hra City Of St Paul
25 4th St W Ste 1400
Saint Paul MN 55102-1632

RE: 971 JENKS AVE

Dear Homeowner:

The City of Saint Paul learned from your recent Truth-in-Sale of Housing Evaluation that your home does not have a functional hard-wired smoke detector. The City enacted Chapter 58 of the Saint Paul Legislative Code to prevent tragedies resulting from this problem. Chapter 58 requires all single-family dwellings built prior to January 1, 1973, be equipped with one (1) operating hard-wired smoke detector. Hard-wired means the unit is directly and permanently wired into the dwelling's electrical system, into a junction box that is energized at all times, in a way that prevents interruption of electrical power to the detector.

The homesteaded homeowner is responsible for installing, or contracting with a Minnesota Licensed Electrical contractor to install, the hard-wired smoke detector whether or not the home sells. An electrical permit for the installation and/or repair of these smoke detectors must be obtained from the Department of Safety and Inspections, 375 Jackson St, Suite 220, St Paul, MN 55101-1806. **This requirement must be met within sixty (60) days of the date of this letter.**

Chapter 58.03 contains the following guidelines for the installation of the hard-wired detector:

- (a) The smoke detector shall be mounted on the ceiling or wall at a point centrally located in a corridor or area giving access to rooms used for sleeping purposes.
- (b) Ceiling-mounted smoke-detectors shall be located as close to the center of the ceiling as possible and/or per manufacturer's instructions.
- (c) Wall-mounted smoke detectors shall be mounted on a wall per manufacturer's instructions.

Enclosed is a "Hard-Wired Smoke Detector Fact Sheet" which provides answers to common questions about the City's ordinance. If you do not obtain a permit and receive final approval by an inspector for the installation of a hard-wired smoke detector in your home, within the next 60 days, our inspector will contact you to set up an inspection for the purpose of determining compliance with Chapter 58. **Failure to comply with any provision of the chapter is a misdemeanor and subject to the penalties provided in Section 1.5 of our Saint Paul Legislative Code.**

For questions about the requirement for this permit or for a final inspection after the detector has been installed, please contact me directly. I can be reached between 7:30 and 9:00 a.m. at the telephone number listed below my name.

Sincerely,

Daniel T. Moynihan
Senior Electrical Inspector
651-266-9036
Enclosure



CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

375 Jackson Street, Suite 220
Saint Paul, Minnesota 55101-1806

Telephone: 651-266-8989
Facsimile: 651-266-9124
Web: www.stpaul.gov/dsi

"HARD-WIRED" SMOKE DETECTOR INSTALLATION GUIDELINES

If you are selling your single-family house in the City of St. Paul, you **must** have a 120 volt "hard-wired" battery-backup smoke detector installed before the sale. The following guidelines are to assist if you, as the owner and homesteader, are applying for the permit to install the detector yourself. If you are installing smoke detector(s) as part of a remodeling project, more than the 1 hard-wired detector may be required. Consult the Building Inspector (651-266-9002) for further information on these additional detectors.

An Electrical Permit must be purchased prior to the start of any electrical work. The only people who can purchase an Electrical Permit are a Licensed Minnesota Electrical Contractor, or the "homesteaded homeowner".

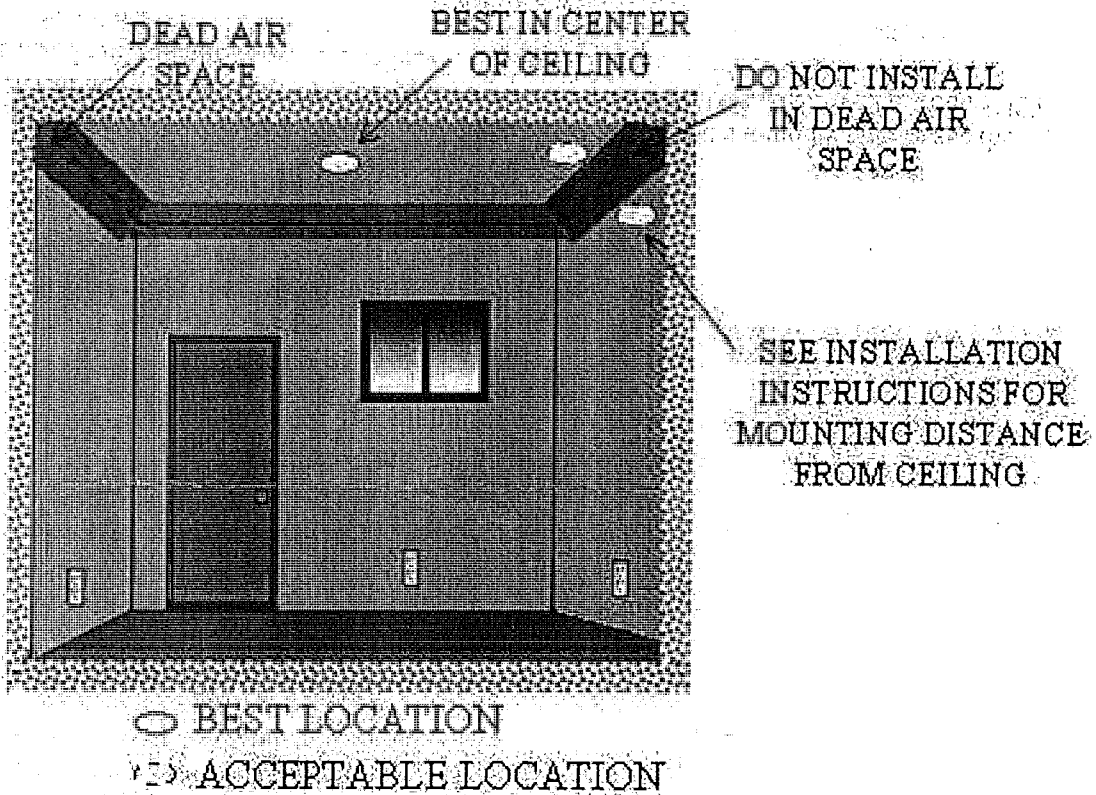
Only one detector mounted in the hallway outside the bedrooms is required to satisfy the ordinance. Additional detectors **do** increase your level of safety, but are not mandatory. If all the bedrooms in the house are on one level, the detector must be mounted in the hallway (not in a stairwell) outside of the bedrooms. If you have legal bedrooms on more than one level, the detector must be mounted as follows:

1. The detector must go on the level with the MOST bedrooms. If, for example, you have three bedrooms on one level and one on the other, the detector goes on the level with the three bedrooms.
2. If you have an equal number of bedrooms on more than one floor, the detector must go on the upper level of bedrooms. For example, if your house has two bedrooms on the first floor and two on the second, the detector must go on the second floor.

The detector may be mounted on the wall or ceiling (see figure 1 on the next page). The best place is in the center of the ceiling, but if the construction of the house prohibits ceiling mount, it may be wall-mounted. **READ THE DIRECTIONS THAT COME WITH THE DETECTOR-** They give certain measurements that must be followed for the distance down from the ceiling for a wall-mounted detector.

The power for the newly wired detector **is required to be "AFCI" protected. This can be accomplished by installing a combination AFCI breaker in the electrical panel, or on the load side of a branch-circuit type AFCI receptacle installed at the first outlet on the circuit.** All electrical splices must be done in an electrical box (the box that a device such as a switch, outlet or light fixture is mounted on). **DO NOT CONNECT TO ANY OPEN WIRING OUTSIDE OF THESE BOXES!** The most popular method of running power from the existing electrical box to the new box you install for the detector is NM-B cable, or Romex. Romex must be fished inside of a wall or ceiling- it CANNOT be run on the outside of a wall, floor or ceiling without mechanical protection. This cable is run through a "knockout" or opening in the side or back of the electrical boxes. Some type of cable clamp or bushing is required where the cable goes through the knockout. There are several brands of plastic boxes available for remodeling work that have "ears" to hold the box in place in the wall, and have integral cable clamps to hold the Romex. **The smoke detector must be mounted on an electrical box.** When the box is cut into the ceiling or wall,

Figure #1 Mounting Location of Smoke Detector



the opening must be flush with the ceiling or wall surface. You should be able to see the electrical box opening when the detector is detached from the box (see Fig. 2). You **MUST** use listed wire nuts for any wire splices- twisting the wires together and taping the bare wires is not acceptable! Your finished installation prior to mounting the detector on the box should look like Figure 2.

Call your Inspector for the final inspection, his name and direct number is on your copy of the permit. If you cannot find your copy, call the Electrical Inspection general number, 266-9003 between 7:30 and 9am Monday through Friday and they will transfer you to the Inspector that covers your area.

FIG. 2- TYPICAL INSTALLATION

