2020

TRADE REFERENCE DIRECTORY

NEW YORK
PHCC of Long Island

PLUMBING-HEATING-COOLING CONTRACTORS ASSOCIATION

Plumbing, Heating and Cooling Contractors of Long Island

Pride In Our Past . . . Faith In Our Future
www.phccli.org
SUPPORTING THE
PLUMBING & HVAC INDUSTRY
FOR OVER 40 YEARS

THE WALES-DARBY MOBILE LEARNING CENTER

Our unique classroom on wheels is fully-equipped with products & systems from many of our manufacturers for on-site training and technical support.

To learn more about our services and for a complete listing of the manufacturers we represent, please visit:

www.walesdarby.com

Wales-Darby, Inc.
2910 Express Drive South
Islandia, New York 11749
631.585.6800
infony@walesdarby.com

5B Powder Horn Drive
Warren, New Jersey 07059
732.560.1001
infonj@walesdarby.com
The Plumbing, Heating & Cooling Contractors of Long Island, Inc. is entering its 81st year as an organization of Professional Licensed Master Plumbers Heating Contractors and Cooling Contractors operating on Long Island. Membership consists of established businessmen who recognize the advantages of membership in a Professional Organization which represents the PHCC industry.

In their individual businesses and collectively as an organization, the PHCC LI members are committed to PROTECT THE HEALTH AND SAFETY of the General Public through establishment, adherence and compliance to detailed code requirements. This objective is realized through high ethical standards, legislative work and continuing education.

PHCC LI members are also members of the New York State Association of PHCC, oldest trade association in the United States. Membership is open to all Licensed Plumbers, Heating and/or Cooling Contractors on Long Island.

FOR MEMBERSHIP INFORMATION
CALL (516) 922-7688
info@phccli.org www.phccli.org
I am looking forward to my second year as your PHCC of Long Island President, and continuing to work with our dedicated and hard-working, Executive Committee.

Over the last year, meeting attendance has been at a high, and numbers keep increasing on a steady incline. It’s exciting, as President, to constantly see new faces at the meetings and events we host. As an organization, we strive to consistently provide our members with innovative ideas and seminars to better educate themselves. It is a major focus for this association. The more educated and aware our association becomes, the better off we are! We are always promoting the association and looking to expand our network with new members who are looking to gain knowledge that will help them run their business and grow their network circle.

This year, a major goal for me is to get members more involved in our Committees! Several members were involved with our initiatives with the Boy Scouts of America and it was a great success on both sides. I personally can’t wait for June to go back and work with the Scouts in earning their Plumbing Merit Badge! Not to mention, those chicken pot pies bring me back to my youth!

Another goal for the organization is to get our members more involved with NYS PHCC and National PHCC, as both offer tremendous member benefits like industry updates and webinars. These organizations also host conference throughout the year, which are always extremely informative and an overall great time.

We also must continue to promote the industry to young people by connecting and building relationships with school representatives across Long Island. We are a dying trade and need new blood! Ultimately, our goal is to build awareness in these students that there are many lucrative careers available to them in the plumbing industry!

I will end with a quote from President-Elect, PHCC National Association, Hunter Botto, “PHCC Members are the best trained and respected in the industry.”

Have a great and productive year!

Don Conway
PHCC LI President
Plumbing, Heating and Cooling
Contractors of Long Island

123 South Street, Suite 112
Oyster Bay, NY 11771
Phone: 516-922-7688
Email: info@phccli.org

2020 OFFICERS
President................................................................. Donald Conway
Vice-President............................................................. John Bifolco
2nd Vice- President.................................................... Nick Hartcorn
Treasurer ................................................................. Ronald Doughty
Secretary ................................................................. Thomas Blacharski
Past President............................................................. Joseph Cornetta
Executive Director .................................................... John F. DeLillo
Deputy Director......................................................... Allison Wieland

COUNSEL
Patrick J. Sullivan ........................................................516-342-1248
92 Willis Avenue 2nd Floor, Mineola, NY 11501
New York State Association of Plumbing, Heating and Cooling Contractors, Inc.

P.O. Box 23, North Tonawanda, NY 14120
Telephone: (716) 216-4360 • (800) 523-5505
Fax: (800) 507-1675
e-mail: dreddy@nysphcc.org
www.nysphcc.org

OFFICERS

President ........................................................................ Ryan Truncalli
First Vice President .................................................. Chris Tryjankowski
Second Vice President ........................................... Ronald Doughty
Treasurer ..................................................................... Donald Powers
Secretary ..................................................................... Stephen Reddy
Immediate Past President ................................. Joseph Marchitte
Executive Director ............................................... Dorothy Reddy
<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
</tr>
</thead>
<tbody>
<tr>
<td>M T W T F S S</td>
<td>M T W T F S S</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>1 2</td>
</tr>
<tr>
<td>6 7 8 9 10 11 12</td>
<td>3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>13 14 15 16 17 18 19</td>
<td>10 11 12 13 14 15 16</td>
</tr>
<tr>
<td>20 21 22 23 24 25 26</td>
<td>17 18 19 20 21 22 23</td>
</tr>
<tr>
<td>27 28 29 30 31</td>
<td>24 25 26 27 28 29</td>
</tr>
<tr>
<td>March</td>
<td>April</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>M T W T F S S</td>
<td>M T W T F S S</td>
</tr>
<tr>
<td>2 3 4 5 6 7 8</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>9 10 11 12 13 14 15</td>
<td>6 7 8 9 10 11 12</td>
</tr>
<tr>
<td>16 17 18 19 20 21 22</td>
<td>13 14 15 16 17 18 19</td>
</tr>
<tr>
<td>23 24 25 26 27 28 29</td>
<td>20 21 22 23 24 25 26</td>
</tr>
<tr>
<td>May</td>
<td>June</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>M T W T F S S</td>
<td>M T W T F S S</td>
</tr>
<tr>
<td>1 2 3</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>4 5 6 7 8 9 10</td>
<td>8 9 10 11 12 13 14</td>
</tr>
<tr>
<td>11 12 13 14 15 16 17</td>
<td>15 16 17 18 19 20 21</td>
</tr>
<tr>
<td>18 19 20 21 22 23 24</td>
<td>22 23 24 25 26 27 28</td>
</tr>
<tr>
<td>25 26 27 28 29 30 31</td>
<td>29 30</td>
</tr>
<tr>
<td>July</td>
<td>August</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>M T W T F S S</td>
<td>M T W T F S S</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>1 2</td>
</tr>
<tr>
<td>6 7 8 9 10 11 12</td>
<td>3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>13 14 15 16 17 18 19</td>
<td>10 11 12 13 14 15 16</td>
</tr>
<tr>
<td>20 21 22 23 24 25 26</td>
<td>17 18 19 20 21 22 23</td>
</tr>
<tr>
<td>27 28 29 30 31</td>
<td>24 25 26 27 28 29 30</td>
</tr>
<tr>
<td>September</td>
<td>October</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>M T W T F S S</td>
<td>M T W T F S S</td>
</tr>
<tr>
<td>1 2 3 4 5 6</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>7 8 9 10 11 12 13</td>
<td>5 6 7 8 9 10 11</td>
</tr>
<tr>
<td>14 15 16 17 18 19 20</td>
<td>12 13 14 15 16 17 18</td>
</tr>
<tr>
<td>21 22 23 24 25 26 27</td>
<td>19 20 21 22 23 24 25</td>
</tr>
<tr>
<td>28 29 30</td>
<td>26 27 28 29 30 31</td>
</tr>
<tr>
<td>November</td>
<td>December</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>M T W T F S S</td>
<td>M T W T F S S</td>
</tr>
<tr>
<td>1 2 3 4 5 6</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>7 8 9 10 11 12 13</td>
<td>7 8 9 10 11 12 13</td>
</tr>
<tr>
<td>14 15 16 17 18 19 20</td>
<td>14 15 16 17 18 19 20</td>
</tr>
<tr>
<td>21 22 23 24 25 26 27</td>
<td>21 22 23 24 25 26 27</td>
</tr>
<tr>
<td>28 29 30 31</td>
<td>28 29 30 31</td>
</tr>
<tr>
<td></td>
<td>M</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td><strong>JANUARY</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>29</td>
</tr>
<tr>
<td><strong>FEBRUARY</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>29</td>
</tr>
<tr>
<td><strong>MARCH</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>29</td>
</tr>
<tr>
<td><strong>APRIL</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>28</td>
</tr>
<tr>
<td><strong>MAY</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>31</td>
</tr>
<tr>
<td><strong>JUNE</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>28</td>
</tr>
<tr>
<td><strong>AUGUST</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>30</td>
</tr>
<tr>
<td><strong>SEPTEMBER</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>27</td>
</tr>
<tr>
<td><strong>OCTOBER</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>31</td>
</tr>
<tr>
<td><strong>NOVEMBER</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>29</td>
</tr>
<tr>
<td><strong>DECEMBER</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>27</td>
</tr>
</tbody>
</table>
TRI-TOWN PLUMBING LICENSE AGREEMENT

The Tri-Town Plumbing License Agreement, a reciprocal ordinance governing the licensing of plumbers in the three towns of Nassau County, has been in effect since 1969. Key figures in the signing of this ordinance were: Hempstead Town Supervisor Frances T. Purcell, North Hempstead Town Supervisor Robert Meade, Hempstead Town Presiding Supervisor Ralph G. Caso, Oyster Bay Town Supervisor Michael N. Petito, Nassau County Association of Plumbing, Heating & Cooling Contractors President James Lorenzo and Harold Krainin, Counsel to the Association.

Many municipalities have indicated a desire to join and are presently participants of the Tri-Town Licensing Agreement. Among them are Bayville, Brockville, East Rockaway, Farmingdale, Freeport, Floral Park, Great Neck Estates, Village of Hempstead, Hewlett Harbor, Hewlett Neck, Lynbrook Mineola, New Hyde Park, Old Westbury, Sea Cliff, South Floral Park, Valley Stream, Williston Park, and the City of Long Beach.
National Grid

Natural Gas Installation Process and Gas Availability Process
1-877-MyNGrid
1-877-696-4743

Gas Emergency
800-490-0045 or 911

Service/Meter Relocation
Billing Office / Activate Gas Accounts
1-800-930-5003

Customer Care/ Status of Insulation
631-348-6150

Meter Set Appointment
(For Plumber’s Only)
877-597-0426

Energy Efficiency Rebates
877-316-9491

Online Equipment Ordering
www.conversionprogram.net
JEINT BOARD OF PLUMBING EXAMINERS
OF NASSAU COUNTY

CEDARHURST
Don Esopa

CITY OF GLEN COVE
Steven Anzalone
Michael Schramm
George Hawkins
Steven Misiakiewicz
Carmine Anzalone
Gardvits Gerald

EAST ROCKAWAY
Dennis McCabe
Stephen Rusnak

EAST WILLISTON
Jack Gayson

FLORAL PARK
Matt Sweeney

FREEPORT
Thomas Basalone
John Steffgen
Mike Flood
Chris Thomas
Bob Adamczyk

GARDEN CITY
Tom Daly

HEMPSTEAD VILLAGE
Donovan Castro
Robert Steinhardt
Kelly Magee

LONG BEACH
Richard B. Schuh

LYNWOOD
Frank Zafonte
Fred Ragusa
Jim Maxwell
Joseph Rice
Joseph Armellino

MINEOLA
Jack Gayson

NEW HYDE PARK
Reid Sakowitch
Ronald Sakowich

ROCKVILLE CENTRE
Lawrence J. Ulip
James Armellino
Thomas Sullivan

ROSILY
Ron Doughty

SEA CLIFF
Robert Coyle

TOWN OF HEMPSTEAD
Joseph Montilli

TOWN OF NORTH HEMPSTEAD
Jon Backa
John McCann
Keith Brigandi Jr.

TOWN OF OYSTER BAY
Barry Konchinski
Keith Brigandi
Thomas Blacharski
James Lorenzo
Michael Silvestri

WILLISTON PARK
Ron Doughty

WESTBURY
Gerard Rudolph
Ray Razzano
Joseph Martiello
John Seltzer

CURRENT OFFICERS
President:
Mike Silverstri
Vice President:
Keith Briganti Jr.
Treasurer:
Dominick Frissora
Financial Secretary:
Chris Thomas
Recording Secretary:
Joseph Petrossa
Department of Buildings

PLUMBING EXAMINING BOARD MEMBERS
  Joseph Montilli - Chairman
  Frank Colasurdo
  John E. Rottkamp- Commissioner John
  Novello – Deputy Commissioner
  Daniel V. Casella- Deputy Commissioner

PLUMBING INSPECTORS
  Carmine Salute, Chief Plumbing Inspector
  Code Enforcement Officer III
  (516)812-3160
  George Wenk (516)812-3130
  James Miotto (516) 812-3133
  Carl Kolansky (516) 812-3131
  James Ruzicka (516) 414-6573
  Michael Baloglou (516) 812-3125

SECRETARY TO PLUMBERS EXAMINING BOARD
  Jane Carridan, Licensing

CLERICAL STAFF - PLUMBING INSPECTIONS
  Brittany Slade, Secretary
  Jodie Behrens, Secretary
  Kristin Lino, Secretary
  (516)812-3126

America’s Largest Township
Town of North Hempstead Department of Building, Safety Inspection and Enforcement

210 Plandome Road
Manhasset, NY 11030
(516) 869-7679
Fax (516) 869-7662

COMMISSIONER OF BUILDINGS
John Niewender
(516)-869-7973

CHIEF BUILDING INSPECTOR
William Smalley
(516)-869-7671

PLUMBING INSPECTORS - SUPERVISOR DOMINICK FRISSORA
Dominick Frissora  516-869-7672
Frank Evangelista  516-869-7687
Jerry DeLucia  516-869-7979
Daniel Richards  516-896-7684
Mike Pilo  516-896-2910
TOWN OF OYSTER BAY DEPARTMENT OF PLANNING & DEVELOPMENT

74 Audrey Avenue
Oyster Bay, New York 11771
TEL. (516) 624-6200 • FAX (516) 624-6240
www.oysterbaytown.com

DIVISION OF BUILDINGS

ELIZABETH MACCARONE, COMMISSIONER

TIMOTHY ZIKE, DEPUTY COMMISSIONER

PLUMBING EXAMINING BOARD MEMBERS
Barry Konchinski, Chairman
Keith Brigandi
Thomas Blacharski
James Lorenzo
Michael Silvestri

PLUMBING INSPECTORS
Vito Rella (516) 624-6263
Dennis Hill (516) 624-6263
Michael Bathie (516) 624-6261
David Mercado (516) 624-6261
TOWN OF BABYLON DEPARTMENT OF PLANNING & DEVELOPMENT BUILDING DIVISION

200 East Sunrise Highway
Lindenhurst, NY 11757-2598
631-957-3058
Fax: 631-957-7440

TIM BESEMER, BUILDING INSPECTOR

VINCENT BIONDO, PLUMBING INSPECTOR
631-957-3021

THOMAS YOUNG, COMMISSIONER
631-957-7414
TOWN OF BROOKHAVEN
1 Independence Hill,
Farmingville, NY 11738
631-451-6333

TULLIO BERTOLI, COMMISSIONER
BRENDA PRUSINOWSKI, DEPUTY COMMISSIONER

BUILDING INSPECTOR
Beth Triebs 631-451-6344
Tony Lagnese 631-451-6349
Chris Kalivas 631-451-6356

PLUMBING INSPECTOR
Ron Primus 631-451-9267
TOWN OF HUNTINGTON
100 Main Street,
Huntington, NY 11743
631-351-2825

Hours
Monday- Friday
8:30am-3:30pm

STEVE KIEWRA, BUILDING PERMITS COORDINATOR
631-351-2821 Fax: 631-351-3132

JONATHAN LOMBARDO, PLUMBING INSPECTOR
631-351-3143
TOWN OF ISLIP
One Manitton Court
First Floor,
Islip, NY 11751
631-224-5470

PLUMBING EXAMINING BOARD MEMBERS
James Lange, Chairman
Michael J. Barone
Sean Conlon
Richard Leo
Joseph J. Bruno
Anthony M DiFede
Peter Russo

JOHN P, BUILDING INSPECTOR
631-224-5470

SEBASTIAN LAMONICA, PLUMBING INSPECTOR
631-595-3756

RON MEYER, COMMISSIONER
631-224-5466
TOWN OF RIVERHEAD
201 Howell Avenue, Riverhead, NY 11901
631-727-3000 Ext 275
Fax: 631-208-8039

Hours:
Monday - Friday
8:00 a.m. - 4:30 p.m.

BRAD HAMMOND, SENIOR PLUMBING INSPECTOR
631-727-3000 Ext. 265

BUILDING INSPECTOR
Mark Griffin 631-727-3000 Ext. 275
Michael Inghingolo 631-727-3000 Ext. 231
TOWN OF SMITHTOWN
P.O. Box 9090
99 W. Main Street,
Smithtown, NY 11787

WILLIAM WHITE, BUILDING INSPECTOR DIRECTOR
631-360-7520

BUILDING INSPECTOR
Allan Richards 631-360-7523
Joe Lorefice 631-360-7523

PLUMBING INSPECTOR
Lorenzo D’Agostino 631-360-7523
Bill Polovchena 631-360-7524
SUFFOLK COUNTY ASSOCIATION OF MASTER PLUMBERS

631-643-5486

OFFICERS

Joseph Borelli....................................................... President
Dennis Ekstrom.................................................... 1st Vice President
John Borelli .......................................................... Treasurer
Sabastian Lamonica ............................................. Secretary

TRUSTEES

Richard Morrell
2020
MASTER PLUMBERS COUNCIL
OF THE
CITY OF NEW YORK

240-21 Braddock Avenue
Bellerose, NY 11426
Phone: 718-793-6300 | Fax: 516-677-5374
E-mail: info@nycmpc.org

President............................................................... Richard Bonelli
Vice President...................................................... Anthony Vigilante
Treasurer ............................................................. Leonard Williams
Secretary............................................................ Patrick Sementa
Executive Director................................................. John F. DeLillo, Jr.
Deputy Director .................................................... Patricia Brady
PHCC PAST PRESIDENTS

1928-1929 .......................................................... Charles F. Fritz*
1930............................................................................ Augustine Ziminski*
1931........................................................................... William Kleb*
1932.............................................................................. John T. Tomilty*
1933........................................................................... Joseph Riedman, Sr.*
1934-1935 .......................................................... William Metcalf*
1936........................................................................... William Jacoby*
1937........................................................................... Emanuel Floersch*
1938-1939 .......................................................... Lionel M. Kipp*
1940-1941 .......................................................... Emil Distler*
1942-1943 .......................................................... Henry Krug*
1944-Drafted .................................................. Gustau Sjoholm*
1944-1945 .......................................................... Ralph Tint*
1946-1947 .......................................................... Louis Bloom*
1948-1949 .......................................................... Peter Kostynick*
1950-1951 .......................................................... Charles M. Krug*
1952-1953 .......................................................... Fred Krug*
1954-1955 .......................................................... Alfred Schaumloffel*
1956-1957 .......................................................... Charles Cox*
1958-1959 .......................................................... William Droage*
1962-1963 .......................................................... John Merritt*
1964-1965 .......................................................... John DiLauro
1966-1967 .......................................................... Alfred Bottenus*
1968-1969 .......................................................... James Lorenzo*
1970-1971 .......................................................... Arthur LeJeune*
1972-1974 .......................................................... Morton Peetluk
1975-1976 .......................................................... Louis Costa*
1977-1979 .......................................................... Michael Imbergamo*
1980-1981 .......................................................... James Pusey
1982-1983 .......................................................... John D. Krull
1984-1985 .......................................................... Robert F. Check
1986-1987 .......................................................... George L. Maier, Jr.*
1988-1989 .......................................................... Stephen C. Gucker
1990-1992 .......................................................... Herman Kannati*
1993-1994 .......................................................... Jack Gayson
1995-1997 .......................................................... Louis P. Holzapple, Jr.
1998-1999 .......................................................... Richard English
2000-2001 .......................................................... Paul Deegan*
2002-2005 .......................................................... Hunter Botto
2006.......................................................... Richard Carbone
2007-2008 .......................................................... Tom Maniuszko
2009-2010 .......................................................... Al Esposito
2011-2012 .......................................................... Joe Cornetta
2013-2014 .......................................................... Ron Doughty
2015-2016 .......................................................... Hunter Botto
2017-2018 .......................................................... Joe Cornetta

*Deceased
All Day Plumbing & Heating............................................................ 917-578-4041
Ken Riso
195-44 Jamaica Avenue, Hollis, NY 11423

Apple Air Conditioning ................................................................. 516-783-1313
Tony Bisignano ................................................................. Fax 516-789-5272
3818 Merrick Road, Seaford, NY 11010

Argo Plumbing & Heating Co Inc ................................................. 516-358-2580
Paul Abbattista ................................................................. Fax 516-358-2611
523 Franklin Avenue, Franklin Square, NY 11010

ATCO Plumbing & Heating, Inc. .................................................... 631-232-1100
Andrew Tortorici ................................................................. Fax 631-234-7506
21 Gull Drive, PO BOX 11102, Hauppauge, NY 11788

Botto Bros. Plumbing & Heating.................................................... 516-935-2900
Hunter Botto ......................................................................... Fax 516-931-8736
128 Woodbury Road, Hicksville, NY 11801

Charles Cox, Inc.......................................................................... 516-825-0535
Jimmy Cox ........................................................................ Fax 516-825-0565
20 Brooklyn Avenue, Valley Stream, NY 11581

Charles Krull & Son..................................................................... 516-599-1222
Christopher Krull ......................................................... Fax 516-599-3423
34 Church Street, Malverne, NY 11565

Cornetta Bros Inc .................................................................... 516-354-1382
Joseph Cornetta ................................................................. Fax 516-354-7052
547 Hempstead Turnpike, Elmont, NY 11003
2020
MEMBERS

D.D.S Mechanical Plumbing & Heating, Corp ................................ 718-545-5564
Diego (Dino) LoManto
85 Yale Street, Roslyn Heights, NY 11577

David Lynfield Master Plumber............................................. 917-373-7835
David Lynfield
335 Stonytown Road, Manhasset, NY 11030

Ed Ferry Mechanical Corp...................................................... 516-498-9030
Ed Ferry .............................................................................. Fax 718-281-4958
75 Water Mill Lane, Great Neck, NY 11021

Essex Plumbing & Heating, Inc. .............................................. 516-781-7112
Donald J. Conway ................................................................. Fax 516-785-0209
2942 Essex Road, Wantagh, NY 11793

Gayson Plumbing & Heating.................................................. 516-248-4105
Jack Gayson ........................................................................ Fax 516-742-6762
131 Roosevelt Avenue, Mineola, NY 11501

G.H. Cody Inc. ................................................................... 516-334-6988
Frederick Cody
568 Mineola Avenue, Carle Place, NY 11514

Gramman Plumbing & Heating.............................................. 516-746-0045
Robert Gramman ................................................................. Fax 516-746-0032
356 Westbury Avenue, Carle Place, NY 11514

Grand Plumbing/Petro .......................................................... 516-576-2814
Robert Steinhardt ................................................................. Fax 516-349-4164
477 West John Street, Hicksville, NY 11801
Hartcorn Plumbing & Heating, Inc .................................................... 631-580-2300
Nicholas Hartcorn ........................................................................ Fax 631-580-1090
850 South 2nd Street, Ronkonkoma, NY 11779

Holzhauer Plumbing & Heating Inc................................................ 516-858-0268
Richard Holzhauer........................................................................ Fax 516-781-3520
730 Farmers Avenue, Bellmore NY 11710

Horowitz Bros................................................................................ 631-244-0852
Olaf Enoksen................................................................................ Fax 631-244-0816
71 Hiddink Street, Sayville, NY 11782

I. John Kostynick Village Plumbing. Corp .................................... 516-742-8562
James Pusey ................................................................................ Fax 516-742-7516
27 Jericho Turnpike, Mineola, NY 11501

J & C Home Comfort, Inc............................................................... 516-818-3766
John A Bifolco
34 E Marine Avenue, Lindenhurst, NY 11757

J & E Plumbing & Heating............................................................. 516-342-9634
Jim Citarella................................................................................ Fax 516-783-8593
645 St. Luke’s Place, Baldwin, NY 11510

Jack Berleth & Sons Inc............................................................... 631-427-4370
Steven Kennaugh ........................................................................ Fax 631-427-8233
164 N. New York Avenue, Halesite, NY 11743

Joe Sampson Plumbing & Heating............................................. 631-256-6547
Joe Sampson Jr.
241 Loop Drive, Sayville, NY 11782
2020
MEMBERS

John D. MacDonald & Son, Inc ...................................................... 516-432-0246
John MacDonald ....................................................................... Fax 516-432-5167
77 Lido Boulevard, Point Lookout, NY 11569

Ken’s Faucet and Toilet Repairs ...................................................... 516-796-2100
Kenneth Raso
2586 Hempstead Turnpike, East Meadow, NY 11554

Mako Plumbing................................................................................ 516-285-9879
Rich Gazzola ............................................................................. Fax 516-612-4264
17 Maple Avenue, Lynbrook, NY 11563

McCready & Rice Plumbing & Heating........................................... 718-359-6700
Owen Williams.......................................................................... Fax 718-358-7253
115-25 15th Avenue, PO Box 560202, College Point, NY 11356

Miller Bros Plumbing & Heating...................................................... 516-354-0818
James & John R. Miller Jr. ........................................................ Fax 516-354-0959
1324 Jericho Turnpike, New Hyde Park, NY 11040

Montauk Plumbing & Heating, LLC. ....................................... 631-668-8499
John Lotito
213 Edgemere Street, Montauk, NY 11954

Nassau- Suffolk Mechanical...................................................... 631-242-3001
Joseph Tantillo
6800 Jericho Turnpike, Suite 120W, Jericho NY 11791

NY Boiler......................................................................................... 718-251-3000
Richard Berger .......................................................................... Fax 718-531-6221
5885 Preston Court, Brooklyn, NY 11234
2020
MEMBERS

Old World Plumbing & Heating, ..................................................... 516-741-2128
Antonio Dinuzzo
136 Cherry Valley Avenue, West Hempstead, NY 11552

Orchid Sewer Contractors.................................................................516-747-1311
Frank Falbo ................................................................. Fax 516-746-2616
11 Dennis Street, Garden City Park, NY 11040

Pat Dolan Plumbing Co Inc ............................................................. 516-798-8943
Pat Dolan........................................................................... Fax 516-798-1516
4 Brooklyn Avenue, Massapequa, NY 11758

Philip Bambino Plumbing & Heating.................................................. 631-261-7988
Philip Bambino ........................................................................ Fax 631-261-1577
211 Little Plains Road, Huntington, NY 11743

Pipemasters Plumbing & Heating..................................................... 516-766-0253
Peter Martino ........................................................................ Fax 516-594-8510
96 South Long Beach Road, Rockville Centre, NY 11570

Plumbwell Services ........................................................................631-420-0384
Robert Wissing ........................................................................ Fax 631-420-0493
49B Toledo St, Farmingdale, NY 11735

Prestige Heating Inc................................................................. 516-795-4856
Ed Schoen
23 Jefferson Place, Massapequa, NY 11758

Prestige Piping & Repair LLC .............................................................. 516-352-8084
William Hale
40 Hendrickson Avenue, Merrick, NY 11566
2020 MEMBERS

Pride Plumbing ................................................................. 516-528-3432
Danny O’Leary
212 Maple Avenue, Unit R1, Rockville Centre, NY 11570

Rebmann Plumbing & Heating ............................................. 516-746-5678
Scott Ambrosio .................................................................. Fax 516-294-5678
844 Willis Avenue, Albertson, NY 11507

RR Plumbing Service ......................................................... 631-694-3805
Terence O’Shea ................................................................. Fax 631-694-3763
241 Central Avenue, Farmingdale, NY 11735

RS English Plumbing & Heating ......................................... 631-423-8900
Richard English
34 East Main Street, Smithtown, NY 11787

Sal Manzo Plumbing & Heating .......................................... 516-783-0490
Sal Manzo ......................................................................... Fax 516-783-0587
1480 Wantagh Avenue, Wantagh, NY 11793

Shields Plumbing .............................................................. 516-767-0300
John Shields ....................................................................... Fax 516-767-0254
267 Main Street, Port Washington, NY 11050

Smith Bros. Plumbing, Co .................................................. 516-239-7600
Constantino Malatesta ....................................................... Fax 718-327-8953
698 Beach 20th Street, Far Rockaway, NY 11691

Sweezey Fuel Co. Inc. ......................................................... 631-475-0270
Kent Fuhrmann .................................................................. Fax 631-447-2948
PO Box 866, Patchogue, NY 11772
2020

MEMBERS

T.F. O’Brien ................................................................. 516-488-1800
Patrick O’Brien ............................................................. Fax 516-488-3536
100 Denton Avenue, New Hyde Park, NY 11040

Thermal Solutions ......................................................... 631-769-1600
Patrick Macomb ............................................................. Fax 631-821-7651
PO Box 12066, Hauppauge, NY 11788

Thomas Martin Plumbing & Heating, Inc. ....................... 631-218-7900
Tom Martin ................................................................. Fax 631-218-7575
493-13 Johnson Avenue, Bohemia, NY 11716

Tri-County / Instant Plumbing & Heating. ....................... 516-437-5343
Frank Musella, Jr. .......................................................... Fax 718-343-6533
30 Twin Lane Avenue, Hicksville, NY 11801

Triple S Air Systems, Inc .............................................. 631-580-7460
Steve Benkovsky .......................................................... Fax 631-232-1345
80 Raynor Avenue, Ronkonkoma, NY 11779

TWB P & H ................................................................. 516-674-3302
Thomas Blarcharski ...................................................... Fax 516-674-4014
22 Glen Cove Drive, Glen Head, NY 11545

Universe Home Services .............................................. 516-781-6565Ext. 243
Roland Reeves
3782 Merrick Rd, Seaford, NY 11783

Williston Plumbing ....................................................... 516-746-3353
Ronald Doughty .......................................................... Fax 516-742-3972
201 Hillside Avenue, Williston Park, NY 11596
2020
MEMBERS
HONORARY MEMBERS

Dan Holohan ................................................................. 516-796-1957
63 North Oakdale Ave, Bethpage, NY 11714

James Lorenzo, Jr......................................................... 516-352-7213
303 Louis Ave, South Floral Park, NY 11001
2020
MEMBERS

REGULAR ASSOCIATE MEMBERS

Abballe Plumbing Supply .......................................................... 516-746-7700
Sandro Abballe ........................................................................ Fax 516-746-7270
366 Hillside Avenue, Williston Park, NY 11596

AF Kaufman............................................................................. 516-676-8330
Bill Kaufman ........................................................................ Fax 516-676-8620
50 Dickson Street, Glen Cove, NY 11542

Bruce Supply Corp................................................................. 516-561-6000
Sal Bono ................................................................................. Fax 516-561-6039
650 West Merrick Road, Valley Stream, NY 11580

City Wide Sewer & Drain ...................................................... 516-747-2344
Sal Mangia ............................................................................ Fax 516-742-1645
100 Voice Road, Carle Place, NY 11514

Cure Water Damage ............................................................ 516-433-8008
Alexander Brancati .............................................................. Fax 516-433-8032
95 Jerusalem Avenue, Hicksville, NY 11801

David Gooding Inc............................................................... 908-531-9555
Anthony Dicarlo ................................................................. Fax 508-894-2001
42 Montclair Drive, Selden, NY 11784

Dellon Sales Company.......................................................... 516-625-2626
Scott Dellon .......................................................................... Fax 516-625-3030
5 Albertson Avenue, Albertson, NY 11507
2020
MEMBERS

Ferguson Enterprises................................................................. 848-210-7204
Brain Cavossa
50 Meadowlands Parkway, Secaucus, NJ 07094

FW. Webb.............................................................................. 631-727-1870
Scott Brown
1414 W. Main St, Riverhead, NY, 11901

Gil Meyerowitz ................................................................. 718-821-6200
Sandy Meyerowitz .......................................................... Fax 718-456-0217
70-22 Cypress Hill Street, Glendale, NY 11385

Guaranteed Home Improvement, LLC................................. 516-827-6000
Justin Romano................................................................. Fax 516-827-0230
P.O Box 647, Plainview, NY 11803

Hamond Safety Management........................................... 1-800-285-2258 Ext.22
Paul Garritan
6800 Jericho Turnpike, Suite 105W, Syosset, NY 11791

Kohler .................................................................................... 516-317-4995
Anthony Katsoulakis
76-20 267th St, New Hyde Park, NY 11040

National Grid ................................................................. 516-545-3181
Lillie Manjarrez
175 E. Old Country Road, Hicksville, NY 11801

Rathe Associates ............................................................... 631-822-1200
Donald Rathe ................................................................. Fax 631-822-1500
1650 New Highway, Farmingdale, NY 11735
2020
MEMBERS

GOLD MEMBERS

True Restorations, Inc. ................................................................. 631-757-0212
Craig Harrington
440 Eastern Parkway, Farmingdale, NY 11735

Victoria Plumbing & Heating Supply Co.Inc. ...................... 516-741-4343
John Renda................................................................. Fax 516-741-4044
20 S. Denton Avenue, Garden City Park, NY 11040

Wales Darby................................................................. 631-585-6800
Jim Frey ................................................................. Fax 631-585-6838
2910 Express Drive, South Islandia, NY 11749

Wallace Eannace Associates ........................................... 516-454-9300
Jerry Katz
50 Newton Road, Plainview, NY 11803-9021

PLATINUM MEMBERS

All Dry USA ..................................................................... 516-368-9601
Shane Pitta ................................................................. Fax 516-888-3509
150 Engineers Drive, Hicksville, NY 11801

Total Restoration, Inc.......................................................... 516-333-5333
Dennis Lombardi
160 Eileen Way, Suite 100, Syosset, NY 11791

Venco Sales, Inc ............................................................... 631-754-0782
Frank Brecher ................................................................. Fax 631-754-4659
755 Park Avenue, Suite 300, Huntington, NY 11743
NASSAU COUNTY WATER DISTRICTS

Albertson Water District ............................................ 621-3610 Fax 626 - 8042
184 Shepherd Ln., Roslyn Heights, NY 11577 (24 Hours)
Mailing Address: PO BOX 335 Albertson, NY 11507

NY American Water ................................................... 676-1557 Fax 676 - 1379
325 Prospect Ave., Sea Cliff, NY 11579 (24 Hours)

Bayville Village Water Dept ...................................... 628-1439x119 Fax 628 - 3740
34 School St., Bayville, NY 11709
Waterdepartment@Bayvilleny.Gov

Bethpage Water District ............................................. 931-0093 Fax 931 - 0068
25 Adams Ave., Bethpage, NY 11714 (24 Hours)
www.bethpagewater.com

Carle Place Water District................................. 333-0540 Fax 333 - 4745
578 Mineola Ave., Carle Place, NY 11514 (24 Hours)
Cpwd@Carleplacewater.Org

East Meadow Water Dept (TOH)............................ 794-8300 Fax 794 - 1355
1995 Prospect Ave., E. Meadow, NY 11554 (24 Hours)

East Williston Village Water ..................... 746-8300 Fax 746 - 3130
2 Prospect St., E. Williston, NY 11596 (24 Hours)
Ewillistonclerk@yahoo.com

Farmingdale Village Water Dept................. 249-0111 Fax 279 - 0355
361 Main Street., PO Box 220, Farmingdale, NY 11735

Franklin Square Water Dept.......................... 354-0780 Fax 775 - 2748
895 Schroeter Ave., Franklin Square, NY 11010 (24 Hours)
Freeport Village Water Dept ...................................... 377-2379  
355 Albany Ave., Freeport, NY 11520 (24 Hours)  
46 North Ocean Ave., Freeport, NY 11520

Garden City Cross Connection Inspector .................. 465-4012  
Steve Bayard (24 Hours)

Garden City Park Water District ............................... 746-3194  
333 Marcus Avenue, Garden City Park, NY 11040

Garden City Village Water Dept ............................... 465-4020  
351 Stewart Ave., Garden City, NY 11530 (24 Hours)

Village Hall ............................................................. 742-5800  
Fax 742 - 5377

Glen Cove Water Dept .............................................. 676-2297  
Fax 676 - 3104  
9 Glen Street., Glen Cove, NY 11542  
After Hours .......................................................... 676-5358  
Dmarino@Cityofglencoveny.Org

Glenwood Water District ......................................... 671-3382  
6 Third Street., Glenwood Landing, NY 11547 (Mon. - Thurs.)  
Fax 671 - 3332

Hempstead Town Water Dept ................................. 794-8300  
1995 Prospect Ave., E. Meadow, NY 11554 (24 Hours)  
Fax 794 - 1355

Hempstead Village Water Plant ............................... 478-6252  
99 Nicholas Ct., Hempstead, NY 11550 (24 Hours)  
Fax 489 - 3734  
Waterplant@Villageofhempsteadny.Gov

Hicksville Water District ......................................... 931-0184  
4 Dean St., Hicksville, NY 11791  
Fax 931 - 6506  
After Hours ......................................................... 805-5102  
Info@Hicksvillewater.Org
Jericho Water District................................................. 921-8280 Fax 921-7554
125 Convent Rd., Syosset, NY 11791 (24 Hours)

Levittown Water District (TOH)................................. 794-8300 Fax 794 - 1355
1995 Prospect Ave., E. Meadow, NY 11554 (24 Hours)

Lido Water Dept (TOH)............................................. 794-8300 Fax 794 - 1355
1995 Prospect Ave., E. Meadow, NY 11554 (24 Hours)

Locust Valley Water District ........................................ 671-1783 Fax 671 - 1829
Buckram Rd., PO BOX 531, Locust Valley, NY 11560 (24 Hours)

Long Beach, City of................................................... 431-5694 Fax 897 - 5665
One Westchester Ave., Long Beach, NY 11563
After Hours ............................................................... 492-0937

Long Island American Water ..................................... 596-4800 Fax 618-433-4499
733 Sunrise Highway, Lynbrook, NY 11563 (24 Hours)

Manhasset - Lakeville Water District......................... 466-4413 Fax 466 - 1871
170 East Shore Rd., Great Neck, NY 11023 (24 Hours)

Massapequa Water District .............................. 798-5266 Fax 798 - 0279
84 Grand Ave., Massapequa, NY 11758 (24 Hours)
Massapequawater.com

Mill Neck Estates..................................................... 922-6722 Fax 922 - 5190
Frost Mill Rd., Po Box 351, Mill Neck, NY 11756
After Hours ............................................................... 532-3537

Mineola Village Water Dept............................... 746-0751 Fax 746 - 7634
155 Washington Ave., Mineola NY 11501 (24 Hours)
<table>
<thead>
<tr>
<th>Water District</th>
<th>Phone</th>
<th>Fax</th>
<th>Address</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Westbury Water District</td>
<td>626-0800</td>
<td>626 - 1296</td>
<td>One Store Hill Rd., Old Westbury, NY 11568</td>
<td>(24 Hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="http://www.villageofoldwestbury.org">www.villageofoldwestbury.org</a></td>
<td></td>
</tr>
<tr>
<td>Oyster Bay Water District</td>
<td>922-5444</td>
<td>922 - 4034</td>
<td>45 Audrey Ave., Oyster Bay, NY 11771</td>
<td>(24 Hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:obh2o@Optonline.net">obh2o@Optonline.net</a></td>
<td></td>
</tr>
<tr>
<td>Plainview Water District</td>
<td>931-6469</td>
<td>931 - 8683</td>
<td>10 Manetto Hill Rd., Plainview, NY 11803</td>
<td>(24 Hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Website: Plainviewwater.Org</td>
<td></td>
</tr>
<tr>
<td>Plandome Water Dept</td>
<td>627-1748</td>
<td>627 - 8419</td>
<td>65 South Dr., Plandome, NY 11030</td>
<td>(24 Hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:Clerk@Villageofplandome.Org">Clerk@Villageofplandome.Org</a></td>
<td></td>
</tr>
<tr>
<td>Pt. Lookout Water Dept (TOH)</td>
<td>794-8300</td>
<td>794-1355</td>
<td>1995 Prospect Ave., E. Meadow, NY 11554</td>
<td>(24 Hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:info@pwwd.org">info@pwwd.org</a></td>
<td></td>
</tr>
<tr>
<td>Rockville Centre Village Water</td>
<td>678-9302</td>
<td>678 - 9220</td>
<td>142 Maple Ave., Rockville Centre, NY 11570</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:RLarsen@Rvcny.usa">RLarsen@Rvcny.usa</a></td>
<td></td>
</tr>
<tr>
<td>Roosevelt Field (TOH)</td>
<td>794-8300</td>
<td>794-1355</td>
<td>1995 Prospect Ave., E. Meadow, NY</td>
<td>(24 Hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roslyn Water District</td>
<td>621-7770</td>
<td>621-9630</td>
<td>24 West Shore Rd., Roslyn, NY 11576</td>
<td>(24 Hours)</td>
</tr>
</tbody>
</table>
Sands Point Village Water Dept......................................... 883-3491 Fax 767 - 3691
PO BOX 188, Port Washington, NY 11050 (24 Hours)
Gundo43@Verizon.Net

South Farmingdale Water District............................... 249-3330 Fax 249 - 9053
40 Langdon Rd., PO BOX 3319, S. Farmingdale, NY 11735 (24 Hours)
www.sfwater.com

Uniondale Water Dept (TOH).................................... 794-8300 Fax 794 - 1355
1995 Prospect Ave., E. Meadow, NY 11554 (24 Hours)

Water Authority of Western Nassau County .......... 327-4000 Fax 327-4130
1580 Union Tpke., New Hyde Park, NY 11040 (24 Hour)
www.wawnc.org

Water Authority of Great Neck .............................. 487-7973 Fax 487-5048
50 Water Mill Ln., Great Neck, NY 11021 (24 Hours)
www.waterauthorityofgreatnecknorth.com

W. Hempstead/ Hempstead Gardens Water Dept...... 483-1180 Fax 483 - 3880
575 Birch St., W. Hempstead, NY 11552 (24 Hours)
Bobwhwd@Optonline.Net

Westbury Water District ...........................................333-0427 Fax 333 - 0923
160 Drexel Ave., Westbury, NY 11590 (24 Hours)
www.westburywaterdistrict.com

Williston Park Water District ................................. 746-2193 Fax 746 - 7109
494 Willis Ave., Williston Park, NY 11596
After Hours ............................................................ 204-3253
Publicworks@Villageofwillistonpark.Org
DIRECTORY OF INCORPORATED VILLAGES
AND CITIES WITHIN NASSAU COUNTY

ATLANTIC BEACH ................................................. 371-4600 Fax 371-4631
Steve Cherson, Building Inspector
65 The Plaza, Atlantic Beach, NY 11509 (M-F 7-3:30)

BAXTER ESTATES .................................................. 767-0096 Fax 767-0058
Joseph Saladino, Plumbing & Building Inspector
315 Main St, Port Washington, NY 1050 (W 8:30-1:30)

BAYVILLE ................................................................ 628-1247 Fax 628-3740
34 School St., Bayville, NY 11709 (M-F 8:30-4:30)
Doug Groth, Building Inspector 628-1439x121

BELLEFRAE VILLAGE ........................................... 354-1000 Fax 354-1033
Richard Belziti, Engineer & Building Inspector
50 Superior Rd., Bellerose Village, NY 11001 (M-F 9-4:30)

BROOKVILLE .......................................................... 626-0973 Fax 626-7621
Tim Dougherty, Plumbing Superintendent
18 Horse Hill Rd., Brookville, NY 11545 (M-F 9-4)

CEDARHURST ......................................................... 242-9668 Fax 295-1077
Wayne Yarnell, Superintendent of buildings
Don Esopa, Plumbing Inspector
200 Cedarhurst Ave., Cedarhurst, NY 11516 (M-F 9-4)

CENTRE ISLAND .................................................... 922-0606 Fax 922-4708
Joseph Richardson, Building Inspector 922-2428
303 Centre Island, Oyster Bay, NY 11771 (T&TH 1-5)

COVE NECK ............................................................. 922-1885 Fax 801-6524
Karl Bicknese, Building Inspector
147 Forest Ave., Locust Valley, NY 11560 (M-F 9-1)
EAST HILLS ............................................................. 621-4251 Fax 625-8736
Frank Gagliano, Building Inspector/ Superintendent
Barry Lamb, Asst. Building Inspector
James Trotto, Plumbing Inspector
209 Harbor Hill Rd., East Hills, NY 11576 (M-F 9-4:30)

EAST ROCKAWAY .................................................. 887-6310 Fax 887-6311
Thomas Smith, Superintendent
Steve Rusnack, Sr. Building Inspector & Plumbing Inspector
376 Atlantic Ave., East Rockaway, NY 11518 (M-F 9-4:45)

EAST WILLISTON ................................................... 746-0782 Fax 746-3130
Jack Gayson, Plumbing Inspector
Jared Mandel, Building Inspector
2 Prospect St., East Williston, NY 11596 (M-F 9-4)

FARMINGDALE....................................................... 249-0093x301 Fax 249-0355
Diane Menig, Building & Plumbing Inspector
361 Main St., Farmingdale, NY 11735 (M-F 8:30-4:30)

FLORAL PARK................................................................. 326-6319 Fax 326-2751
Kevin Bove, Building & Plumbing Inspector
Renee Marcus, Superintendent ........................................ 326-6319
1 Floral Blvd., Floral Park, NY 11002 (M-F 8:30-4:30)

FLOWER HILL .............................................................. 627-2253 Fax 627-5470
Peter Albinski, Building & Plumbing Inspector
1 Bonnie Heights Rd., Manhasset, NY 11030 (M&T 10:30-2:30)
FREEPORT................................................................. 377-2200 Fax 377-2493
Joseph Madigan, Superintendent ............................... 377-2242
Daniel Hinton, Sr. Building Inspector
Nelson Zambrano, Sr. Building Inspector
Jeff Gallo, Building Inspector
Rocco Sagarese, Building Inspector
Alex Manzo, Building Inspector
Jonathan Smith, Building Inspector
Sergio Mauros, Building Inspector
Robert Kurt, Building Inspector
46 North Ocean Ave., Freeport, NY 11520 (M-F 8:30-4:30)

GARDEN CITY............................................................. 465-4040 Fax 742-5377
Andrew Frame, Building Inspector
Tom Daly, Plumbing Inspector
John “Joe” DeMartini - Build Inspector
Ausberto “Ozzie” Huertas, Jr- Superintendent
351 Stewart Ave., Garden City, NY 11530 (M-F 10:30-4)

GLEN COVE, CITY OF............................................... 676-2000 Fax 759-6711
Richard Summa, Building Dept. Administrator
Michael Bathie, Plumbing Inspector
9 Glen St. Glen Cove, NY 11542 (M-F 9-5)

GREAT NECK.............................................................. 482-0235x115 Fax 482-2606
Robert Barbach, Superintendent of Buildings .......... 482-0019x120
Dennis Fromigia, Building & Plumbing Inspector .... 482-0019x115
61 Baker Hill Rd., Great Neck, NY 11023 (M&F 9-4 T&W AM only)

GREAT NECK ESTATES .................................................. 482-8283 Fax 482-5572
Barbara Dziorney, Building Inspector
Michael Bogart, Plumbing Inspector
Atwater Plaza, 4 Gateway Drive, Great Neck, NY 11021 (Closed Wed.)
### GREAT NECK PLAZA

Richard Belziti, Commissioner  
2 Gussack Plaza, PO Box 440 Great Neck, NY 11022 (M-F 9-4:45)

### HEMPSTEAD, TOWN OF

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Miotto, Plumbing Inspector</td>
<td>812-3126</td>
<td>483-1573</td>
</tr>
<tr>
<td>Carmine Salute, Chief Plumbing Inspector</td>
<td>812-3160</td>
<td></td>
</tr>
<tr>
<td>Carl Kolansky, Plumbing Inspector</td>
<td>812-3131</td>
<td></td>
</tr>
<tr>
<td>James Ruzicka, Plumbing Inspector</td>
<td>414-6573</td>
<td></td>
</tr>
<tr>
<td>Michael Baloglou, Plumbing Inspector</td>
<td>812-3125</td>
<td></td>
</tr>
<tr>
<td>George Wenk, Plumbing Inspector</td>
<td>812-3130</td>
<td></td>
</tr>
<tr>
<td>1 Washington St., Hempstead, NY 11550 (M-F 3-4:45)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HEMPSTEAD, VILLAGE OF

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelly McGee, Plumbing Inspector</td>
<td>489-3400x230</td>
<td>539-0116</td>
</tr>
<tr>
<td>George Foster, Building Inspector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joe Simone, Superintendent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>202 Jackson St., PO Box 32 Hempstead, NY 11551. (M-F 8:30-4:15)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HEWLETT BAY PARK

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Cherson, Building &amp; Plumbing Inspector</td>
<td>295-1400</td>
<td>295-1406</td>
</tr>
<tr>
<td>30 Piermont Ave., Hewlett, NY 11557 (M-F 9-4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HEWLETT HARBOR

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph Armellino, Plumbing Inspector</td>
<td>374-3806</td>
<td>374-3808</td>
</tr>
<tr>
<td>Steven Haromis, Building Inspector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>449 Pepperidge Rd., Hewlett Harbor, NY 11557 (M-F 9-4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HEWLETT NECK

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph Montilli, Plumbing Inspector</td>
<td>295-1400</td>
<td>295-1406</td>
</tr>
<tr>
<td>Richard Barberi, Building Inspector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 Piermont Ave., Hewlett, NY 11557 (M-F 9-4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ISLAND PARK.......................................................... 431-0600 Fax 431-0436  
John Rocco, Building & Plumbing Inspector  
127 Long Beach Rd., Island Park, NY 11558 (M-F 9-4:30)

KENSINGTON.......................................................... 482-4409 Fax 482-2866  
Michael McNerney, Building & Plumbing Inspector  
2 Nassau Dr., Great Neck, NY 11021 (M-F 9-4)

KINGS POINT........................................................... 482-7872 Fax 482-9061  
Richard A. Schilt, Building Inspector  
32 Steppingstone Ln., Kings Point, NY 11024 (M-F 9:30-4:30)

LAKE SUCCESS....................................................... 482-4411 Fax 482-1536  
Robert S. Bonnie, Building & Plumbing Inspector  
318 Lakeville Rd. Great Neck, NY 11020 (M&F 9-4:30, W 9-1)

LATTINGTOWN....................................................... 676-6920 Fax 676-8220  
Matthew Moed, Building Inspector  
Peter Albinski, Building Inspector  
299 Lattingtown Rd., PO Box 488 Lattingtown, NY 11560 (M-F 9-12)

LAUREL HOLLOW.................................................. 692-8826 Fax 692-4198  
Michael McNerney, Building Inspector  
1492 Laurel Hollow Rd., Laurel Hollow, NY 11791 (M-T-TH 9-3)

LAWRENCE.............................................................. 239-4600 Fax 239-9657  
Michael Ryder, Building Department Superintendent  
Leo Romanelli, Plumbing Inspector  
Steven Haramis, Plumbing Inspector  
196 Central Ave., Lawrence, NY 11559 (M-F 8-4)

LONG BEACH, CITY OF.............................................. 431-1000 Fax 431-1432  
Scott Kemins, Building Commissioner.......................... 431-1005  
One West Chester St., Long Beach, NY 11561 (M-F 9-5)
LYNBROOK.............................................................. 599-8828 Fax 593-8309
Joseph Rice, Plumbing Inspector
Michael Trotta, Building Inspector
Joseph Demartini, Building Inspector
Lynn Curtis, Building Inspector
Brian Stanton, Superintendent
One Columbus Dr., Lynbrook, NY 11563 (M-F 8-4)

MALVERNE..............................................................599-1200 Fax 599-0613
Joseph Montilli, Plumbing Inspector
99 Church St., Malverne, NY 11565 (M-F 9-5)
To Schedule Inspections ............................................ 766-7684
Tuesday-Wednesday-Thursday 8:00 AM- 9:00 AM

MANORHAVEN ..........................................................883-7000 Fax 883-4535
Patrick Michael Abramski, Building Superintendent
33 Manorhaven Blvd., Port Washington, NY 11050
(T&F 9-4, M 9-12)

MASSAPEQUA PARK .............................................798-0244 Fax 798-6106
Garet Lamb, Building & Plumbing Inspector
151 Front St., Massapequa Park, NY 11762 (M-F 9-5)

MATINECOCK ............................................................671-7790 Fax 364-9618
Karl Bicknese, Building Inspector
147 Forest Ave., Locust Valley, NY 11560 (M-F 9-2:30)

MILL NECK ..............................................................922-6722 Fax 922-5190
Joseph Richardson, Building Inspector
32 Frost Mill Road, Mill Neck, NY 1765 (M-F 9:30-12)
MINEOLA ................................................................. 746-0750x4 Fax 746-4065
Dan Whalen, Superintendent of Building
John Chilcott, Building & Plumbing Inspector
Tom Murphy, Building & Plumbing Inspector
155 Washington Ave., Mineola, NY 11501 (M-F 10-3)

MUNSEY PARK ......................................................365-7790 Fax 365-2235
Anthony DiProperzio, Building & Plumbing Inspector
1777 Northern Blvd., Manhasset, NY 11030 (M-F 9-4)

MUTTONTOWN....................................................... 364-6314 Fax 364-2031
Anthony Toscano, Superintendent
Roberta Censi, Building Department Supervisor
Raz Taforoway, Muttontown, NY 11791 (M-F 9:30-12:30)

NEW HYDE PARK ................................................... 354-0022 Fax 354-6004
Reid Sakowich, Plumbing Inspector
Paul Pesale, Building Inspector
Thomas Gannon, Superintendent
1420 Jericho Tpke., New Hyde Park, NY 11040 (M-F 8-4:30)

NORTH HEMPSTEAD
John Niewender, Commissioner of Buildings .......... 869-7973
William Smalley, Chief Building Inspector .......... 869-7671
Dominick Frissora, Supervisor ......................... 869-7672
Frank Evangelista, Plumbing Inspector ............... 869-7687
Jerry DeLucia, Plumbing Inspector .................... 869-7979
Daniel Richards, Plumbing Inspector ................. 869-7684
Mike Pilo, Plumbing Inspector ....................... 896-2910
210 Plandome Road, Manhasset, NY 11030-2326

NORTH HILLS.......................................................... 627-3690 Fax 627-0703
Peter Cinquemani, Superintendent
One Shelter Rock Rd., Roslyn, NY 11576 (M-F 9-5)
OLD BROOKVILLE................................................. 671-4664 Fax 671-4725
Peter Albinski, Asst. Building Inspector & Superintendent
201 McCouns Ln., Old Brookville, NY 11545 (M-F 9:30AM-1PM)

OLD WESTBURY..................................................... 626-0800 Fax 626-1296
Michael Malatino, Building Inspector
One Store Hill Rd., Old Westbury, NY 11568 (M-F 9-4)

TOWN OF OYSTER BAY........................................ 624-6200 Fax 624-6240
Elizabeth Maccorne, Commissioner
Vito Rella, Plumbing Inspectors ...............................624-6263
Dennis Hill, Plumbing Inspector ...............................624-6263
Michael Bathie, Plumbing Inspector ........................624-6264
David Mercadoo, Plumbing Inspector ......................624-6261
74 Audrey Ave, Oyster Bay, New York 11771

OYSTER BAY COVE ............................................... 922-1016 Fax 922-1761
Sergio Tedesco, Building Inspector ........................... 922-1071
Robert Peterson, Building Inspector
25 B Route 25A, Oyster Bay, NY 11771 (M-W-F 10-2)

PLANDOME ............................................................. 627-1733 Fax 627-8419
David DeRienzis, Building Inspector
PO Box 930, 65 South Dr., Plandome, NY 11030 (M-F 9-4)

PLANDOME HEIGHTS ...............................................627-1136 Fax 627-1393
Edward Butt, Building Inspector
37 Orchard St., Plandome Heights, NY 11030 (W-F 9-3)

PLANDOME MANOR ...............................................627-3701 Fax 627-7067
Edward Butt, Building Inspector
55 Manhasset Ave., Manhasset, NY 11030 (T-T 9-4)
PORT WASHINGTON NORTH ................................ 883-5900 Fax 883-5926
Robert Barbach, Building Inspector
Fred Lauria, Deputy Building Inspector
3 Pleasant Ave., Port Washington, NY 11050 (M-F 9-3)

ROCKVILLE CENTRE ............................................ 678-9300 Fax 678-4544
Patrick O’Brien, Superintendent .......................... 678-9247
110 Maple Ave., PO Box 950 Rockville Centre, NY 11571
(M-F 9-4)

ROSLYN ................................................................. 621-1691 Fax 621-2171
Ron Doughty, Plumbing Inspector ...................... 746-3359
1200 Old Northern Blvd., Roslyn, NY 11576 (T-T 9-4)

ROSLYN ESTATES .................................................. 621-3541 Fax 621-3109
Joseph Richardson, Superintendent
25 The Tulips, Roslyn Estates, NY 11576 (M-W-F 10-4)

ROSLYN HARBOR .................................................. 621-0368 Fax 621-1803
Steve Fellman, Building Inspector
500 Motts Cove Rd., South Roslyn Harbor, NY 11576 (M-F 8-3)

RUSSELL GARDENS ............................................. 482-8246 Fax 482-8259
James Gilhooly, Building & Plumbing Inspector
Robert Rockelein, Building Inspector
6 Tain Drive, Great Neck, NY 11021 (T&F 8-12)

SADDLE ROCK....................................................... 482-9400 Fax 482-9403
Paul Lauria, Building & Plumbing Inspector
18 Masefield Way, Saddle Rock, NY 11023
(M-T 10-2 W-TH 1-5)
SANDS POINT .......................................................... 883-3044 Fax 767-3691
Joanna Palumbo, Building Commissioner
Dennis C. Davidson, Building Inspector
Donald Alberto, Building Inspector
26 Tibbits Ln., PO Box 188 Sand Point, NY 1050 (M-F 9-4)

SEA CLIFF ............................................................ 671-0080 Fax 671-6508
Carl Rumatoski, Plumbing Inspector
Drew Lawrence, Building Inspector
300 Sea Cliff Ave., PO Box 340 Sea Cliff, NY 11579 (M 1-8 T-F 9-4)

SOUTH FLORAL PARK ......................................... 352-8047 Fax 352-0651
Rich Belziti, Plumbing & Building Inspector
383 Roquette Ave., South Floral Park, NY 11001 (M-F 9-12)

STEWART MANOR ............................................... 354-1800 Fax 354-1825
Richard Belziti, Building Inspector
Ron Doughty, Plumbing Inspector ............................. 746-3359
120 Covert Ave., Stewart Manor, NY 11530 (T-T 9-4)

THOMASTON ........................................................ 482-3110 Fax 829-5011
Joseph Chearmonte, Building Inspector
100 E. Shore Rd., Great Neck, NY 11023 (M-F 9-4)

UPPER BROOKVILLE .............................................. 624-7715 Fax 624-7137
Matthew Moed, Building & Plumbing Inspector
1395 Planting Fields Rd., PO Box 548 Oyster Bay, NY 11771 (M-TH 10-2)
VALLEY STREAM ................................................... 825-4200 Fax 825-6038
Tom Viani, Building Inspector
Daniel Vecchione, Plumbing Inspector
Tom Mcaleer, Superintendent .................................... 825-4200x5143
123 S. Central Ave., Valley Stream, NY 11580 (M-F 8-4)

WESTBURY .............................................................. 334-1700x130 Fax 334-7388
William Mello, Sr. Building Inspector
Joe Brillantino, Plumbing Inspector
235 Lincoln Place, Westbury, NY 11590 (M-F 9-4:30)

WILLISTON PARK ................................................... 746-2193 Fax 746-7109
Ron Doughty, Plumbing Inspector ............................. 746-3359
Kerry Collins, Building Inspector ............................. 877-1521
494 Willis Ave., Williston Park, NY 11596 (M-F 9-4)

WOODSBURGH ....................................................... 295-1400 Fax 295-1406
Joseph Montilli, Plumbing Inspector
William Dougherty, Building Inspector
30 Piermont Ave., Hewlett Bay Park, NY 11557 (M-F 9-4)
DIRECTORY OF INCORPORATED VILLAGES
AND CITIES WITHIN SUFFOLK COUNTY

VILLAGE OF AMITYVILLE................................................................. 631-691-1909
Bryan Donato, Building Inspector & Plumbing Inspector
21 Ireland Place, Amityville, NY 11701

TOWN OF BABYLON ......................................................................... 631-957-3058
Tim Besemer, Building Inspector
Vincent Biondo, Plumbing Inspector..................................................... 631-957-3021
Thomas Young, Commissioner .............................................................. 631-957-7414
200 East Sunrise Highway, Lindenhurst, NY 11757

BABYLON VILLAGE............................................................................. 631-669-1300
Stephen Sellman Building Inspector & Plumbing Inspector
153 West Main Street, Babylon, NY 11702

TOWN OF BROOKHAVEN .................................................................. 631-451-6333
Chris Kalivas, Building Inspector
Beth Triebs, Building Inspector ............................................................. 631-451-6344
Tony Lagnese, Building Inspector ......................................................... 631-451-6349
Ron Primus, Plumbing Inspector ........................................................... 631-451-9267
Tullio Bertoli, Commissioner
Brenda Prusinowski, Deputy Commissioner
1 Independence Hill, Farmingville, NY 11738

VILLAGE OF THE BRANCH.............................................................. 631-979-8989
Jerry Harris, Building & Plumbing Inspector
P.O Box 725, Smithtown, NY 11787

VILLAGE OF FARMINGDALE .................................................. 516-249-0093 x301
Diane Menig, Code Enforcement Officer ............................................. 516-249-0093 x300
Village Hall, P.O Box 220
361 Main Street, Farmingdale, NY 11735
TOWN OF HUNTINGTON ................................................................. 631-351-2825
Gene Guido, Building Inspector
Jonathan Lombardo, Plumbing Inspector ........................................... 631-351-3143
Steve Kiewra, Building Permits Coordinator ....................................... 631-351-2821
100 Main Street, Huntington, NY 11743

VILLAGE OF HUNTINGTON BAY .................................................. 631-427-2843
Bob Kocis, Building & Plumbing Inspector
244 Vineyard Road, Huntington Bay, NY 11743-0873

VILLAGE OF ISLANDIA .................................................................631-348-1133
Jerry Peters, Building Inspector
John Bianco, Plumbing Inspector .....................................................631-348-1133
1100 Old Nichols Road, Islandia, NY 11749

TOWN OF ISLIP ............................................................................ 631-224-5470
John P, Building Inspector
Sebastian, Plumbing Inspector ....................................................... 631-595-3756
Ron Meyer, Commissioner .......................................................... 631-224-5466
One Manitton Court, Islip, NY 11751

VILLAGE OF LAKE GROVE .......................................................... 631-585-2000
Tony Mancusso, Building & Plumbing Inspector
980 Hawkins Ave, Lake Grove, NY 11755

VILLAGE OF LINDENHURST ......................................................... 631-957-7510
Thomas Maher, Building Inspector
John Hosey, Plumbing Inspector
430 S. Wellwood Ave, Lindenhurst, NY 11757

VILLAGE OF LLOYD HARBOR ..................................................... 631-549-2640
James Sino, Building & Plumbing Inspector
32 Middle Hollow Road, Huntington, NY 11743
VILLAGE OF NORTHPORT ............................................................... 631-261-4145
Loary Milanese Gunn, Building & Plumbing Inspector
PO Box 358
224 Main Street, Northport, NY 11768

VILLAGE OF PATCHOGUE ............................................................ 631-475-4300
Peter Sarich, Building & Plumbing Inspector
P.O Box 719
14 Baker St, Patchogue, NY 11772

VILLAGE OF PORT JEFFERSON ....................................................... 631-473-4744
Tony Bertolotti, Building Inspector
Bryan Donato, Plumbing Inspector
121 West Broadway, Port Jefferson, NY 11777

TOWN OF RIVERHEAD ................................................................. 631-727-3000 xt 275
Mark Griffin, Building Inspector
Brad Hammond, Plumbing Inspector ......................................... 631-727-3000 xt 265
200 Howell Avenue, Riverhead, NY 11901

VILLAGE OF SAG HARBOR ............................................................. 631-725-0224
Thomas Preiato, Building & Plumbing Inspector
P.O Box 660
55 Main Street, Sag Harbor, NY 11963

TOWN OF SHELTER ISLAND .......................................................... 631-749-0772
Reed Karen, Building Inspector
J. Chris Tehan, Plumbing Inspector ............................................ 631-749-0772
38 North Ferry Road, Shelter Island, NY 11964

TOWN OF SMITHTOWN
William White, Building Inspector Director ................................ 631-360-7520
Allan Richards, Building Inspector ............................................. 631-360-7523
Joe Lorefice, Building Inspector ................................................ 631-360-7523
Lorenzo D’Agostino, Plumbing Inspector .................................. 631-360-7523
Bill Polovchena, Plumbing Inspector ........................................ 631-360-7524
PO Box 9090 99 W. Main Street, Smithtown, NY 11787
BEFORE YOU DIG

By law, excavators and contractors working in the five boroughs of New York City and Nassau and Suffolk Counties on Long Island must contact New York 811, by dialing 811, at least 48 hours prior to beginning any mechanized digging or excavation work to ensure underground utility lines are marked. For safety reasons, homeowners are strongly encouraged to call as well.
CHAPTER 10 - MISCELLANEOUS

CAPACITY OF ROUND STORAGE TANKS

Number of Gallons

<table>
<thead>
<tr>
<th>Depth or Length (feet)</th>
<th>Inside Diameter (inches)</th>
<th>18</th>
<th>24</th>
<th>30</th>
<th>36</th>
<th>42</th>
<th>48</th>
<th>54</th>
<th>60</th>
<th>66</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>1.10</td>
<td>1.36</td>
<td>3.06</td>
<td>4.41</td>
<td>5.99</td>
<td>7.83</td>
<td>9.91</td>
<td>12.24</td>
<td>14.81</td>
<td>17.62</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>26</td>
<td>47</td>
<td>73</td>
<td>105</td>
<td>144</td>
<td>188</td>
<td>238</td>
<td>294</td>
<td>356</td>
<td>423</td>
</tr>
<tr>
<td>2-1/2</td>
<td></td>
<td>33</td>
<td>59</td>
<td>91</td>
<td>131</td>
<td>180</td>
<td>235</td>
<td>298</td>
<td>367</td>
<td>445</td>
<td>530</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>40</td>
<td>71</td>
<td>100</td>
<td>158</td>
<td>216</td>
<td>262</td>
<td>357</td>
<td>440</td>
<td>534</td>
<td>635</td>
</tr>
<tr>
<td>3-1/2</td>
<td></td>
<td>46</td>
<td>83</td>
<td>129</td>
<td>184</td>
<td>252</td>
<td>329</td>
<td>416</td>
<td>513</td>
<td>623</td>
<td>740</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>53</td>
<td>95</td>
<td>147</td>
<td>210</td>
<td>288</td>
<td>376</td>
<td>475</td>
<td>586</td>
<td>712</td>
<td>846</td>
</tr>
<tr>
<td>4-1/2</td>
<td></td>
<td>59</td>
<td>107</td>
<td>165</td>
<td>238</td>
<td>324</td>
<td>423</td>
<td>534</td>
<td>660</td>
<td>800</td>
<td>952</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>66</td>
<td>119</td>
<td>181</td>
<td>264</td>
<td>360</td>
<td>470</td>
<td>596</td>
<td>734</td>
<td>899</td>
<td>1057</td>
</tr>
<tr>
<td>5-1/2</td>
<td></td>
<td>73</td>
<td>130</td>
<td>201</td>
<td>290</td>
<td>396</td>
<td>517</td>
<td>655</td>
<td>808</td>
<td>978</td>
<td>1163</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>79</td>
<td>141</td>
<td>219</td>
<td>315</td>
<td>432</td>
<td>564</td>
<td>714</td>
<td>880</td>
<td>1066</td>
<td>1268</td>
</tr>
<tr>
<td>6-1/2</td>
<td></td>
<td>88</td>
<td>155</td>
<td>236</td>
<td>340</td>
<td>468</td>
<td>611</td>
<td>770</td>
<td>954</td>
<td>1156</td>
<td>1374</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>92</td>
<td>165</td>
<td>255</td>
<td>368</td>
<td>504</td>
<td>658</td>
<td>832</td>
<td>1028</td>
<td>1244</td>
<td>1480</td>
</tr>
<tr>
<td>7-1/2</td>
<td></td>
<td>99</td>
<td>179</td>
<td>278</td>
<td>396</td>
<td>540</td>
<td>705</td>
<td>889</td>
<td>1101</td>
<td>1335</td>
<td>1586</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>106</td>
<td>190</td>
<td>291</td>
<td>423</td>
<td>576</td>
<td>752</td>
<td>949</td>
<td>1175</td>
<td>1424</td>
<td>1691</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>119</td>
<td>212</td>
<td>330</td>
<td>476</td>
<td>648</td>
<td>846</td>
<td>1071</td>
<td>1322</td>
<td>1599</td>
<td>1903</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>132</td>
<td>236</td>
<td>366</td>
<td>529</td>
<td>720</td>
<td>940</td>
<td>1189</td>
<td>1463</td>
<td>1780</td>
<td>2114</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>157</td>
<td>282</td>
<td>440</td>
<td>634</td>
<td>864</td>
<td>1128</td>
<td>1428</td>
<td>1762</td>
<td>2133</td>
<td>2537</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>185</td>
<td>329</td>
<td>514</td>
<td>740</td>
<td>1008</td>
<td>1316</td>
<td>1686</td>
<td>2055</td>
<td>2490</td>
<td>2960</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>211</td>
<td>376</td>
<td>587</td>
<td>846</td>
<td>1152</td>
<td>1504</td>
<td>1904</td>
<td>2350</td>
<td>2844</td>
<td>3383</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>238</td>
<td>423</td>
<td>660</td>
<td>952</td>
<td>1296</td>
<td>1692</td>
<td>2140</td>
<td>2640</td>
<td>3200</td>
<td>3806</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>264</td>
<td>470</td>
<td>734</td>
<td>1057</td>
<td>1440</td>
<td>1880</td>
<td>2380</td>
<td>2932</td>
<td>3556</td>
<td>4230</td>
</tr>
</tbody>
</table>

CAPACITY OF RECTANGULAR TANKS

To find the capacity in U.S. gallons of rectangular tanks, reduce all dimensions to inches, then multiply the length by the width by the height and divide the product by 231.

Example: Tank 56" long x 32" wide x 20" deep
Then 56" x 32" x 20" = 35,840 cu. in.
35,840 ÷ 231 = 155 gallon capacity
CHAPTER 10 - MISCELLANEOUS

CONVERSION FACTORS

<table>
<thead>
<tr>
<th>WATER</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Gallons</td>
<td>x 8.34</td>
<td>= Pounds</td>
</tr>
<tr>
<td>U.S. Gallons</td>
<td>x 0.13368</td>
<td>= Cubic Feet</td>
</tr>
<tr>
<td>U.S. Gallons</td>
<td>x 231.00</td>
<td>= Cubic Inches</td>
</tr>
<tr>
<td>U.S. Gallons</td>
<td>x 3.78</td>
<td>= Liters</td>
</tr>
<tr>
<td>Imperial Gallons</td>
<td>x 277.3</td>
<td>= Cubic Inches</td>
</tr>
<tr>
<td>Imperial Gallons at 62°F</td>
<td>= 10.0 Pounds</td>
<td></td>
</tr>
<tr>
<td>Cubic In. of Water</td>
<td>x 0.036130</td>
<td>= Pounds</td>
</tr>
<tr>
<td>(39.2°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cubic In. of Water</td>
<td>x 0.004329</td>
<td>= U.S. Gallons</td>
</tr>
<tr>
<td>(39.2°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cubic Feet of Water</td>
<td>x 0.576384</td>
<td>= Ounces</td>
</tr>
<tr>
<td>(39.2°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cubic Feet of Water</td>
<td>x 62.427</td>
<td>= Pounds</td>
</tr>
<tr>
<td>(39.2°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cubic Feet of Water</td>
<td>x 7.48</td>
<td>= U.S. Gallons</td>
</tr>
<tr>
<td>(39.2°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cubic Feet of Water</td>
<td>x 0.028</td>
<td>= Tons</td>
</tr>
<tr>
<td>(39.2°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pounds of Water</td>
<td>x 27.72</td>
<td>= Cubic Inches</td>
</tr>
<tr>
<td>Pounds of Water</td>
<td>x 0.01602</td>
<td>= Cubic Feet</td>
</tr>
<tr>
<td>Pounds of Water</td>
<td>x 0.12</td>
<td>= U.S. Gallons</td>
</tr>
</tbody>
</table>

PRESSURE

1 Pound Per Square Inch = 144 Pounds Per Square Foot
2.0355 Inches of Mercury at 32°F.
2.0416 Inches of Mercury at 62°F.
2.309 Feet of Water at 62°F.
27.71 Inches of Water at 62°F
6.895 kPa (kilopascal)

1 Ounce Per Square Inch = 0.1276 Inches of Mercury at 62°F.
1.732 Inches of Water at 62°F.

1 Atmosphere = 2116.3 Pounds Per Square Foot
(14.7 Lbs. Per Sq. In.)
33.947 Feet of Water at 62°F.
30 Inches of Mercury at 62°F.
29.922 Inches of Mercury at 32°F.
760 Millimeters of Mercury at 32°F.
101.3 kilopascal
= 235.1 ounces per sq. in.

1 Inch Water (at 62°F.) = 0.03609 Lbs. or 0.5774 oz Per Sq. In.
5.196 Pounds Per Square Foot
0.248 kilopascal
= 235.1 oz/in²

1 Foot Water (at 62°F.) = 0.433 Pounds Per Square Inch
62.355 Pounds Per Square Foot

1 Inch Mercury (at 62°F.) = 0.491 Lbs. or 7.86 oz. Per Sq. In.
1.132 Feet Water at 62°F.
13.58 Inches Water at 62°F.
CHAPTER 7 - HEAT LOSS CALCULATION

SHORT FORM HEAT LOSS SURVEY

Application: Excellent when determining heat loss of a building as a whole. Precise method of sizing replacement hot water boilers.

* Heating Multipliers (H.M.) BTU/Hr. Based on 60°F Temperature Difference (T.D.)

<table>
<thead>
<tr>
<th>Wall</th>
<th>H.M. Ceiling</th>
<th>H.M.</th>
<th>Floor</th>
<th>H.M. Glass</th>
<th>H.M. Infiltration</th>
<th>H.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Insulation</td>
<td>15</td>
<td>3&quot;</td>
<td>No Insulation</td>
<td>4</td>
<td>Single</td>
<td>67</td>
</tr>
<tr>
<td>2 inches</td>
<td>6</td>
<td>6&quot;</td>
<td>4</td>
<td>Overhang 3&quot;</td>
<td>5</td>
<td>Single Insulated</td>
</tr>
<tr>
<td>4 inches</td>
<td>5</td>
<td>9&quot;</td>
<td>3</td>
<td>Overhang 5&quot;</td>
<td>3</td>
<td>Storm</td>
</tr>
<tr>
<td>6 inches</td>
<td>4</td>
<td>10&quot;</td>
<td>2</td>
<td>Overhang 5&quot;</td>
<td>2</td>
<td>Double Insulated</td>
</tr>
</tbody>
</table>

PROCEDURE:
1. Measure the length (L) and width (W) of the outside walls of the house and record. Calculate gross wall area by multiplying height of the walls by total length of outside walls. (2L + 2W).
2. Measure the window and door area and record.
3. Record Net Wall Area = (gross wall area minus door and window area) select proper H.M.
4. Measure and record the ceiling area and select H.M.
5. Measure and record floor area and select H.M. (H.M. of 4 used unheated basement).
6. Multiply floor area by ceiling height to obtain volume of home and select proper air change factor: 1.61 for Loose House – 1.07 for Average House – .81 for Tight House.

H.M. Floor over Basement T.D. 20°

WORKSHEET:

LENGTH __________ WIDTH __________ HEIGHT __________

GROSS __________

WINDOWS & DOORS _______ X _______ = _______

NET WALL _______ X _______ = _______

CEILING _______ X _______ = _______

FLOOR _______ X _______ = _______

INFILTRATION (CU. FT.) _______ X _______ = _______

(HEIGHT) X (FLOOR AREA) _______ X _______ = _______

TOTAL HEAT LOSS _______ = _______

TEMP. DIFFERENCE CORRECTION _______ = _______

*To Increase Temp. Difference to 70°F, Multiply Total Heat Loss 1.18
60°F, Multiply Total Heat Loss 1.34
90°F, Multiply Total Heat Loss 1.50
100°F, Multiply Total Heat Loss 1.66

56
THIN TUBE RADIATORS - - - - NEW STYLE

Slenderized Radiators
Information, Specifications, & Dimensions

<table>
<thead>
<tr>
<th>Size No. of Sections</th>
<th>Length 1-3/4&quot; per Section (Inches)</th>
<th>Square Ft. - EDR* 4-Tube</th>
<th>6-Tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>7&quot;</td>
<td>6.4</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>10-1/2&quot;</td>
<td>9.6</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>14&quot;</td>
<td>12.8</td>
<td>16</td>
</tr>
<tr>
<td>10</td>
<td>17-1/2&quot;</td>
<td>16.0</td>
<td>20</td>
</tr>
<tr>
<td>12</td>
<td>21&quot;</td>
<td>19.2</td>
<td>24</td>
</tr>
<tr>
<td>14</td>
<td>24-1/2&quot;</td>
<td>22.4</td>
<td>28</td>
</tr>
<tr>
<td>16</td>
<td>28&quot;</td>
<td>25.6</td>
<td>32</td>
</tr>
<tr>
<td>18</td>
<td>31-1/2&quot;</td>
<td>28.8</td>
<td>36</td>
</tr>
<tr>
<td>20</td>
<td>35&quot;</td>
<td>32.0</td>
<td>40</td>
</tr>
<tr>
<td>22</td>
<td>38-1/2&quot;</td>
<td>35.2</td>
<td>44</td>
</tr>
<tr>
<td>24</td>
<td>42&quot;</td>
<td>38.4</td>
<td>48</td>
</tr>
<tr>
<td>26</td>
<td>45-1/2&quot;</td>
<td>41.6</td>
<td>52</td>
</tr>
<tr>
<td>28</td>
<td>49&quot;</td>
<td>44.8</td>
<td>56</td>
</tr>
<tr>
<td>30</td>
<td>52-1/2&quot;</td>
<td>49.0</td>
<td>60</td>
</tr>
<tr>
<td>32</td>
<td>54&quot;</td>
<td>51.2</td>
<td>64</td>
</tr>
<tr>
<td>34</td>
<td>59-1/2&quot;</td>
<td>54.4</td>
<td>68</td>
</tr>
<tr>
<td>36</td>
<td>62&quot;</td>
<td>57.6</td>
<td>72</td>
</tr>
<tr>
<td>38</td>
<td>66-1/2&quot;</td>
<td>60.8</td>
<td>76</td>
</tr>
<tr>
<td>40</td>
<td>74&quot;</td>
<td>64.0</td>
<td>80</td>
</tr>
<tr>
<td>42</td>
<td>73-1/2&quot;</td>
<td>57.2</td>
<td>64</td>
</tr>
<tr>
<td>44</td>
<td>77&quot;</td>
<td>70.4</td>
<td>68</td>
</tr>
<tr>
<td>46</td>
<td>80-1/2&quot;</td>
<td>73.6</td>
<td>72</td>
</tr>
<tr>
<td>48</td>
<td>84&quot;</td>
<td>76.8</td>
<td>76</td>
</tr>
</tbody>
</table>

Slenderized Radiators provide heat in a low profile package. Lower and slimmer than most conventional radiators, they feature a rugged and reliable cast iron sectional design which easily enables the installation of multiple units.

Center leg suction furnished on 30 section and higher. *Heating surface based upon the constant heat emission of 240 BTU per square foot per hour. Add 1/2" for each section.

 Furnished in even number sections up to 48 sections.

Minimum allowable working pressure - 50 PSI water, 15 PSI steam. Consult factory for higher pressure Water content - 15 1/2 degrees Gal/sq. ft, 15 1/2 degrees Gal/sq. ft, 15 1/2 degrees Gal/sq. ft.

SLENDERIZED RADIATOR DIMENSIONS

<table>
<thead>
<tr>
<th>Size</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-5</td>
<td>21-1/2&quot;</td>
<td>6-1/2&quot;</td>
<td>1-1/2&quot;</td>
<td>1/8&quot;</td>
<td>21-1/4&quot;</td>
<td>1-1/4&quot;</td>
<td>2-1/2&quot;</td>
<td></td>
</tr>
<tr>
<td>25-4</td>
<td>21-1/2&quot;</td>
<td>6-1/2&quot;</td>
<td>1-1/2&quot;</td>
<td>1/8&quot;</td>
<td>21-1/4&quot;</td>
<td>1-1/4&quot;</td>
<td>2-1/2&quot;</td>
<td></td>
</tr>
<tr>
<td>19-4</td>
<td>11-1/2&quot;</td>
<td>4-1/2&quot;</td>
<td>1-1/2&quot;</td>
<td>1/8&quot;</td>
<td>21-1/4&quot;</td>
<td>1-1/4&quot;</td>
<td>2-1/2&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Obsolete sizes - All Types

Burnham Radiant

23 X 7-1/2 Wall
3.34 sq. ft. per sec. 2.25 sq. ft. per sec.

Fero - 2-1/2" center

<table>
<thead>
<tr>
<th>Fero - Old Style Column Radiation</th>
<th>Burnham Slenderized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating - Square Foot Per Section</td>
<td>Rating - Square Foot Per Section</td>
</tr>
<tr>
<td></td>
<td>3 Tube 4 Tube 5 Tube 6 Tube</td>
</tr>
<tr>
<td></td>
<td>1 Col 2 Col 3 Col 4 Col 5 Col</td>
</tr>
<tr>
<td>Height 3 Tube 4 Tube 5 Tube 6 Tube 7 Tube</td>
<td></td>
</tr>
<tr>
<td>14&quot;     6.70 4.50 4.00 3.50 3.00</td>
<td></td>
</tr>
<tr>
<td>17&quot;     7.17 4.95 4.45 3.95 3.45</td>
<td></td>
</tr>
<tr>
<td>20&quot;     7.67 5.45 4.95 4.45 3.95</td>
<td></td>
</tr>
<tr>
<td>23&quot;     8.30 6.05 5.50 5.00 4.50</td>
<td></td>
</tr>
<tr>
<td>26&quot;     8.93 6.65 6.15 5.65 5.15</td>
<td></td>
</tr>
<tr>
<td>32&quot;     10.50 7.20 6.70 6.20 5.70</td>
<td></td>
</tr>
<tr>
<td>38&quot;     11.95 7.85 7.35 6.85 6.35</td>
<td></td>
</tr>
</tbody>
</table>

57
CHAPTER 5

INSTALLED RADIATION: DETERMINING HEAT LOAD

SIZING OBSOLETE RADIATION - CAST IRON RADIATORS

The output of a radiator is measured in square feet of radiation. To determine the number of square feet of radiation in a radiator:

1. Measure the height of the radiator.
2. Count the number of columns in a section.
3. Count the number of sections.
4. Multiply the total number of sections by the number of square feet per section as shown in the following tables:

Column Type Radiators

---

**Column Type Radiators**

<table>
<thead>
<tr>
<th>Sq. Ft. Radiation per Section</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height (Inches)</strong></td>
</tr>
<tr>
<td>One Column</td>
</tr>
<tr>
<td>13</td>
</tr>
<tr>
<td>16</td>
</tr>
<tr>
<td>18</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>22</td>
</tr>
<tr>
<td>23</td>
</tr>
<tr>
<td>26</td>
</tr>
<tr>
<td>32</td>
</tr>
<tr>
<td>38</td>
</tr>
<tr>
<td>45</td>
</tr>
</tbody>
</table>

---
CHAPTER 5

INSTALLED RADIATION: DETERMINING HEAT LOAD

Tube Type Radiators

<table>
<thead>
<tr>
<th>Height Inches</th>
<th>5&quot; Three Tube</th>
<th>7&quot; Four Tube</th>
<th>8-3/4&quot; Five Tube</th>
<th>9-3/4&quot; Window Six Tube</th>
<th>12-1/2&quot; Seven Tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>2-1/2</td>
</tr>
<tr>
<td>17</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>3</td>
</tr>
<tr>
<td>20</td>
<td>1-3/4</td>
<td>2-1/4</td>
<td>2-2/3</td>
<td>3</td>
<td>3-2/3</td>
</tr>
<tr>
<td>23</td>
<td>2</td>
<td>2-1/2</td>
<td>3</td>
<td>3-1/2</td>
<td>—</td>
</tr>
<tr>
<td>26</td>
<td>2-1/3</td>
<td>2-3/4</td>
<td>3-1/2</td>
<td>4</td>
<td>4-3/4</td>
</tr>
<tr>
<td>32</td>
<td>3</td>
<td>3-1/2</td>
<td>4-1/3</td>
<td>5</td>
<td>—</td>
</tr>
<tr>
<td>38</td>
<td>3-1/2</td>
<td>4-1/4</td>
<td>6</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Wall Type Radiators

Wall radiators are measured by their height, length and thickness. The following table shows the number of square feet of heating surface per section.

<table>
<thead>
<tr>
<th>Type of Section</th>
<th>Height (inches)</th>
<th>Length or Width (inches)</th>
<th>Thickness (inches)</th>
<th>Sq. Ft. Radiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-A</td>
<td>13-5/16</td>
<td>16-5/8</td>
<td>2-7/8</td>
<td>5</td>
</tr>
<tr>
<td>7-A</td>
<td>13-5/16</td>
<td>21-7/8</td>
<td>2-7/8</td>
<td>7</td>
</tr>
<tr>
<td>7-B</td>
<td>21-7/8</td>
<td>13-3/16</td>
<td>3-1/16</td>
<td>7</td>
</tr>
<tr>
<td>9-A</td>
<td>18-5/16</td>
<td>29-1/16</td>
<td>2-7/8</td>
<td>9</td>
</tr>
<tr>
<td>9-B</td>
<td>29-1/16</td>
<td>18-5/16</td>
<td>3-11/16</td>
<td>9</td>
</tr>
</tbody>
</table>
# CHAPTER 5

INSTALLED RADIATION: DETERMINING HEAT LOAD

## SIZING: CONVECTORS - CAST IRON
RATINGS - SQUARE FEET OF RADIATION

<table>
<thead>
<tr>
<th>Front Outlet and Sloping Outlet Type Units</th>
<th>Cabinet Height - Floor Type</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>26</th>
<th>32</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Depth (inches)</td>
<td>Cabinet Length (inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-1/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-1/2&quot;</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>6-1/2&quot;</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>8-1/2&quot;</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>10-1/2&quot;</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>18-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>23-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>28-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>33-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>38-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>43-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>48-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>53-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>58-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
<tr>
<td>63-1/2</td>
<td></td>
<td>18.2</td>
<td>23.5</td>
<td>29.2</td>
<td>35.6</td>
<td>44.3</td>
<td>54.0</td>
</tr>
</tbody>
</table>
# CHAPTER 5

INSTALLED RADIATION: DETERMINING HEAT LOAD

## SIZING: CONVECTORS - COPPER
FRONT OUTLET TYPE UNITS
RATINGS - SQUARE FEET OF RADIATION

<table>
<thead>
<tr>
<th>Cabinet Height - Floor Type</th>
<th>Cabinet Depth (inches)</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>26</th>
<th>32</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20-1/2</td>
<td>10.4</td>
<td>11.3</td>
<td>13.1</td>
<td>13.4</td>
<td>14.0</td>
<td>14.6</td>
</tr>
<tr>
<td></td>
<td>24-1/2</td>
<td>12.6</td>
<td>13.9</td>
<td>16.1</td>
<td>16.4</td>
<td>17.2</td>
<td>18.0</td>
</tr>
<tr>
<td></td>
<td>28-1/2</td>
<td>15.2</td>
<td>16.5</td>
<td>19.2</td>
<td>19.5</td>
<td>20.4</td>
<td>21.3</td>
</tr>
<tr>
<td></td>
<td>32-1/2</td>
<td>17.6</td>
<td>19.1</td>
<td>22.2</td>
<td>22.5</td>
<td>23.6</td>
<td>24.6</td>
</tr>
<tr>
<td></td>
<td>36-1/2</td>
<td>19.7</td>
<td>21.7</td>
<td>25.2</td>
<td>25.6</td>
<td>26.8</td>
<td>28.0</td>
</tr>
<tr>
<td></td>
<td>40-1/2</td>
<td>22.3</td>
<td>24.3</td>
<td>28.2</td>
<td>28.6</td>
<td>30.0</td>
<td>31.3</td>
</tr>
<tr>
<td></td>
<td>44-1/2</td>
<td>24.7</td>
<td>26.9</td>
<td>31.2</td>
<td>31.7</td>
<td>33.2</td>
<td>34.7</td>
</tr>
<tr>
<td></td>
<td>48-1/2</td>
<td>27.1</td>
<td>29.5</td>
<td>34.2</td>
<td>34.7</td>
<td>36.4</td>
<td>38.0</td>
</tr>
<tr>
<td></td>
<td>56-1/2</td>
<td>31.9</td>
<td>34.7</td>
<td>40.2</td>
<td>40.8</td>
<td>42.8</td>
<td>44.7</td>
</tr>
<tr>
<td></td>
<td>64-1/2</td>
<td>36.6</td>
<td>39.9</td>
<td>46.2</td>
<td>46.9</td>
<td>49.2</td>
<td>51.7</td>
</tr>
</tbody>
</table>

- **4-1/2"**

<table>
<thead>
<tr>
<th>Cabinet Height - Floor Type</th>
<th>Cabinet Depth (inches)</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>26</th>
<th>32</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20-1/2</td>
<td>15.3</td>
<td>16.3</td>
<td>18.4</td>
<td>18.8</td>
<td>19.6</td>
<td>20.6</td>
</tr>
<tr>
<td></td>
<td>24-1/2</td>
<td>18.8</td>
<td>20.1</td>
<td>22.6</td>
<td>23.1</td>
<td>24.1</td>
<td>25.3</td>
</tr>
<tr>
<td></td>
<td>28-1/2</td>
<td>22.3</td>
<td>23.8</td>
<td>26.9</td>
<td>27.4</td>
<td>28.6</td>
<td>30.1</td>
</tr>
<tr>
<td></td>
<td>32-1/2</td>
<td>25.6</td>
<td>27.6</td>
<td>31.1</td>
<td>31.7</td>
<td>33.2</td>
<td>34.8</td>
</tr>
<tr>
<td></td>
<td>36-1/2</td>
<td>29.3</td>
<td>31.3</td>
<td>35.4</td>
<td>36.0</td>
<td>37.7</td>
<td>39.6</td>
</tr>
<tr>
<td></td>
<td>40-1/2</td>
<td>32.8</td>
<td>35.1</td>
<td>39.6</td>
<td>40.3</td>
<td>42.2</td>
<td>44.3</td>
</tr>
<tr>
<td></td>
<td>44-1/2</td>
<td>36.3</td>
<td>38.9</td>
<td>43.8</td>
<td>44.6</td>
<td>46.7</td>
<td>49.0</td>
</tr>
<tr>
<td></td>
<td>48-1/2</td>
<td>39.8</td>
<td>42.6</td>
<td>48.1</td>
<td>48.9</td>
<td>51.2</td>
<td>53.8</td>
</tr>
<tr>
<td></td>
<td>56-1/2</td>
<td>46.8</td>
<td>50.1</td>
<td>56.6</td>
<td>57.5</td>
<td>60.3</td>
<td>63.3</td>
</tr>
<tr>
<td></td>
<td>64-1/2</td>
<td>53.9</td>
<td>57.7</td>
<td>65.0</td>
<td>66.2</td>
<td>69.3</td>
<td>72.7</td>
</tr>
</tbody>
</table>

- **6-1/2"**

<table>
<thead>
<tr>
<th>Cabinet Height - Floor Type</th>
<th>Cabinet Depth (inches)</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>26</th>
<th>32</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20-1/2</td>
<td>18.7</td>
<td>20.0</td>
<td>22.5</td>
<td>23.0</td>
<td>24.4</td>
<td>25.8</td>
</tr>
<tr>
<td></td>
<td>24-1/2</td>
<td>22.9</td>
<td>24.5</td>
<td>27.7</td>
<td>28.2</td>
<td>30.0</td>
<td>31.7</td>
</tr>
<tr>
<td></td>
<td>28-1/2</td>
<td>27.2</td>
<td>29.1</td>
<td>32.8</td>
<td>33.5</td>
<td>35.6</td>
<td>37.7</td>
</tr>
<tr>
<td></td>
<td>32-1/2</td>
<td>31.5</td>
<td>33.7</td>
<td>38.0</td>
<td>38.8</td>
<td>41.2</td>
<td>43.6</td>
</tr>
<tr>
<td></td>
<td>36-1/2</td>
<td>35.8</td>
<td>38.3</td>
<td>43.2</td>
<td>44.1</td>
<td>46.8</td>
<td>49.5</td>
</tr>
<tr>
<td></td>
<td>40-1/2</td>
<td>40.1</td>
<td>42.9</td>
<td>48.3</td>
<td>49.4</td>
<td>52.4</td>
<td>55.5</td>
</tr>
<tr>
<td></td>
<td>44-1/2</td>
<td>44.3</td>
<td>47.4</td>
<td>53.5</td>
<td>54.6</td>
<td>58.0</td>
<td>61.4</td>
</tr>
<tr>
<td></td>
<td>48-1/2</td>
<td>48.6</td>
<td>52.0</td>
<td>58.7</td>
<td>59.9</td>
<td>63.6</td>
<td>67.3</td>
</tr>
<tr>
<td></td>
<td>56-1/2</td>
<td>57.2</td>
<td>61.2</td>
<td>69.0</td>
<td>70.5</td>
<td>74.8</td>
<td>79.2</td>
</tr>
<tr>
<td></td>
<td>64-1/2</td>
<td>65.7</td>
<td>70.3</td>
<td>79.4</td>
<td>81.0</td>
<td>86.0</td>
<td>91.0</td>
</tr>
</tbody>
</table>

- **8-1/2"**

<table>
<thead>
<tr>
<th>Cabinet Height - Floor Type</th>
<th>Cabinet Depth (inches)</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>26</th>
<th>32</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20-1/2</td>
<td>20.4</td>
<td>22.0</td>
<td>25.0</td>
<td>25.7</td>
<td>27.4</td>
<td>29.3</td>
</tr>
<tr>
<td></td>
<td>24-1/2</td>
<td>25.2</td>
<td>27.1</td>
<td>30.9</td>
<td>31.7</td>
<td>33.8</td>
<td>36.2</td>
</tr>
<tr>
<td></td>
<td>28-1/2</td>
<td>30.0</td>
<td>32.3</td>
<td>36.8</td>
<td>37.7</td>
<td>40.2</td>
<td>43.1</td>
</tr>
<tr>
<td></td>
<td>32-1/2</td>
<td>34.8</td>
<td>37.4</td>
<td>42.6</td>
<td>43.7</td>
<td>46.6</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>36-1/2</td>
<td>39.6</td>
<td>42.6</td>
<td>48.5</td>
<td>49.8</td>
<td>53.1</td>
<td>56.9</td>
</tr>
<tr>
<td></td>
<td>40-1/2</td>
<td>44.4</td>
<td>47.7</td>
<td>54.4</td>
<td>55.8</td>
<td>59.5</td>
<td>63.7</td>
</tr>
<tr>
<td></td>
<td>44-1/2</td>
<td>49.2</td>
<td>52.9</td>
<td>60.3</td>
<td>61.8</td>
<td>65.9</td>
<td>70.6</td>
</tr>
<tr>
<td></td>
<td>48-1/2</td>
<td>53.9</td>
<td>58.0</td>
<td>66.1</td>
<td>67.8</td>
<td>72.3</td>
<td>77.5</td>
</tr>
<tr>
<td></td>
<td>56-1/2</td>
<td>63.5</td>
<td>68.3</td>
<td>77.9</td>
<td>79.9</td>
<td>85.2</td>
<td>91.2</td>
</tr>
<tr>
<td></td>
<td>64-1/2</td>
<td>73.1</td>
<td>78.6</td>
<td>89.6</td>
<td>91.9</td>
<td>98.0</td>
<td>105.0</td>
</tr>
</tbody>
</table>
# CHAPTER 5

## INSTALLED RADIATION: DETERMINING HEAT LOAD

### SIZING: CONVECTORS - COPPER
FRONT OUTLET TYPE UNITS

RATINGS - SQUARE FEET OF RADIATION

<table>
<thead>
<tr>
<th>Front Outlet and Sloping Outlet Type Units</th>
<th>Cabinet Height - Floor Type</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>26</th>
<th>32</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Depth (inches)</td>
<td>Cabinet Length (inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-1/2</td>
<td>10.4</td>
<td>11.3</td>
<td>13.1</td>
<td>13.4</td>
<td>14.0</td>
<td>14.6</td>
<td></td>
</tr>
<tr>
<td>24-1/2</td>
<td>12.8</td>
<td>13.9</td>
<td>16.1</td>
<td>16.4</td>
<td>17.2</td>
<td>18.0</td>
<td></td>
</tr>
<tr>
<td>28-1/2</td>
<td>15.2</td>
<td>16.5</td>
<td>19.2</td>
<td>19.5</td>
<td>20.4</td>
<td>21.3</td>
<td></td>
</tr>
<tr>
<td>32-1/2</td>
<td>17.6</td>
<td>19.1</td>
<td>22.2</td>
<td>22.5</td>
<td>23.6</td>
<td>24.6</td>
<td></td>
</tr>
<tr>
<td>36-1/2</td>
<td>19.7</td>
<td>21.7</td>
<td>25.2</td>
<td>25.6</td>
<td>26.8</td>
<td>28.0</td>
<td></td>
</tr>
<tr>
<td>40-1/2</td>
<td>22.3</td>
<td>24.3</td>
<td>28.2</td>
<td>28.6</td>
<td>30.0</td>
<td>31.3</td>
<td></td>
</tr>
<tr>
<td>44-1/2</td>
<td>24.7</td>
<td>26.9</td>
<td>31.2</td>
<td>31.7</td>
<td>33.2</td>
<td>34.7</td>
<td></td>
</tr>
<tr>
<td>48-1/2</td>
<td>27.1</td>
<td>29.5</td>
<td>34.2</td>
<td>34.7</td>
<td>36.4</td>
<td>38.0</td>
<td></td>
</tr>
<tr>
<td>56-1/2</td>
<td>31.9</td>
<td>34.7</td>
<td>40.2</td>
<td>40.8</td>
<td>42.8</td>
<td>44.7</td>
<td></td>
</tr>
<tr>
<td>64-1/2</td>
<td>36.6</td>
<td>39.9</td>
<td>46.2</td>
<td>46.9</td>
<td>49.2</td>
<td>51.7</td>
<td></td>
</tr>
</tbody>
</table>

**4-1/2"**

<table>
<thead>
<tr>
<th>Front Outlet and Sloping Outlet Type Units</th>
<th>Cabinet Height - Floor Type</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>26</th>
<th>32</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Depth (inches)</td>
<td>Cabinet Length (inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-1/2</td>
<td>15.3</td>
<td>16.3</td>
<td>18.4</td>
<td>18.8</td>
<td>19.6</td>
<td>20.6</td>
<td></td>
</tr>
<tr>
<td>24-1/2</td>
<td>18.8</td>
<td>20.1</td>
<td>22.6</td>
<td>23.1</td>
<td>24.1</td>
<td>25.3</td>
<td></td>
</tr>
<tr>
<td>28-1/2</td>
<td>22.3</td>
<td>23.8</td>
<td>26.9</td>
<td>27.4</td>
<td>28.6</td>
<td>30.1</td>
<td></td>
</tr>
<tr>
<td>32-1/2</td>
<td>25.8</td>
<td>27.6</td>
<td>31.1</td>
<td>31.7</td>
<td>33.2</td>
<td>34.8</td>
<td></td>
</tr>
<tr>
<td>36-1/2</td>
<td>29.3</td>
<td>31.3</td>
<td>35.4</td>
<td>36.0</td>
<td>37.7</td>
<td>39.6</td>
<td></td>
</tr>
<tr>
<td>40-1/2</td>
<td>32.8</td>
<td>35.1</td>
<td>39.6</td>
<td>40.3</td>
<td>42.2</td>
<td>44.3</td>
<td></td>
</tr>
<tr>
<td>44-1/2</td>
<td>36.3</td>
<td>38.9</td>
<td>43.8</td>
<td>44.6</td>
<td>46.7</td>
<td>49.0</td>
<td></td>
</tr>
<tr>
<td>48-1/2</td>
<td>39.8</td>
<td>42.6</td>
<td>48.1</td>
<td>48.9</td>
<td>51.2</td>
<td>53.8</td>
<td></td>
</tr>
<tr>
<td>56-1/2</td>
<td>46.8</td>
<td>50.1</td>
<td>56.6</td>
<td>57.5</td>
<td>60.3</td>
<td>63.3</td>
<td></td>
</tr>
<tr>
<td>64-1/2</td>
<td>53.9</td>
<td>57.7</td>
<td>65.0</td>
<td>66.2</td>
<td>69.3</td>
<td>72.7</td>
<td></td>
</tr>
</tbody>
</table>

**6-1/2"**

<table>
<thead>
<tr>
<th>Front Outlet and Sloping Outlet Type Units</th>
<th>Cabinet Height - Floor Type</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>26</th>
<th>32</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Depth (inches)</td>
<td>Cabinet Length (inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-1/2</td>
<td>18.7</td>
<td>20.0</td>
<td>22.5</td>
<td>23.0</td>
<td>24.4</td>
<td>25.8</td>
<td></td>
</tr>
<tr>
<td>24-1/2</td>
<td>22.9</td>
<td>24.5</td>
<td>27.7</td>
<td>28.2</td>
<td>30.0</td>
<td>31.7</td>
<td></td>
</tr>
<tr>
<td>28-1/2</td>
<td>27.2</td>
<td>29.1</td>
<td>32.8</td>
<td>33.5</td>
<td>35.6</td>
<td>37.7</td>
<td></td>
</tr>
<tr>
<td>32-1/2</td>
<td>31.5</td>
<td>33.7</td>
<td>38.0</td>
<td>38.8</td>
<td>41.2</td>
<td>43.6</td>
<td></td>
</tr>
<tr>
<td>36-1/2</td>
<td>35.8</td>
<td>38.3</td>
<td>43.2</td>
<td>44.1</td>
<td>46.8</td>
<td>49.5</td>
<td></td>
</tr>
<tr>
<td>40-1/2</td>
<td>40.1</td>
<td>42.9</td>
<td>48.3</td>
<td>49.4</td>
<td>52.4</td>
<td>55.5</td>
<td></td>
</tr>
<tr>
<td>44-1/2</td>
<td>44.3</td>
<td>47.4</td>
<td>53.5</td>
<td>54.6</td>
<td>58.0</td>
<td>61.4</td>
<td></td>
</tr>
<tr>
<td>48-1/2</td>
<td>48.6</td>
<td>52.0</td>
<td>58.7</td>
<td>59.9</td>
<td>63.6</td>
<td>67.3</td>
<td></td>
</tr>
<tr>
<td>56-1/2</td>
<td>57.2</td>
<td>61.2</td>
<td>69.0</td>
<td>70.5</td>
<td>74.8</td>
<td>79.2</td>
<td></td>
</tr>
<tr>
<td>64-1/2</td>
<td>65.7</td>
<td>70.3</td>
<td>79.4</td>
<td>81.0</td>
<td>86.0</td>
<td>91.0</td>
<td></td>
</tr>
</tbody>
</table>

**8-1/2"**

<table>
<thead>
<tr>
<th>Front Outlet and Sloping Outlet Type Units</th>
<th>Cabinet Height - Floor Type</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>26</th>
<th>32</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Depth (inches)</td>
<td>Cabinet Length (inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-1/2</td>
<td>20.4</td>
<td>22.0</td>
<td>25.0</td>
<td>25.7</td>
<td>27.4</td>
<td>29.3</td>
<td></td>
</tr>
<tr>
<td>24-1/2</td>
<td>25.2</td>
<td>27.1</td>
<td>30.9</td>
<td>31.7</td>
<td>33.8</td>
<td>36.2</td>
<td></td>
</tr>
<tr>
<td>28-1/2</td>
<td>30.0</td>
<td>32.3</td>
<td>36.8</td>
<td>37.7</td>
<td>40.2</td>
<td>43.1</td>
<td></td>
</tr>
<tr>
<td>32-1/2</td>
<td>34.8</td>
<td>37.4</td>
<td>42.6</td>
<td>43.7</td>
<td>46.6</td>
<td>50.0</td>
<td></td>
</tr>
<tr>
<td>36-1/2</td>
<td>39.6</td>
<td>42.6</td>
<td>48.5</td>
<td>49.8</td>
<td>53.1</td>
<td>56.9</td>
<td></td>
</tr>
<tr>
<td>40-1/2</td>
<td>44.4</td>
<td>47.7</td>
<td>54.4</td>
<td>55.8</td>
<td>59.5</td>
<td>63.7</td>
<td></td>
</tr>
<tr>
<td>44-1/2</td>
<td>49.2</td>
<td>52.9</td>
<td>60.3</td>
<td>61.8</td>
<td>65.9</td>
<td>70.6</td>
<td></td>
</tr>
<tr>
<td>48-1/2</td>
<td>53.9</td>
<td>58.0</td>
<td>66.1</td>
<td>67.8</td>
<td>72.3</td>
<td>77.5</td>
<td></td>
</tr>
<tr>
<td>56-1/2</td>
<td>63.5</td>
<td>68.3</td>
<td>77.9</td>
<td>79.9</td>
<td>85.2</td>
<td>91.2</td>
<td></td>
</tr>
<tr>
<td>64-1/2</td>
<td>73.1</td>
<td>78.6</td>
<td>89.6</td>
<td>91.9</td>
<td>98.0</td>
<td>105.0</td>
<td></td>
</tr>
</tbody>
</table>
DRILLING & NOTCHING

EXTERIOR & BEARING WALLS

Drill Holes Minimum $\frac{5}{8}''$ to Edge of Stud

FIGURE R602.6(1) NOTCHING AND BORED HOLE LIMITATIONS FOR EXTERIOR WALLS AND BEARING WALLS

<table>
<thead>
<tr>
<th>Stud Size</th>
<th>25% NOTCH stud</th>
<th>40% HOLE</th>
<th>60% HOLE w/double</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x 4</td>
<td>$7/8''$</td>
<td>$2 x 4 = 1 \frac{7}{16}''$</td>
<td>$2 x 4 = 2 \frac{1}{8}''$</td>
</tr>
<tr>
<td>2 x 6</td>
<td>$1 \frac{3}{8}''$</td>
<td>$2 x 6 = 2 \frac{3}{16}''$</td>
<td>$2 x 6 = 3 \frac{5}{16}''$</td>
</tr>
</tbody>
</table>
DRILLING & NOTCHING

INTERIOR NON-BEARING WALLS

Drill Holes Minimum 5/8” to Edge of Stud

FIGURE R602.6(2) NOTCHING AND BORED HOLE LIMITATIONS FOR INTERIOR NONBEARING WALLS

<table>
<thead>
<tr>
<th>Stud Size</th>
<th>40% NOTCH</th>
<th>60% HOLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x 4</td>
<td>1 7/16”</td>
<td>2 1/8”</td>
</tr>
<tr>
<td>2 x 6</td>
<td>2 3/16”</td>
<td>3 5/16”</td>
</tr>
</tbody>
</table>
DRILLING & NOTCHING OF JOISTS

R502.8 Drilling and notching. Structural floor members shall not be cut, bored or notched in excess of below:

**DRILL HOLES A MINIMUM OF 2” FROM TOP AND BOTTOM OF FLOOR JOIST**

\[ D = \text{Actual Depth of Joist} \quad (2\times 6 = 5 \frac{1}{2}” \quad 2\times 8 = 7 \frac{3}{4}” \quad 2\times 10 = 9 \frac{3}{4}”) \]

**MAX. HOLE SIZE**

<table>
<thead>
<tr>
<th>Stud size</th>
<th>2 x 6 = 1 1/2”</th>
<th>2 x 6 = 1 13/16”</th>
<th>2 x 6 = 15/16”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stud size</td>
<td>2 x 8 = 2 7/16”</td>
<td>2 x 8 = 2 7/16”</td>
<td>2 x 8 = 1 3/16”</td>
</tr>
<tr>
<td>Stud size</td>
<td>2 x 10 = 3 1/16”</td>
<td>2 x 10 = 3 1/16”</td>
<td>2 x 10 = 1 9/16”</td>
</tr>
</tbody>
</table>
**DRILLING & NOTCHING - TOP PLATE**

**R602.6.1 Drilling and notching of top plate.** When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie of not less than 0.054 inch thick (1.37 mm) (16 ga) and 1 1/2 inches (38 mm) wide shall be fastened across and to the plate at each side of the opening with not less than four 16d nails at each side or equivalent. See Figure R602.6.1.

**Exception:** When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.
COMBUSTION AIR

Outdoor Combustion Air- Outdoor combustion air shall be provided through opening(s) to the outdoors.

One Permanent Opening Method- G2407.6.2- One permanent opening, commencing within 12 inches of the top of the enclosure, shall be provided. The appliance shall have clearances of at least 1 inch from the sides and back and 6 inches of the front of the appliance. The opening shall communicate directly to the outdoors or through a vertical or horizontal duct to the outdoors, or spaces that freely communicate to the outdoors and shall have a minimum free area of 1 square inch per 3000 Btu/h of the total input rating of all the appliances located in the enclosure and not less than the sum of the areas of all vent connectors in the space.

Louvers and Grills- G2407.10- The required size of openings for combustion, ventilation and dilution air shall be based on the net free area of each opening. Where the free area through the design of the louver, grill or screen is known, it shall be used in calculating the size opening required to provide the free area specified. Where the design and free area of the louvers and grills are not known, it shall be assumed that wood louvers will have 25% free area and metal louvers and grills will have 75% free area. Screens shall have a mesh not smaller than ¼ inch.
**COMBUSTION AIR**

**ALL AIR FROM INSIDE THE BUILDING**

**M1702.1 Required volume.** Where the volume of the space in which fuel-burning appliances are installed is greater than 50 cubic feet per 1,000 Btu/h (4.83 L/W) of aggregate input rating in buildings of ordinary tightness, insofar as infiltration is concerned, normal infiltration shall be regarded as adequate to provide combustion air. Rooms communicating directly with the space in which the appliances are installed through openings not furnished with doors shall be considered part of the required volume.

**M1702.2 Confined space.** Where the space in which the appliance is located does not meet the criterion specified in Section M1702.1, two permanent openings to adjacent spaces shall be provided so that the combined volume of all spaces meets the criterion. One opening shall be within 12 inches (305 mm) of the top and one within 12 inches (305 mm) of the bottom of the space, as illustrated in Figure M1702.2. Each opening shall have a free area equal to a minimum of 1 square inch per 1,000 Btu/h (2201 mm²/kW) input rating of all appliances installed within the space, but not less than 100 square inches (64 415 mm²).

**NOTE:** Each opening shall have a free area of not less than 1 square inch per 1,000 Btu/h of the total input rating of all appliances in the enclosure, but not less than 100 square inches.

**APPLIANCES LOCATED IN CONFINED SPACES—ALL AIR TAKEN FROM ADJACENT SPACES WITHIN THE BUILDING**

---

CHIMNEY OR VENT

OPENING

FURNACE

WATER HEATER

68
COMBUSTION AIR

APPLIANCES LOCATED IN CONFINED SPACES—ALL AIR TAKEN FROM OUTDOORS THROUGH HORIZONTAL DUCTS

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm$^2$, 1 British thermal unit per hour = 0.2931 W.

NOTE: Each opening shall have a free area of at least 1 square inch per 2,000 Btu/h of the total input of all appliances in the space.
M1703.1 Outdoor air. Where the space in which fuel-burning appliances are located does not meet the criterion for indoor air specified in Section M1702, outside combustion air shall be supplied as specified in Section M1703.2.

M1703.2 Two openings or ducts. Outside combustion air shall be supplied through openings or ducts, as illustrated in Figures M1703.2(1), M1703.2(2), M1703.2(3) and M1703.2(4). One opening shall be within 12 inches (305 mm) of the top of the enclosure, and one within 12 inches (305 mm) of the bottom of the enclosure. Openings are permitted to connect to spaces directly communicating with the outdoors, such as ventilated crawl spaces or ventilated attic spaces. The same duct or opening shall not serve both combustion air openings. The duct serving the upper opening shall be level or extend upward from the appliance space.

For SI: 1 square inch = 645.16 mm², 1 British thermal unit per hour = 0.2931 W.

NOTE: Each opening shall have a free area of not less than 1 square inch per 4,000 Btu/h of the total input rating of all appliances in the enclosure.

FIGURE M1703.2(1) APPLIANCES LOCATED IN CONFINED SPACES—ALL AIR TAKEN FROM OUTDOORS THROUGH TWO OPENINGS
COMBUSTION AIR

APPLIANCES LOCATED IN CONFINED SPACES—ALL AIR TAKEN FROM OUTDOORS THROUGH VENTILATED ATTIC

For SI: 1 inch = 25.4 mm, 1 British thermal unit per hour = 0.2931 W, 1 square inch = 645.16 mm².

NOTE: Each opening shall have a free area of at least 1 square inch per 4,000 Btu/h of the total input of all appliances in the space. The attic must be sufficiently vented for combustion air to be taken from the attic.
# CHIMNEY LINER SIZING

## VENT CONNECTOR CAPACITY

<table>
<thead>
<tr>
<th>VENT HEIGHT (H) (feet)</th>
<th>CONNECTOR RISE (R) (feet)</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
<td>1</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

### APPLIANCE INPUT RATING LIMITS IN THOUSANDS OF BTU

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### COMMON VENT CAPACITY

### TABLE 604.32 TYPE B DOUBLE-WALL VENT

<table>
<thead>
<tr>
<th>VENT HEIGHT (H) (feet)</th>
<th>TYPE B DOUBLE-WALL COMMON VENT DIAMETER—(D) (inches)</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### COMBINED APPLIANCE INPUT RATING IN THOUSANDS OF BTU

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

For SI: 1 inch = 25.4 mm; 1 foot = 304.8 mm; 1 British thermal unit per hour = 0.2931 W.

1) When a metallic liner is installed inside a masonry chimney it is considered a B-Vent chimney.
2) Upper chart is for the Common Vent Connector (TEE OR WYE) with 2 or more appliances connected into chimney.
3) Only full size Tee or Wye permitted with reducers/increasers.
4) Lower chart is the combined input capacity of liner to be installed inside masonry chimney.
5) Liner can only be maximum of 1 size smaller than connector as chart above indicates, but not less than maximum input capacity as stated.
# APPROXIMATE GAS INPUT FOR TYPICAL APPLIANCES

<table>
<thead>
<tr>
<th>APPLIANCE</th>
<th>INPUT BTU/H (Approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Space Heating Units</strong></td>
<td></td>
</tr>
<tr>
<td>Hydronic boiler</td>
<td></td>
</tr>
<tr>
<td>Single family</td>
<td>100,000</td>
</tr>
<tr>
<td>Multifamily, per unit</td>
<td>60,000</td>
</tr>
<tr>
<td>Warm-air furnace</td>
<td></td>
</tr>
<tr>
<td>Single family</td>
<td>100,000</td>
</tr>
<tr>
<td>Multifamily, per unit</td>
<td>60,000</td>
</tr>
<tr>
<td><strong>Space and Water Heating Units</strong></td>
<td></td>
</tr>
<tr>
<td>Hydronic boiler</td>
<td></td>
</tr>
<tr>
<td>Single family</td>
<td>120,000</td>
</tr>
<tr>
<td>Multifamily, per unit</td>
<td>75,000</td>
</tr>
<tr>
<td><strong>Water Heating Appliances</strong></td>
<td></td>
</tr>
<tr>
<td>Water heater, automatic instantaneous</td>
<td></td>
</tr>
<tr>
<td>Capacity at 2 gal./minute</td>
<td>142,800</td>
</tr>
<tr>
<td>Capacity at 4 gal./minute</td>
<td>285,000</td>
</tr>
<tr>
<td>Capacity at 6 gal./minute</td>
<td>428,400</td>
</tr>
<tr>
<td>Water heater, automatic storage, 30- to 40-gal. tank</td>
<td>35,000</td>
</tr>
<tr>
<td>Water heater, automatic storage, 50-gal. tank</td>
<td>50,000</td>
</tr>
<tr>
<td>Water heater, domestic, circulating or side-arm</td>
<td>35,000</td>
</tr>
<tr>
<td><strong>Cooking Appliances</strong></td>
<td></td>
</tr>
<tr>
<td>Built-in oven or broiler unit, domestic</td>
<td>25,000</td>
</tr>
<tr>
<td>Built-in top unit, domestic</td>
<td>40,000</td>
</tr>
<tr>
<td>Range, free-standing, domestic</td>
<td>65,000</td>
</tr>
<tr>
<td><strong>Other Appliances</strong></td>
<td></td>
</tr>
<tr>
<td>Barbecue</td>
<td>40,000</td>
</tr>
<tr>
<td>Clothes dryer, Type 1 (domestic)</td>
<td>35,000</td>
</tr>
<tr>
<td>Gas fireplace, direct vent</td>
<td>40,000</td>
</tr>
<tr>
<td>Gas light</td>
<td>2,500</td>
</tr>
<tr>
<td>Gas log</td>
<td>80,000</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>3,000</td>
</tr>
</tbody>
</table>
# GAS PIPE SIZING

<table>
<thead>
<tr>
<th>length (ft)</th>
<th>Capacity in Cubic Feet of Gas Per Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>131 273 514 1,060 1,580 3,050 4,860 8,580 17,500</td>
</tr>
<tr>
<td>20</td>
<td>90 188 353 726 1,090 2,090 3,340 5,900 12,000</td>
</tr>
<tr>
<td>30</td>
<td>72 151 284 583 873 1,680 2,680 4,740 9,660</td>
</tr>
<tr>
<td>40</td>
<td>62 129 243 499 747 1,440 2,290 4,050 8,270</td>
</tr>
<tr>
<td>50</td>
<td>55 114 215 442 662 1,280 2,030 3,590 7,330</td>
</tr>
<tr>
<td>60</td>
<td>50 104 195 400 600 1,160 1,840 3,260 6,640</td>
</tr>
<tr>
<td>70</td>
<td>46 95 179 368 552 1,060 1,690 3,000 6,110</td>
</tr>
<tr>
<td>80</td>
<td>42 89 167 343 514 989 1,580 2,790 5,680</td>
</tr>
<tr>
<td>90</td>
<td>40 83 157 322 482 928 1,480 2,610 5,330</td>
</tr>
<tr>
<td>100</td>
<td>38 79 148 304 455 877 1,400 2,470 5,040</td>
</tr>
<tr>
<td>125</td>
<td>33 70 131 269 403 777 1,240 2,190 4,460</td>
</tr>
<tr>
<td>150</td>
<td>30 63 119 244 366 704 1,120 1,980 4,050</td>
</tr>
<tr>
<td>175</td>
<td>28 58 109 224 336 648 1,030 1,820 3,720</td>
</tr>
<tr>
<td>200</td>
<td>26 54 102 209 313 602 960 1,700 3,460</td>
</tr>
<tr>
<td>250</td>
<td>23 48 90 185 277 534 851 1,500 3,070</td>
</tr>
<tr>
<td>300</td>
<td>21 43 82 168 251 484 771 1,360 2,780</td>
</tr>
<tr>
<td>350</td>
<td>19 40 75 154 231 445 709 1,250 2,560</td>
</tr>
<tr>
<td>400</td>
<td>18 37 70 143 215 414 660 1,170 2,380</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Actual ID</th>
<th>Nominal 1/2</th>
<th>3/4</th>
<th>1</th>
<th>11/4</th>
<th>11/2</th>
<th>2</th>
<th>21/2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.622</td>
<td>0.824</td>
<td>1.049</td>
<td>1.380</td>
<td>1.610</td>
<td>2.067</td>
<td>2.469</td>
<td>3.068</td>
<td>4.026</td>
</tr>
</tbody>
</table>
# TABLE 10

**Gas Flow Rate (Ft.\(^3\)/Hr.)**

<table>
<thead>
<tr>
<th>Seconds for 1 Revolution</th>
<th>Gas Meter Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/2 cu ft Dial</td>
<td>1 cu ft Dial</td>
</tr>
<tr>
<td>10</td>
<td>180</td>
<td>360</td>
</tr>
<tr>
<td>12</td>
<td>150</td>
<td>300</td>
</tr>
<tr>
<td>14</td>
<td>129</td>
<td>257</td>
</tr>
<tr>
<td>16</td>
<td>113</td>
<td>225</td>
</tr>
<tr>
<td>18</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>20</td>
<td>90</td>
<td>180</td>
</tr>
<tr>
<td>22</td>
<td>82</td>
<td>164</td>
</tr>
<tr>
<td>24</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>26</td>
<td>69</td>
<td>138</td>
</tr>
<tr>
<td>28</td>
<td>64</td>
<td>129</td>
</tr>
<tr>
<td>30</td>
<td>60</td>
<td>120</td>
</tr>
<tr>
<td>32</td>
<td>56</td>
<td>113</td>
</tr>
<tr>
<td>34</td>
<td>53</td>
<td>106</td>
</tr>
<tr>
<td>36</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>38</td>
<td>47</td>
<td>95</td>
</tr>
<tr>
<td>40</td>
<td>45</td>
<td>90</td>
</tr>
<tr>
<td>42</td>
<td>43</td>
<td>86</td>
</tr>
<tr>
<td>44</td>
<td>41</td>
<td>82</td>
</tr>
<tr>
<td>46</td>
<td>39</td>
<td>78</td>
</tr>
<tr>
<td>48</td>
<td>38</td>
<td>75</td>
</tr>
<tr>
<td>50</td>
<td>36</td>
<td>72</td>
</tr>
<tr>
<td>52</td>
<td>35</td>
<td>69</td>
</tr>
<tr>
<td>54</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td>56</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>58</td>
<td>31</td>
<td>62</td>
</tr>
<tr>
<td>60</td>
<td>30</td>
<td>60</td>
</tr>
</tbody>
</table>
# GAS METER FLOW RATE

## GAS FLOW IN CUBIC FEET PER HOUR

### 2 CUBIC FOOT DIAL

<table>
<thead>
<tr>
<th>SEC.</th>
<th>FLOW</th>
<th>SEC.</th>
<th>FLOW</th>
<th>SEC.</th>
<th>FLOW</th>
<th>SEC.</th>
<th>FLOW</th>
<th>SEC.</th>
<th>FLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>900</td>
<td>29</td>
<td>248</td>
<td>50</td>
<td>144</td>
<td>82</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>800</td>
<td>30</td>
<td>240</td>
<td>51</td>
<td>141</td>
<td>84</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>720</td>
<td>31</td>
<td>232</td>
<td>52</td>
<td>138</td>
<td>86</td>
<td>84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>655</td>
<td>32</td>
<td>225</td>
<td>53</td>
<td>136</td>
<td>88</td>
<td>82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>600</td>
<td>33</td>
<td>218</td>
<td>54</td>
<td>133</td>
<td>90</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>555</td>
<td>34</td>
<td>212</td>
<td>55</td>
<td>131</td>
<td>92</td>
<td>78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>514</td>
<td>35</td>
<td>206</td>
<td>56</td>
<td>129</td>
<td>94</td>
<td>76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>480</td>
<td>36</td>
<td>200</td>
<td>57</td>
<td>126</td>
<td>96</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>450</td>
<td>37</td>
<td>195</td>
<td>58</td>
<td>124</td>
<td>98</td>
<td>73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>424</td>
<td>38</td>
<td>189</td>
<td>59</td>
<td>122</td>
<td>100</td>
<td>72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>400</td>
<td>39</td>
<td>185</td>
<td>60</td>
<td>120</td>
<td>104</td>
<td>69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>379</td>
<td>40</td>
<td>180</td>
<td>62</td>
<td>116</td>
<td>108</td>
<td>67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>360</td>
<td>41</td>
<td>176</td>
<td>64</td>
<td>112</td>
<td>112</td>
<td>64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>343</td>
<td>42</td>
<td>172</td>
<td>66</td>
<td>109</td>
<td>116</td>
<td>62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>327</td>
<td>43</td>
<td>167</td>
<td>68</td>
<td>106</td>
<td>120</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>313</td>
<td>44</td>
<td>164</td>
<td>70</td>
<td>103</td>
<td>124</td>
<td>58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>300</td>
<td>45</td>
<td>160</td>
<td>72</td>
<td>100</td>
<td>128</td>
<td>56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>288</td>
<td>46</td>
<td>157</td>
<td>74</td>
<td>97</td>
<td>132</td>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>277</td>
<td>47</td>
<td>153</td>
<td>76</td>
<td>95</td>
<td>136</td>
<td>53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>267</td>
<td>48</td>
<td>150</td>
<td>78</td>
<td>92</td>
<td>140</td>
<td>51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>257</td>
<td>49</td>
<td>147</td>
<td>80</td>
<td>90</td>
<td>144</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION R307 TOILET, BATH AND SHOWER SPACES

R307.1 Space required. Fixtures shall be spaced as per Figure R307.1.

For SI: 1 inch = 25.4 mm.

FIGURE R307.1 MINIMUM FIXTURE CLEARANCES

R307.2 Bathtub and shower spaces. Bathtub and shower floors and walls above bathtubs with installed shower heads and in shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a height of not less than 6 feet (1829 mm) above the floor.
## DRAINAGE FIXTURE UNITS FOR FIXTURES AND GROUPS

<table>
<thead>
<tr>
<th>FIXTURE TYPE</th>
<th>DRAINAGE FIXTURE UNIT VALUE AS LOAD FACTORS</th>
<th>MINIMUM SIZE OF TRAP (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic clothes washers, commercial</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Automatic clothes washers, residential</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Bathroom group (1.6 gpf water closet)</td>
<td>5</td>
<td>—</td>
</tr>
<tr>
<td>Bathroom group (water closet flushing greater than 1.6 gpf)</td>
<td>6</td>
<td>—</td>
</tr>
<tr>
<td>Bathtub (with or without overhead shower or whirlpool attachments)</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Bidet</td>
<td>1</td>
<td>1 1/4</td>
</tr>
<tr>
<td>Combination sink and tray</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Dental lavatory</td>
<td>1</td>
<td>1 1/4</td>
</tr>
<tr>
<td>Dental unit or cuspidor</td>
<td>1</td>
<td>1 1/4</td>
</tr>
<tr>
<td>Dishwashing machine, domestic</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Drinking fountain</td>
<td>1/2</td>
<td>1/4</td>
</tr>
<tr>
<td>Emergency floor drain</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Floor drains</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Kitchen sink, domestic</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Kitchen sink, domestic with food waste grinder and/or dishwasher</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Laundry tray (1 or 2 compartments)</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Lavatory</td>
<td>1</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Shower</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Service sink</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Sink</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Urinal</td>
<td>4</td>
<td>Note b</td>
</tr>
<tr>
<td>Urinal, 1 gallon per flush or less</td>
<td>2</td>
<td>Note b</td>
</tr>
<tr>
<td>Urinal, nonwater supplied</td>
<td>0.5</td>
<td>Note b</td>
</tr>
<tr>
<td>Wash sink (circular or multiple) each set of faucets</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Water closet, flushometer tank, public or private</td>
<td>4</td>
<td>Note b</td>
</tr>
<tr>
<td>Water closet, private (1.6 gpf)</td>
<td>3</td>
<td>Note b</td>
</tr>
<tr>
<td>Water closet, private (flushing greater than 1.6 gpf)</td>
<td>4</td>
<td>Note b</td>
</tr>
<tr>
<td>Water closet, public (1.6 gpf)</td>
<td>4</td>
<td>Note b</td>
</tr>
<tr>
<td>Water closet, public (flushing greater than 1.6 gpf)</td>
<td>6</td>
<td>Note b</td>
</tr>
</tbody>
</table>

a. A showerhead over a bathtub or whirlpool bathtub attachment does not increase the drainage fixture unit value.
b. Trap size shall be consistent with the fixture outlet size.
TABLE P3005.4.1

MAXIMUM Fixture UNITS ALLOWED TO BE CONNECTED TO BRANCHES AND STACKS

<table>
<thead>
<tr>
<th>NOMINAL PIPE SIZE (inches)</th>
<th>ANY HORIZONTAL FIXTURE BRANCH</th>
<th>ANY ONE VERTICAL STACK OR DRAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/4 a</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>1 3/4 b</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2 b</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>2 1/2 b</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>48</td>
</tr>
<tr>
<td>4</td>
<td>160</td>
<td>240</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.
a. 1 1/4-inch pipe size limited to a single-fixture drain or trap arm. See Table P3201.7.
b. No water closets.

TABLE P3005.4.2

MAXIMUM NUMBER OF FIXTURE UNITS ALLOWED TO BE CONNECTED TO THE BUILDING DRAIN, BUILDING DRAIN BRANCHES OR THE BUILDING SEWER

<table>
<thead>
<tr>
<th>DIAMETER OF PIPE (inches)</th>
<th>SLOPE PER FOOT</th>
<th>1/8 inch</th>
<th>1/4 inch</th>
<th>1/2 inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2 a,b</td>
<td>—</td>
<td>Note a</td>
<td>Note a</td>
<td></td>
</tr>
<tr>
<td>2 b</td>
<td>—</td>
<td>21</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>2 1/2 b</td>
<td>—</td>
<td>24</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>36</td>
<td>42</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>180</td>
<td>216</td>
<td>250</td>
<td></td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
a. 1 1/2-inch pipe size limited to a building drain branch serving not more than two waste fixtures, or not more than one waste fixture if serving a pumped discharge fixture or garbage grinder discharge.
b. No water closets.
TABLE P3005.1
FITTINGS FOR CHANGE IN DIRECTION

<table>
<thead>
<tr>
<th>TYPE OF FITTING PATTERN</th>
<th>CHANGE IN DIRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Horizontal to vertical&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Sixteenth bend (22 ½)</td>
<td>X</td>
</tr>
<tr>
<td>Eighth bend (45)</td>
<td>X</td>
</tr>
<tr>
<td>Sixth bend (67 ½)</td>
<td>X</td>
</tr>
<tr>
<td>Quarter bend (90)</td>
<td>X</td>
</tr>
<tr>
<td>Short sweep</td>
<td>X</td>
</tr>
<tr>
<td>Long sweep</td>
<td>X</td>
</tr>
<tr>
<td>Sanitary tee</td>
<td>X&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Wye</td>
<td>X</td>
</tr>
<tr>
<td>Combination wye and eighth bend (Boston)</td>
<td>X</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.

a. The fittings shall only be permitted for a 2-inch or smaller fixture drain.
b. Three inches and larger.
c. For a limitation on multiple connection fittings, see Section P3005.1.1.

TABLE P3005.2.9
CLEANOUTS

<table>
<thead>
<tr>
<th>PIPE SIZE (inches)</th>
<th>CLEANOUT SIZE (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>3</td>
<td>2 1/2</td>
</tr>
<tr>
<td>4 and larger</td>
<td>3 1/2</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.

P3005.2.10 Cleanout equivalent.
A fixture trap or a fixture with integral trap, readily removable without disturbing concealed piping shall be acceptable as a cleanout equivalent.

P3005.2.11 Connections to cleanouts prohibited.
Cleanout openings shall not be used for the installation of new fixtures or floor drains except where an acceptable alternate cleanout is provided.
TRAPS

Design of Traps. P3201.1 Traps shall be constructed of lead, cast iron, copper or copper alloy or approved plastic. Copper or copper alloy traps shall be not less than 20 gage thickness.

Trap Seals. P3201.2 Each fixture trap shall have a liquid seal of not less than 2 inches and not more than 4 inches

Trap Seal Protection- P3201. Trap seals of emergency floor drain traps and traps subject to evaporation shall be protected by one of the following:

- P3201.2.1.1 Potable water-supplied trap seal primer valve. This valve shall supply water to the trap. Water supplied trap seal primer valves shall conform to ASSE 1018. The discharge pipe from the trap seal primer valve shall connect to the trap above the trap seal on the inlet side of the trap.

- P3201.2.1.4 Barrier-type trap seal protection device. A barrier-type trap seal protection device shall protect the floor drain trap seal from evaporation. Barrier-type floor drain trap seal protection devices shall conform to ASSE 1072. The device shall be installed with the manufacturer’s instructions.

Trap Setting and Protection- P3201.3 Traps shall be set level with respect to their water seals and shall be protected from freezing. Trap seals shall be protected from siphonage, aspiration or back pressure by an approved system of venting.

Building Traps-P3201.4 Building house traps shall be prohibited.

Prohibited Traps- P3201.5 Bell traps, “S” traps, Drum traps, Trap design with movable parts or separate fixture traps with interior partitions, except those lavatory traps made of plastic, stainless steel or other corrosion-resistant materials

P3201.6- The vertical distance from the fixture outlet to the trap weir shall not exceed 24 inches and the horizontal distance shall not exceed 30 inches.
VENTING

Roof extension. At least one open vent pipe shall extend through a roof and shall be terminated at least 18 inches above the roof except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet (2134 mm) above the roof.

Frost closure. Every vent extension through a roof shall be a minimum of 3 inches (76 mm) in diameter. Any increase in the size of the vent shall be made inside the structure a minimum of 1 foot (305 mm) below the roof.

TABLE P3105.1 MAXIMUM DISTANCE OF FIXTURE TRAP FROM VENT

<table>
<thead>
<tr>
<th>SIZE OF TRAP (inches)</th>
<th>SLOPE (inch per foot)</th>
<th>DISTANCE FROM TRAP (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(\frac{1}{4})</td>
<td>(\frac{1}{4})</td>
<td>5</td>
</tr>
<tr>
<td>1(\frac{1}{2})</td>
<td>(\frac{1}{4})</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>(\frac{1}{4})</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>(\frac{1}{8})</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>(\frac{1}{8})</td>
<td>16</td>
</tr>
</tbody>
</table>

SECTION P3108 WET VENTING

P3108.1 Wet vent permitted. Any combination of fixtures within two bathroom groups located on the same floor level are permitted to be vented by a wet vent. The wet vent shall be considered the vent for the fixtures and shall extend from the connection of the dry vent along the direction of the flow in the drain pipe to the most downstream fixture drain connection to the horizontal branch drain. Only the fixtures within the bathroom groups shall connect to the wet vented horizontal branch drain. Any additional fixtures shall discharge downstream of the wet vent. [See Figures P3108.1(1), P3108.1(2), P3108.1(3) and P3108.1(4) for typical wet vent configurations.]


**LAUNDRY TUBS AND STANDPIPES**

P2706.2 **Standpipes.** Standpipes shall extend a minimum of 18 inches (457 mm) and a maximum of 42 inches (1067 mm) above the trap weir. Access shall be provided to all standpipe traps and drains for rodding.

P2706.2.1 **Laundry tub connection.** A laundry tub waste line is permitted to connect into a standpipe for the automatic clothes washer drain. The standpipes shall not be less than 30 inches (762 mm) as measured from the crown weir. The outlet of the laundry tub shall be a maximum horizontal distance of 30 inches (762 mm) from the standpipe trap.

**CLOTHES WASHING MACHINE**

P2718.1 **Waste connection.** The discharge from a clothes washing machine shall be through an air break. The trap and fixture drain for an automatic clothes washer standpipe shall be a minimum of 2 inches (50.8 mm) in diameter. The automatic clothes washer fixture drain shall connect to a branch drain or drainage stack a minimum of 3 inches (76.2 mm) in diameter.

P3201.6 **Number of fixtures per trap.** Each plumbing fixture shall be separately trapped by a water seal trap placed as close as possible to the fixture outlet. The vertical distance from the fixture outlet to the trap weir shall not exceed 24 inches (610 mm). The distance of a clothes washer standpipe above a trap shall conform to Section P2706.2. Fixtures shall not be double trapped.

**Exceptions** to the separate trapping requirements are as follows:

1. Fixtures that have integral traps.
2. A single trap shall be permitted to serve two or three like fixtures limited to kitchen sinks, laundry tubs and lavatories. Such fixtures shall be adjacent to each other and located in the same room with a continuous waste arrangement. The trap shall be installed at the center fixture where three such fixtures are installed. Common trapped fixture outlets shall not be more than 30 inches (762 mm) apart.
3. The connection of a laundry tub waste line is permitted to be made into a standpipe for the automatic clothes-washer drain in accordance with Section P2706.2.1.
WATER SUPPLY REQUIREMENTS

MAXIMUM FLOW RATES FOR PLUMBING FIXTURES

Table P2903.2

<table>
<thead>
<tr>
<th>Plumbing Fixture</th>
<th>Maximum Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavatory faucet</td>
<td>2.2 gpm @ 60 psi</td>
</tr>
<tr>
<td>Shower Head or Hand Held</td>
<td>2.5 gpm @ 80 psi</td>
</tr>
<tr>
<td>Sink Faucet</td>
<td>2.2 gpm @ 60 psi</td>
</tr>
<tr>
<td>Water Closet</td>
<td>1.6 gallon per flush</td>
</tr>
</tbody>
</table>

REQUIRED CAPACITY AT POINT OF OUTLET

Table P2903.1

<table>
<thead>
<tr>
<th>Plumbing Fixture</th>
<th>Supply Outlet</th>
<th>Flow Rate (gpm)</th>
<th>Flow Pressure (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathtub – pressure balanced</td>
<td></td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Bidet – thermostatic mixing valve</td>
<td></td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Dishwasher</td>
<td></td>
<td>2.75</td>
<td>8</td>
</tr>
<tr>
<td>Laundry Tray</td>
<td></td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Lavatory</td>
<td></td>
<td>0.8</td>
<td>8</td>
</tr>
<tr>
<td>Shower or Hand-held – pressure balanced</td>
<td></td>
<td>2.5</td>
<td>20</td>
</tr>
<tr>
<td>Sillcock, Hose Bibb</td>
<td></td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Sink</td>
<td></td>
<td>1.75</td>
<td>8</td>
</tr>
<tr>
<td>Water Closet, flushometer</td>
<td></td>
<td>1.6</td>
<td>20</td>
</tr>
<tr>
<td>Water Closet, tank, close coupled</td>
<td></td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Water Closet, tank, one-piece</td>
<td></td>
<td>6</td>
<td>20</td>
</tr>
</tbody>
</table>

Minimum Water Pressure- P2903.3 – Where the water supply is insufficient to provide for the minimum pressures and quantities, for the plumbing fixture in the building, the pressure shall be increased by means of an elevated water tank, a hydropneumatic pressure booster system or a water pressure booster pump.

Maximum Water Pressure- P2903.3.1- The static water pressure shall not be greater than 80 psi. Where the main water pressure exceeds 80 psi, an approved pressure reducing valve shall be installed on the domestic water line conforming to ASSE 1003.
PIPE SUPPORTS

GAS PIPING SUPPORT INTERVALS

Table G2424.1

<table>
<thead>
<tr>
<th>Steel Pipe (inches)</th>
<th>Spacing of Supports (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>½</td>
<td>6</td>
</tr>
<tr>
<td>¾ or 1</td>
<td>8</td>
</tr>
<tr>
<td>1 ¼ or larger (horizontal)</td>
<td>10</td>
</tr>
<tr>
<td>1 ¼ or larger (vertical)</td>
<td>Every Floor Level</td>
</tr>
</tbody>
</table>

MISCELLANEOUS PIPING SUPPORT INTERVAL

Table P2605.1

<table>
<thead>
<tr>
<th>Piping Material</th>
<th>Max. Horizontal Spacing (feet)</th>
<th>Max. Vertical Spacing (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cast Iron pipe 5’ Sections</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Cast Iron pipe 10’ Sections</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Copper Tubing (1 ¾” and smaller)</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Copper Tubing (1 ¼” and larger)</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Cross-linked Polyethylene pipe (PEX) (1&quot; and smaller)</td>
<td>(32 inches)</td>
<td>10*</td>
</tr>
<tr>
<td>Cross-linked Polyethylene pipe (PEX) (1 ¼” and larger)</td>
<td>4</td>
<td>10*</td>
</tr>
<tr>
<td>Cross-linked Polyethylene/aluminum pipe (PEX-AL-PEX)</td>
<td>(32 inches)</td>
<td>4*</td>
</tr>
<tr>
<td>CPVC pipe (1” and smaller)</td>
<td>3</td>
<td>10*</td>
</tr>
<tr>
<td>CPVC pipe (1 ¼” and larger)</td>
<td>4</td>
<td>10*</td>
</tr>
<tr>
<td>Polyethylene or Polypropylene pipe (1” and smaller)</td>
<td>(32 inches)</td>
<td>10*</td>
</tr>
<tr>
<td>Polyethylene or Polypropylene pipe (1 ¼” and larger)</td>
<td>4</td>
<td>10*</td>
</tr>
<tr>
<td>PVC pipe</td>
<td>4</td>
<td>10*</td>
</tr>
</tbody>
</table>

* For sizes 2” and smaller, a guide shall be installed midway between required vertical supports. Such guides shall prevent pipe movement in a direction perpendicular to the axis of the pipe.
SECTION 312 VEHICLE IMPACT PROTECTION

312.1 General. Vehicle impact protection required by this code shall be provided by posts that comply with Section 312.2 or by other approved physical barriers that comply with Section 312.3.

312.2 Posts. Guard posts shall comply with all of the following requirements:

1. Constructed of steel not less than 4 inches (102 mm) in diameter and concrete filled.
2. Spaced not more than 4 feet (1219 mm) between posts on center.
3. Set not less than 3 feet (914 mm) deep in a concrete footing of not less than a 15-inch (381 mm) diameter.
4. Set with the top of the posts not less than 3 feet (914 mm) above ground.
5. Located not less than 3 feet (914 mm) from the protected object.

312.3 Other barriers. Physical barriers shall be a minimum of 36 inches (914 mm) in height and shall resist a force of 12,000 pounds (53 375 N) applied 36 inches (914 mm) above the adjacent ground surface.
Law Offices of
Patrick J. Sullivan, PLLC

General Practice • Business and Corporation Law • Federal and State Court Litigation • Probate and Estate Administration • Power of Attorney • Health Care Proxies • Real Estate • Wills • Personal Injury • Bankruptcy • Appeals Contracts • Employment Law • And More

Practical, Cost-Effective Solutions to your Legal Concerns.
Free Initial Consultation.

92 Willis Avenue, 2nd Floor, Mineola, New York 11501
Tel: (516) 342-1248     Fax: (516)747-9405
The New York State Association of Plumbing, Heating, Cooling Contractors, Inc.

*Serving Our Members Since 1889*

The New York State Association of Plumbing, Heating, Cooling, Contractors was established in 1889 and takes pride in serving the members of the plumbing, heating and cooling industry. We offer members the following benefits:

- Quality Educational Programs
- A Strong Voice in the Legislative Arena
- Up-to-Date Information on Issues That Affect Your Industry
- Reduced-Rate Insurance Programs

New York State Association of Plumbing-Heating-Cooling Contractors, Inc.  
PO Box 23, North Tonawanda, NY 14120  
(800)523-5505 • E-Fax (800) 507-1675  
E-mail: dreddy@nysphcc.org  
Website: www.nysphcc.org
RATHE ASSOCIATES

EXPECT MORE & GET IT.

YOUR ONE SOURCE FOR ALL YOUR PLUMBING, HEATING & HVAC NEEDS.

RTC
RATHE TRAINING CENTER

Visit our website to sign up for upcoming seminars.
1650 New Highway, Farmingdale, NY 11735
631.822.1200
ratheassoc.com
Congratulations and Continued Success

from all of us at

Plumbing Grammar
Heating

Robert H. Grammar
President
WE ALREADY INSURE MANY PHCC MEMBERS. WHY NOT YOU?

General Liability * Business Auto * Workers Comp * NYSDBL

♦ SAME DAY CERTIFICATES ♦ NO REFUSAL
♦ MONTHLY INSTALLMENTS ♦ CANCELLED POLICIES REPLACED
♦ IMMEDIATE I.D. CARDS ♦ LOW DOWN PAYMENTS

SAVE 30% 40% 50%

Takash & Associates, Inc.
112 Terry Rd. Smithtown, NY ♦ 631-366-2774
Visit us on the web at: www.takachinsurance.com
PROPERTY DAMAGE RESTORATION SPECIALISTS

1-888-998-2DRY (2379)
24 HR EMERGENCY SERVICE

WWW.ALLDRYUSA.COM
NYS MOLD # 00818 - NASSAU COUNTY # H0456860000 - SUFFOLK COUNTY # HI-62343
NYC # 2086851-DCA - WESTCHESTER # WC-32288-H19
Dellon Sales Proudly Supports the PHCC
The Northeast Leader in Products & Solutions

The F.W. Webb Company provides more products and solutions for buildings, factories and homes than any other company in the Northeast.

With 90+ locations and over 110,000 products, we’ve got what you need…and we can get it from here to there better than anyone else.

F.W. Webb offers unparalleled service in 15 areas of expertise:

- Plumbing
- Heating
- HVAC
- Refrigeration
- Pipe, Valves & Fittings
- Building Controls
- Propane Gas Equipment & Parts
- Water Systems
- Commercial & Industrial Pumps
- Fire Protection & Fabrication
- Industrial PVF Specialties
- Thermoplastic Piping
- High Purity Process Components
- Process Controls
- Water Works

F.W. WEBB COMPANY


1414 West Main Street
Riverhead, NY 11901
631-727-1870

COMING SOON!
1436 Middle Country Road
Centereach, NY 11720
631-732-7900

Visit fwwebb.com for more information
GIL MEYEROWITZ, INC.

GIL MEYEROWITZ, INC.
70-22 CYPRESS HILLS STREET
GLENDALE, NEW YORK 11385
PHONE: 718-821-6200
FAX: 718-456-0217
WWW.MEYEROWITZSUPPLY.COM
SALES@MEYEROWITZSUPPLY.COM

WHOLESALE DISTRIBUTOR OF PLUMBING & HEATING SUPPLIES

Established 1919

Celebrating our 101st year

WHOLESALE DISTRIBUTOR OF

A.O. SMITH
BELL & GOSSET
BRADFORD WHITE
BUDERUS
BURNHAM
GRUNDFOS
HONEYWELL
JAYR. SMITH
MCDONNELL & MILLER
MODINE
NEW YORKER
PEERLESS
RINNAI
SAFEGUARD
TACO
TAKAGI
TECHTANIUM

OUR SERVICE IS YOUR PROFIT

Four Generations of Service
For over 90 years Wallace Eannace has brought innovative and cost-effective system solutions to the plumbing and HVAC industries through quality products and a local network of wholesale distributors.

Working with Engineers, Property Managers and Contractors, Wallace Eannace provides technical knowledge, sizing, design, and field support.
For over 95 years Wallace Eannace has brought innovative and cost-effective system solutions to the plumbing and HVAC industries through quality products and a local network of engineers, wholesales, and field support staff.

Local support through Wallace Eannace
Sizing, selection, sourcing, installation, start-up,

Wallace Eannace | wea-inc.com | 516.454.9300
When it comes to high efficiency tankless water heaters, no one comes close to matching the expertise and innovation of A. O. Smith. With higher efficiency ratings and groundbreaking designs, their ProLine® XE tankless water heaters feature non-condensing and condensing technology and are part of a new era in water heating.

The first-ever residential combination boiler from A. O. Smith comes with an industry-leading 4.8 gal/min domestic hot water delivery and 95% AFUE, as well as superior space heating performance with up to 74% more heating capacity than other combination boilers. Easy installation makes the ProLine® XE Combi Boiler a great solution for a wide variety of residential applications.
Conex | Bänninger

an innovative press system for air-conditioning, refrigeration and water applications.

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;8&lt; MaxiPro benefits from a 3-point press—one press point each side of the bead, and one press point compressing the O-ring. This provides a permanent and secure joint.</td>
<td>Reliable, repeatable, permanent, tamper-proof connections every time.</td>
</tr>
<tr>
<td>Lead-in edge design aids installation and helps protect the O-ring from damage or displacement.</td>
<td>Reduced installation time, lower overall cost.</td>
</tr>
<tr>
<td>&gt;8&lt; MaxiPro fittings for air-conditioning and refrigeration applications are identified with pink marks on the fitting.</td>
<td>Intrinsically safe—no fire hazard, dangerous materials or fumes.</td>
</tr>
<tr>
<td>&gt;8&lt; MaxiPro system is quick, simple and easy to use.</td>
<td>UL Certified Recognized Component.</td>
</tr>
<tr>
<td>Backed by experienced technical support, customer service teams and training.</td>
<td>&gt;8&lt; MaxiPro is covered by a 5-year product warranty.</td>
</tr>
</tbody>
</table>

For a complete listing of manufacturers we represent, please visit: www.walesdarby.com

Wales Darby
Systems That Power Energy Solutions

**NEW YORK**
2910 Express Drive South
Islandia, NY 11749
Call: 631.585.6800
Email: infony@walesdarby.com

**NEW JERSEY**
5B Powder Horn Drive
Warren, NJ 07059
Call: 732.560.1001
Email: infonj@walesdarby.com
If you are interested in scheduling a visit to Fujitsu’s Air Stage at the Fujitsu General Solution Center, or to find a solution for your next HVAC project, simply call your Wales-Darby representative.

For a complete listing of manufacturers we represent, please visit: www.walesdarby.com
Taco® QuickTop Zone Valves provide a convenient way to create individual zones or equipment isolation in closed loop hydronic systems. Utilizing one pump with multiple zone valves, flow can be started or stopped through the system providing individual room or area comfort, control and energy savings. The QuickTop Zone Valve is offered with 1/2", 3/4” or 1” sweat connections, and comes with Taco’s trusted quality & reliability.

LeakBreaker

The Taco LeakBreaker® is a water heater leak protection device that protects against flood damage from the containment failure of a water heater.

For a complete listing of manufacturers we represent, please visit: www.walesdarby.com
TracPipe® CounterStrike® is a flexible stainless steel piping system used for natural gas and propane installations.

Featuring:
- Lightning Resistant Jacket
- Highest Capacity Ratings
- No Bonding Required by TracPipe
- Full range of accessories

Become a certified TracPipe installer today!
Inquire with Wales-Darby for their next available certification class.

For a complete listing of manufacturers we represent, please visit: www.walesdarby.com
Professionals who specify and install Uponor PEX hydronic piping report faster and more reliable installations and improved project safety through a lightweight system that can remove hot work in hydronic piping installations. It’s time to connect with better solutions, stronger support, smarter technology, bigger profits and greater peace of mind.

Connect with Uponor.
Connect with confidence.

PEX PLUMBING
RADIANT HEATING & COOLING
HYDRONIC PIPING
PRE-INSULATED PIPING

To learn more, visit www.uponorpro.com

For a complete listing of manufacturers we represent, please visit:
www.walesdarby.com
EXCELLENCE

An essential component to our continued success at Hamond is the experience and knowledge of our staff. Averaging over 35 years in the field of Workers’ Compensation Insurance, we are able to provide our clients with the expertise they are looking for.

Providing Excellence in...
- Claims Processing right through finalization
- Prehearing Interview of Employer Witnesses
- Hearing and Testimony Support
- Working for the Client, not the Carrier
- Risk Assessment
- Knowing Your Client’s Business and Exposure
- Assistance with Underwriting Issues
- Assistance with Payroll Audits
- Assistance with OSHA Issues and Training

Group 501 Members are not just another policyholder.

Dividend declared every year since program inception
Maximum Upfront Discount for Qualified Plumbing-Heating-Cooling, HVAC, Mechanical, Sheetmetal, Sprinkler & Piping Contractors

Exclusively for Members of the New York State Plumbing-Heating-Cooling Contractors Association

Hamond Group

Direct quote requests to:
800.285.2258 | Fax 516.488.2167
www.hamondgroup.com

Underwritten by the New York State Insurance Fund
Continued Success to the PHCC of New York

Essex Plumbing & Heating Inc
Donald J. Conway
Licensed Master Plumber

Your Friendly Neighborhood Plumber

essexplumb@yahoo.com
Wishing Continued Success to The Plumbing, Heating, & Cooling Contractors of Long Island

John A. Bifolco, as President. J&C Home Comfort, Inc.
34 E. Marine Ave. Lindenhurst, NY 11757
Phone: 516 – 818 – 3766
E-Mail: jandchomecomfort.inc@verizon.net
Website: www.jandchomecomfort.com
JOHN D. MAC DONALD
PLUMBING & HEATING
CONTRACTORS

77 LIDO BLVD.
POINT LOOKOUT, N.Y.

EST. 1929 (516) 432-0246

www.johndmacdonaldplumbing.com
Continued Success

to the PHCC LI

I.J. KOSTYNICK - VILLAGE
PLUMBING & HEATING CORP.

27 JERICHO TURNPIKE
MINEOLA, NEW YORK

742-8562                                      746-2010
ORCHID

SEWER AND WATER CONTRACTING CORP.

SEWER AND WATER SERVICES INSTALLED AND REPAIRED

Replacement of Lead Water Services
Wet Tapping For Fire Lines

11 DENNIS STREET
TEL: 747-1311

GARDEN CITY PARK
FAX: 746-2616

Christopher Falbo, President
Best Wishes

From all of us at

Ron Doughty
516-746-3353
201 Hillside Ave. Williston Park,
www.WillistonPlumbing.com
## Advanced Hydronics

"Representing the Finest Products in the Heating Industry"

<table>
<thead>
<tr>
<th>Lines Represented</th>
<th>Territory Serviced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peerless-Cast Iron Residential and Commercial Boilers</td>
<td>New York &amp; New Jersey</td>
</tr>
<tr>
<td>Partner Indirect Water Heaters, PureFire Stainless Steel Boilers and Pavilicon High Velocity Air Conditioning.</td>
<td>Delaware, Eastern PA</td>
</tr>
<tr>
<td>Rinnai-The U.S.'s largest gas appliance manufacturer since 1974. Produces Tankless hot water heaters, high efficiency wall hung boilers direct vent furnaces and hydronic furnaces</td>
<td>New York, New Jersey</td>
</tr>
<tr>
<td>Eastern PA &amp; Delaware</td>
<td></td>
</tr>
<tr>
<td>Wilo-A leading manufacturer of pumps and pump systems for heating, cooling and air conditioning technology. Also for water supply and sewage disposal.</td>
<td>New York, New Jersey</td>
</tr>
<tr>
<td>Eastern PA</td>
<td></td>
</tr>
<tr>
<td>Vauhnni-Stone lined indirect, hybrid, and electric water heaters for residential and commercial markets. A variety of solar and geothermal water heaters and storage vessels.</td>
<td>New York, New Jersey</td>
</tr>
<tr>
<td>&amp; Delaware</td>
<td></td>
</tr>
<tr>
<td>Carlin-Makers of Advanced Technology Gas, Oil and Gas/Oil burners for residential and commercial applications.</td>
<td>New York &amp; New Jersey</td>
</tr>
<tr>
<td>Hydrolevel-Residential and Commercial probe type low water cut-offs, water feeders, flow switches and liquid level controls.</td>
<td>New Jersey</td>
</tr>
<tr>
<td>Flomatic Valves-CHECK valves, float valves, automatic hydraulic control valves and backflow preventers. Directed at the domestic, industrial, municipal and irrigation markets.</td>
<td>New York &amp; New Jersey</td>
</tr>
<tr>
<td>Westwood Products-High quality oil treatment &amp; filtration products as well as burner ignition and exchange components.</td>
<td>New Jersey</td>
</tr>
<tr>
<td>Rhomar Water-Most advanced hydronic treatment technologies and high quality inhibited glycol-based heat transfer fluids.</td>
<td>New York, New Jersey</td>
</tr>
<tr>
<td>&amp; Eastern PA</td>
<td></td>
</tr>
<tr>
<td>Cash Acme-American made valves since 1932</td>
<td>New York &amp; New Jersey</td>
</tr>
<tr>
<td>Shark Elite-The Very Best in Push-to-Connect Plumbing solutions</td>
<td>New York &amp; New Jersey</td>
</tr>
<tr>
<td>Salus offers a broad ecosystem of smart home products including connected thermostats, smart home hub, smart plug, water valve shut off and door and window sensors.</td>
<td>New York &amp; New Jersey</td>
</tr>
</tbody>
</table>

NY Office: 509 N. Franklin Tpke, Suite 218 Ramsey, NJ 07446  NY Office: 125 E. Main St. Suite 201 Babylon, NY 11702
(P) 201-573-0006 (F) 201-573-0495  (P) 631-532-2700 (F) 631-532-2701
On the Web: www.ahreps.com  Email: sales@ahreps.com

113
Continued Success
to the PHCC LI

VICTORIA
PLUMBING & HEATING SUPPLY Co., INC.
“The Supply House of Choice”
20 S. DENTON AVENUE
GARDEN CITY PARK, NY 11040
516/741-4343 Fax 516/741-4044
WWW.VICTORIASUPPLY.NET
COMPLIMENTS OF:

JACK GAYSON
PLUMBING & HEATING
131 Roosevelt Ave. Mineola, NY 11501
Tel: (516) 248-4105  Fax: (516) 742-6762  Email: jgph@aol.com

Nassau Suffolk
Electrical & Mechanical
YOUR QUALITY PLUMBING, HEATING, ELECTRICAL & AIRCONDITIONING CONTRACTOR
Serving all of Long Island
6800 Jericho Tpke, Suite 120W, Syosset, NY 11791  1-888-266-5758
McCready & Rice Plumbing, Inc.
115-25 Fifteenth Avenue
College Point, NY 11356
718-359-6700       718-359-2848
fax 718-358-7253
licensed plumber and fire suppression
Nassau County and NYC
Jerry Bady • Leonard Williams

---

ED FERRY
Plumbing & Heating
75 Watermill Lane, Great Neck, NY 11021
Tel: (516) 498-9030         Tel: (718) 428-9500
Licensed Master Plumber       edferrymechanicalcorp@gmail.com
Nassau 2096       www.edferrymechanicalcorp.com
NYC 2279       Fully Insured

Fire Sprinklers
Certified Back Flow Tester 8618

Gas/Oil Heating

Mechanical Corp.
### ADDRESSES AND TELEPHONE NUMBERS

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>E-MAIL</th>
<th>PHONE</th>
<th>FAX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td>ADDRESS</td>
<td>E-MAIL</td>
<td>PHONE</td>
<td>FAX</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>--------</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Experienced Professionals...

TOTAL RESTORATION INC.

...Specializing in Water, Fire, Smoke & Mold Restoration Services.

You can depend on over 25 years of on-site experience in saving our clients from aggravation, frustration, and grief. From the initial cleanup state to the ultimate completion of your project, Total Restoration, Inc. is there!

Total Restoration, Inc.

160 Eileen Way, Ste. 100, Syosset, NY 11791

Contact: Dennis Lombardi

Phone: (516) 333-5333  Cell: (516) 659-1044
Manufacturers representatives of HVAC/R, Hydronic Heating, Pumping and Domestic Hot Water Products and Equipment

Offering unparalleled support for its customers including:

In-house training detailing any part of the Venco product offering for:
- Architects, Engineers, Contractors, Builders, Distributors
- AIA & BPI registered instructors
- Technical & service training
- Sales training

Job site assistance for:
- System design concept
- Equipment specification estimating
- Troubleshooting equipment and system

Specification and quote assistance for commercial & residential:
- Heating
- Cooling
- Water heating
- Radiant heating
- Domestic hot water
- Pumping & pressure boosting

In-house marketing assistance:
- Design and layout
- Mailers, fliers, posters and literature

In-house staff:
- Customer service representatives

Main Office:
755 Park Ave., Suite 300
Huntington, New York 11743
Phone: (631) 754-0782
Fax: (631) 754-4659

Representing Manufacturers in
Pennsylvania (Eastern)
New Jersey (Entire State)
New York (Long Island, NYC, and Lower NY State)