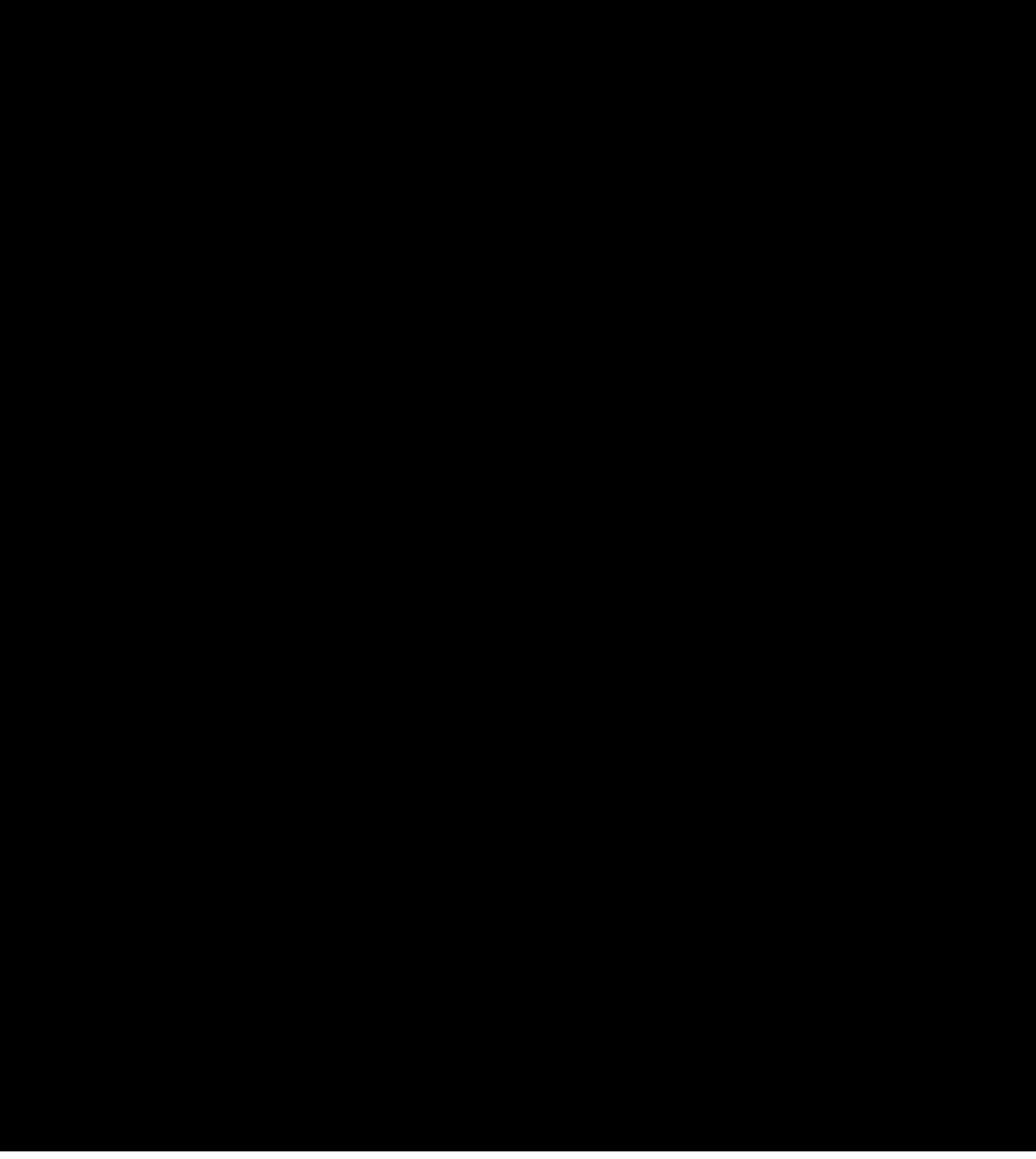




Reading, Pa., Water Works Protected with White Lead

THE Maiden Creek Filtration Plant and the adjoining Pumping Station are two fine examples of how the City of Reading, Pa., protects and beautifies its buildings with pure white lead paint. The filtration plant was built in 1934 by the City of Reading with the help of the Federal Emergency Administration of Public Works. Capable of an ultimate daily capacity of 40,000,000 gallons per day, the plant now filters approximately 11,000,000 gallons per day, supplying over 70 per cent of Reading with water. Rapid sand filtration is used to filter water brought from Lake Ontelaunee. The water flows by gravity to the filtration plant, and passed through the pumping station and piped into Reading.

Designed with an eye to combining attractive architecture with efficient operation these plants are a model of what can be done in this field to increase the beauty and life of city property. The Maiden Creek Filtration Plant is a stone structure of modified Colonial design, with slate roof and wood trim. It is set in the center of a landscaped acreage of lawn, encircled by a white picket fence on one side and the river on the other. In effect, it appears to be more like a park than a utility plant. The visitor to Reading is impressed with this generally attractive and well laid out plan for a city water works. All exterior trim and sash, including the picket fence, are protected with pure white

lead and oil in accordance with the standard painting practices of the City Engineering Department.

The brick pumping station is decorated in a pleasing tone of buff yellow made by the addition of a small quantity of tinting color to the white lead. The ease with which white lead may be mixed to produce any desired tint made it possible to obtain the shade used on this building. The paint for this job was formulated from white lead and lead mixing or reducing oil, which produces a finish retaining all the durability and adherence of the usual oil gloss white lead paint, but providing at the same time the flat finish usually desired on brick or stone.

The formulas for paint brick are as follows: For new work, prime with a mixture of one part white lead paste and two parts vehicle, consisting of $\frac{5}{6}$ linseed oil and $\frac{1}{6}$ turpentine. For the second coat use 3 parts white lead with 5 parts vehicle consisting of a half and half mixture of linseed oil and lead mixing or reducing oil. The final coat should be equal volumes of white lead paste and lead mixing or reducing oil. On repainting work use the formulas for the second and finish coats, omitting the priming. If colors are desired, merely tint the white lead.

Many city utility buildings that have, in the past, frequently been resigned to unsightly appearance can be given a new lease on life by the use of paint. A job of face lifting by decoration will give new youth and architec-

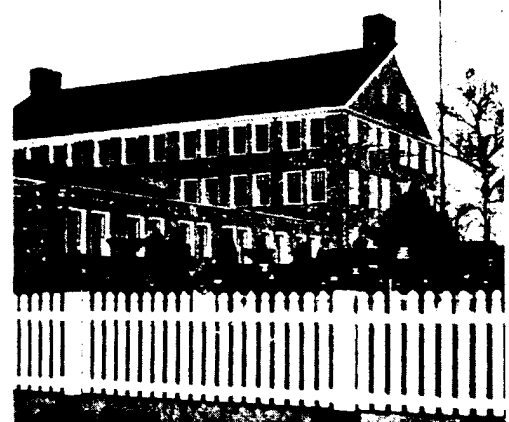
tural interest to any structure as well as greatly increase its useful life. Brick and stucco buildings painted with white lead and oil stay cleaner. The dirt particles that would ordinarily become imbedded in the unpainted surface are washed off the paint film by the first rain. White lead paint also effectively seals this surface from the absorption of water and prevents ultimate deterioration from this cause. The protection of steel by red lead and white lead paints is of the greatest importance. A recent estimate placed this country's annual loss due to the corrosion and rusting of steel at more than one billion dollars. Protection of metal by the use of lead paints costs a bare fraction of the price of rust. Similarly the cost of protecting wood, stone and other materials with white lead is but a fraction of the cost of repair or replacement.

The City of Reading, including the Public Schools, has standardized on the use of white lead for all exterior work as have many other cities in all parts of the country. The gradual even surface wear of white lead and the self-cleaning action that results, ideally suit it to the city demanding the best in appearance for its public buildings. The elastic toughness and solid anchorage to the surface of the white lead paint film give it a versatility that makes it equal to any job that comes along, whether it be exterior or interior, and no matter what surface.

R. S. Chubb is the City Engineer.



At left a general view of the pumping station and adjoining buildings of the water works, and at right the filtration plant of the Reading water works, all protected with white lead, including the white picket fence, and decorated to obtain attractive city buildings



Modern Calking Lead, More Than Ever, Meets Jointing Problems



At left, calking part of the 20-in. cast-iron main for Chattanooga, and, at right, water department inspector examining lead-calked lengths of pipe

COURTESY CHATTANOOGA NEWS



THE City Water Company, in Chattanooga, Tennessee, continuing its policy of keeping abreast of the city's growth and needs, has installed a new main to take care of the increasing load from industrial users in the Ross-ville area of Chattanooga. It is only natural, therefore, in view of the foresight used by the Company in providing adequate facilities, that the same foresight has been used in the selection of lead-calked cast iron for the new main.

At a cost of approximately \$65,000 the new main was extended for about 8,000 ft. and is composed of 20-in. cast-iron pipe with lead-calked joints. Approximately 30,000 lb. of calking lead were required for the joints.

Time and experience has shown that such a policy in the selection of materials is bound to pay dividends in the form of lower maintenance, longer life, and consequent savings in money for the city and its taxpayers. In mains, and in large-sized water services over 2 in., cast iron with lead joints has a record of durable, efficient and economical service that surpasses that of any other material or combination of materials. Not only do both the pipe and jointing material have long life, but they are highly resistant to corrosion, an added life factor.

In considering joint materials, there are several necessary characteristics

that should be rendered to obtain maximum efficiency. Lead is the only material that combines *all* of these characteristics. First of all lead joints are flexible, absorbing ground movement and settlement, or vibration caused by trains, heavy traffic or machinery, sources of trouble that are constantly increasing. Where rigid jointing would result in cracked pipes or open joints, lead provides the necessary give and take to render movement harmless. Corrosion resistance and long life are factors which move hand in hand. With lead they are known factors, however, for the long life and corrosion resistance of lead can be proved from many years of actual installations under the most severe operating conditions. With some jointing materials, such as sulphur and sand compounds, there is danger of attack by thiobacilli. Lead, however, is not so attacked. Moreover, should a pipe line shift, the pliability of the lead allows it to conform to the movement of the pipe without cracking or opening up.

To gain the utmost in performance and efficiency from lead joints, water works engineers should be sure to specify lead stamped with the Lead Industries' Seal of Approval. Al-

though lead not so stamped may make a perfectly tight and good job, the Seal is assurance that the calking lead meets the rigid requirements of the Lead Industries Association for quality and purity. It is a symbol that may be specified easily in purchasing calking lead, and lead so stamped cost *no more* than ordinary lead. Manufacturers are licensed to use this seal if their material, closely inspected, meets the standards at all times. Seal of Approval lead is lead of highest purity which aids in calking in several ways. There is less danger of loss of material from dross inclusion, and the lead is of very soft quality, making joints easier and quicker to calk as well as insuring a better job.

Standards for calking lead corresponding to those of the Lead Industries Association have been approved by the American Water Works Association and are used by the water departments in New York and other cities. Copies of the Lead Industries' calking lead standards may be had upon request.

A. F. Porzelius is Superintendent of the Chattanooga Water Company. The Stein Construction Company was the contractor for the new water main.

SPECIFY **SEAL OF LEAD INDUSTRIES' MATERIAL** APPROVAL

Historic Old Marblehead Homes



Below, the Lee mansion built in 1768 by the wealthy ship-owner Colonel Jeremiah Lee and painted throughout its history with pure white lead and oil. Before it was last painted in 1938 the surface was found to be in excellent condition after 13 years of service from the previous white lead job. Note the small windows and short height of the third floor. This type of construction was frequently found in houses built during this period



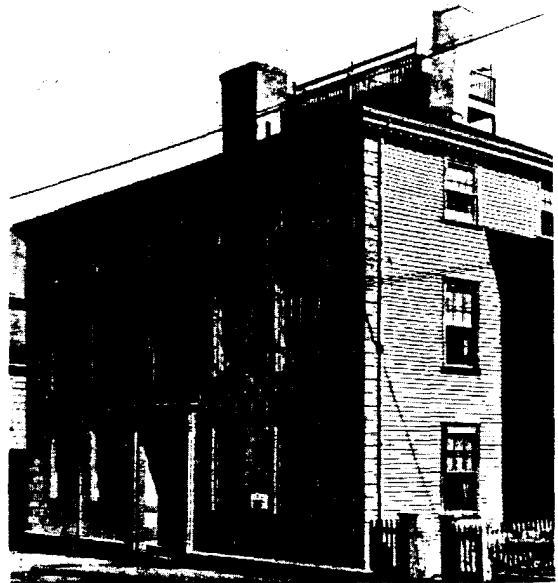
MARBLEHEAD, MASS., originally settled in 1629, by 1750 had become the most important fishing port on the New England Coast. Its fleet of ships numbering into the hundreds touched at nearly all the seaports of the world. The increasing wealth of the early ship-owners and merchants is reflected today in the beautiful homes they have left behind them. Most outstanding of these is the Colonel Jeremiah Lee mansion, built in 1768 with a refinement of construction and interior decoration that had been virtually unknown before this period.

Two other Marblehead homes are illustrated here, also examples of fine early American architecture. All of them are protected today, as in the past, with pure white lead and oil—more than a century and one-half of evidence of the reliability of white lead paint and its splendid decorative ability.

Below, the King Hooper Mansion; the white painted wood block and corner quoins form an interesting contrast with the grey clapboard sides on this mansion built by King Hooper in 1745. The wood facade, treated in a manner suggesting masonry, was a popular style at that time. Both the white and the grey tone are pure white lead and oil tinted to the desired colors

PHOTOS BY
HAROLD F. STRAND

Below, the Major John Pedrick House, built in 1756, a typical example of the wood block and clapboard construction common to the Massachusetts Bay Colony in the 18th Century. The "Captain's Walk" on the roof is often found on these homes and enabled the owner to watch for homecoming ships. Pure white lead and oil has been used to preserve this American landmark



THIS IS NO. 1 OF A SERIES REPRESENTATIVE OF THE MANY EARLY AMERICAN LANDMARKS IN VARIOUS SECTIONS OF THE COUNTRY THAT ARE PRESERVED FOR THE FUTURE WITH PURE WHITE LEAD AND OIL PAINT. MANY OF THEM HAVE ALWAYS BEEN PROTECTED WITH THIS RELIABLE MATERIAL ACCORDING TO AVAILABLE RECORDS.

Analysis of Modern Lead Water-Pipe Characteristics

(Editor's Note: The following article is a brief digest and summary of a paper by Robert L. Ziegfeld, of the Lead Industries Association, before the 1939 convention of the New England Water Works Association. One of the most comprehensive and thorough studies of lead service pipe and how lead meets modern conditions, the paper appears in full in the March, 1940, Journal of the New England Water Works Association. Reprints may be had on request to the Lead Industries Association from water works engineers writing on their business stationery.)

CONDITIONS under which service pipe must perform have changed greatly during the past years of municipal growth and progress. Although much has been written and said of various new materials, lead, being one of the oldest, is often taken as a matter of course. It is important to ascertain, however, since many cities used lead services—some of largest exclusively—how lead meets these changed conditions. Today, pressures have been stepped up; new fixtures may increase water hammer; more services are laid under paved streets of a more expensive and permanent structure; movement and vibration has increased, and been magnified by excavations and filled-in ground; there are more ground obstructions and wider use of electricity with more stray currents.

From a metallurgical standpoint lead pipe should be relatively soft and flexible. Permanent flexibility is one of the most important reasons for selecting lead service pipe, in order to absorb ground movement and settle without strain at all times. Therefore, it is desirable to avoid small amounts of impurities, especially zinc, which might embrittle the pipe. With this in mind, about three years ago, the Lead Industries Association adopted rigid standards covering the quality of lead pipe, establishing a minimum pure lead content of pipe at 99.7 per cent.

The mechanical characteristics are no less important. There are three classes of lead service pipe, classified according to wall thickness, known as A, AA, and AAA in the East, and strong, extra strong, and double extra strong in the West, respectively. Prior to 1932 these classifications had no

direct bearing on the pressures that might be used in the pipe. In other words, in the larger sizes, the wall thickness did not necessarily increase sufficiently over that of the smaller sizes to give them equal strength. As a result, in 1932, the industry revised the wall thickness of the larger service pipe so that all A, or strong pipe, would stand at least 50 lb. per sq. in. constant pressure, AA or extra strong, 75 lb., and all AAA or double extra strong at least 100 lb., regardless of the diameter of the pipe. This greatly the diameter of the pipe.

Wall thickness effectiveness is, however, dependent on uniformity. Consequently, in the industry's new standards there is permitted a tolerance of only 0.008 in. below the listed wall thickness of the pipe *taken at any point on the pipe*. Moreover, pressed joints, dross inclusions, laminations, and other undesirable characteristics are strictly prohibited. Finally pipe which meets all the requirements of these standards may be selected and identified by the Seal of Approval, stamped on pipe by manufacturers.

The external installations factors under which lead must perform are important points to analyze. Concerning soil corrosion, the paper points out, with reference to the works and investigations of other writers, that under most conditions the rate of soil corrosion of lead is small to begin with, and is greatly reduced with the passage of time. Whereas local pitting accompanies the soil corrosion of almost all metals, in the case of lead its importance can be minimized because of the thick walls of the pipe and because pitting, like general corrosion of lead, is greatly retarded by time in most soils.

Artificially induced conditions in the soil, such as from chemical plants, are corrosive to most common metals. In general lead is resistant to a wide variety of chemicals, as witness its wide use in the chemical industry.

Concerning the question of electrolytic corrosion it should be pointed out that lead is a very poor conductor and consequently not apt to pick up

stray currents. With stray currents in the ground there are two ways to reduce electrolysis, one by insulation by wrapping or by placing in a pitch filled trough, the other by using a poor conductor such as lead.

Internal water corrosion is also discussed in full, the paper pointing out that most public water supplies cause formation of a protective coating on lead pipe which prevents further action. External corrosion, that is by soil and electrolysis, are difficult to control, but the action of water on the inside of the pipe may be closely controlled. Therefore external corrosion factors should carry the greatest weight in selecting service pipe, and water treatment employed to eliminate internal corrosion in the rare cases where necessary.

In addition, gooseneck sizes, lengths, and joints are thoroughly discussed and tabulated, as well as protective measures, trenching, and other items.

Briefly the paper presents a summary of points as follows: Lead pipe is now made under rigid quality standards and proper pipe may be identified by the Seal of Approval. The new wall thicknesses are more than adequate for pressures involved. Corrosion rate reduces in time and, in general, lead is resistant to most soil corrosion. The thick walls are an added life factor in corrosion and pitting. Stray currents are minimized due to lead's poor conductivity, and other corrosion factors are satisfactorily taken care of when lead is used. The use of lead acts as a safety fuse where water hammer is encountered.

Under installation, adequate goosenecks should be provided, and pipe should be laid in fine dirt free from rocks, protected by wrapping or pitch-filled troughs where electrolysis is known to exist, and should pass through an iron wall. Wiped joints are preferable. Under cost, the first cost may be higher than some materials, but not much, as the cost of material is only a fraction of the total cost of installation. Moreover, because the life of lead is known to be long, the annual cost is low.



Part of the J. C. Nichols developments. Lead is standard practice in the developments where some 35,000 people live in more than 6,000 homes and 160 apartments constructed by this company

Lead Plumbing is Standard for J. C. Nichols Developments

ONE of the most prominent builders of real estate developments in America, the J. C. Nichols Investment Company of Kansas City, Mo., has set an amazing example for real estate operators in this country. Beginning with 10 acres in 1907 the Country Club District, an inclusive term for the properties developed by the Company, has grown to 4,000 acres in and around Kansas City, Mo., and Johnson County, Kan. There are now approximately 6,000 homes, 160 apartment buildings, a central shopping area known as The Country Club Plaza, 7 other groups of neighborhood stores, 11 churches, and 15

schools. All in all, this city within a city houses about 35,000 people in the various 33 sub-divisions.

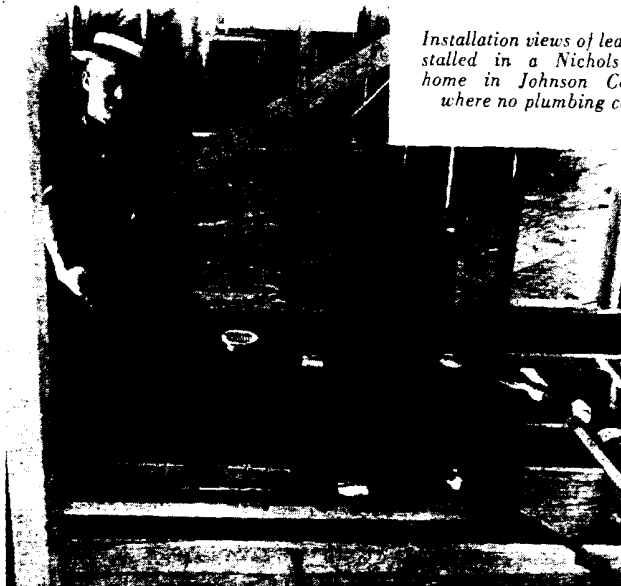
Not only is the Country Club District an excellent example of the accomplishments of sound development building and a goal for other builders but of sound construction practice and the use of highest quality materials.

To prospective clients and visitors the high quality of the construction methods is evidenced to a large degree by the widespread use of white lead paint, lead flashing, and ornamental lead work. However, even more outstanding proof of construction integrity adhered to in buildings of the

Nichols Company is shown by their consistent use of lead plumbing to give utmost quality in a portion of the home which the owner little understands and which is concealed from view. Moreover, many of these homes are built under no plumbing code.

In some cases, with a comparable situation, less conscientious builders might take advantage of no ordinance to run in inefficient materials in place of time-tested ones required by a good code. Actually an attempt of this sort to cut costs is ineffective and marks lack of plumbing knowledge, for it has been shown definitely, both in small homes and in large housing projects, that the proper installation of only highest quality materials does not increase plumbing costs.

The J. C. Nichols Company, however, realizing the importance of durable, sanitary plumbing have made no compromise with quality and have adhered to lead waste installations both



Installation views of lead roughing installed in a Nichols development home in Johnson County, Kans., where no plumbing code controls



in homes built under ordinance and where no ordinance exists.

From the standpoint of maintenance lead plumbing is important to the development builder, especially where he builds up an entire community such as the Country Club District. No fly-by-night entrepreneurs, developers like J. C. Nichols must provide homes of lasting quality for their clients. Plumbing and other troubles encountered by home owners would soon be ready knowledge and the market for future clients would dwindle as a consequence. Because of the great durability of lead, however, plus its many other natural advantages in plumbing, builders who rely on lead plumbing are assured of freedom from complaints and maintenance

costs so far as plumbing is concerned.

The photographs show lead roughing-in in one of the houses in Johnson County, Kansas, made under the jurisdiction of no plumbing code. Yet, the same high quality materials are used that are required by code in nearby locations. As seen in the pictures practically all of the plumbing in the hundreds of houses, including small bungalows and large residences with as many as five bathrooms, built by this company is installed with lead waste. Also, it is the general construction policy on these homes to use lead shower pans turned up 15 in. all around in all stall showers, as well as all lead vent pipe flashings.

This case is further proof that regardless of conditions—whether there

is a good code, a poor code, or no code at all—the good architect, builder, and plumbing contractor will install a quality job. From a construction and economical standpoint, as well as the importance of protecting health by proper plumbing, there is no reason why such installations should not be the general practice. In many cases it is; however, there are still many homes built which do not possess the advantages of those built by the Nichols organization from a quality point of view. Unlike many others, this company has taken on its own shoulders the responsibility of protecting their client's health.

The Brookside Plumbing and Heating Company, of Kansas City, Mo., were the plumbing contractors.

New "Certigrade Californian" Model Home, Painted with White Lead, Creates Large Interest in Home Building

NEWEST and one of the most interesting of model homes is the recent Certigrade Californian, built by the Red Cedar Shingle Bureau with the cooperation of 34 associations allied with the building industry. The one-story Californian is a charming example of "All-American" design and is reported to be the starting point of a new national style in all wood home construction. Since this home, like many others, not only was created to contribute to the progress of good architectural design but to promote the use and appreciation of American building materials, it is only natural that in its construction every effort was made to show off the construction materials to their best advantage. Consequently, it is not surprising that the Californian, similarly with the original Certigrade Home, the Western Pine Home at Treasure Island, Stamford's Double Lifetime Home, and many other model dwellings, is painted with pure white lead and oil.

The California features a wide variety of woods, Certigrade Red Cedar shingles being used for exterior side walls and roof, and such other woods as Douglas Fir, Hemlock, Pine, Redwood, Oak and plywood completing



ART STREIB

A general view of the new model home, the Certigrade Californian, built of a variety of woods, featuring red cedar shingles painted with white lead

the structure. Side wall shingles were double-coursed to produce a 14-in. weather exposure and to gain a deep shadow line on the side walls.

Exterior trim was painted with three coats of pure white lead and linseed oil to produce a glossy finish, whereas the shingles were painted with white lead mixed with lead mixing or reducing oil, instead of linseed oil. In this treatment lies one of the most interesting points about modern white lead. Many persons have become accustomed to think of white lead in terms of gloss or semi-gloss finishes only.

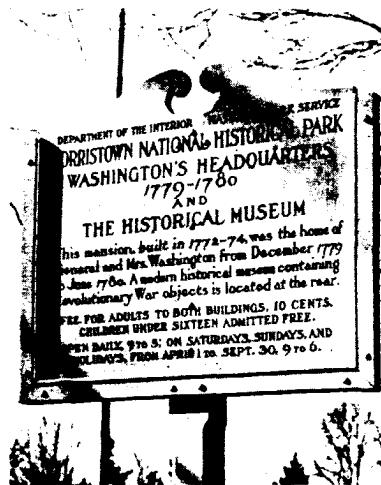
However, it is just as easy to obtain a smooth, flat finish, free from brush marks, with white lead merely by formulating with lead mixing or reducing oil. White lead so mixed has just the same qualities of beauty and durability as when used in a gloss finish. This vehicle, also, is the ingredient that makes white lead today so serviceable on brick, stone, stucco, concrete and similar surfaces.

A further indication of good construction practice in the new Certigrade model home was the back priming of all trim with white lead.

Historic Ford Mansion, Washington's Headquarters at Morristown, N. J., Redecorated with White Lead



At right, the entrance signpost, and at left a full view of the Ford Mansion, 1779 Headquarters of General Washington in Morristown, New Jersey



ERIC BAKER
DAYTON SNYDER

CLOSELY allied with the modern trend toward the preservation of historic shrines is the recent restoration of George Washington's Morristown, N. J., headquarters, the famous old Ford Mansion. Built in 1772-1774 by Colonel Jacob Ford, this house became the military headquarters for General Washington's operations during the winter of 1779-1780. Due to the strategic position of Morristown, close to the British stronghold in New York and yet protected by a row of hills, the small colonial town became a focal point of continu-

ous military operations of the Continental Army, with the Ford Mansion the center of basic activity.

At the present time, this historic home, together with Fort Mifflin, a museum, and the 1779-1780 encampment sites of the Continental Army in Jockey Hollow, a wooded area of about 1,000 acres three miles southwest of Morristown, comprise the Morristown National Historical Park, administered by the National Park Service, in the United States Department of the Interior.

Recently Park Superintendent Fran-

cis S. Ronalds announced the redecoration of all interior woodwork in the Ford Mansion to match as closely as possible the original colors and styling of the rooms. Assisting in this phase of the work has been a voluntary committee of technical experts experienced in similar projects.

To determine what the original paint colors were, sections of the wood trim in each room were scraped down and all paint coats removed except the very first one applied when the house was built. Pure white lead and oil was then mixed and tinted to match this

At left, the dining room and, at right, the study where George Washington penned important dispatches. The desk is the original one. All colors match the original ones and are obtained by tinting white lead and oil



ERIC BAKER

shade. Since the tinting process is easy, white lead paint of practically any color may be made and this phase of the decorating problem was simplified. Although the original tints are over 160 years old, the new colors match perfectly. To demonstrate the accuracy with which the new paint was tinted, a 4-in. panel of the original paint has been left untouched in each of the rooms.

It is believed that the original and all subsequent coats were of white lead, since this material was practically the only one available and used for decorating the old colonial homes. Consequently, with the new white lead decoration, the reproduction is essentially the same as when the home was used by General Washington. Visitors in the future will have an added treat in knowing that the interior styling is

The Ford Mansion bedroom of Washington's time, re-decorated with white lead to its original colors, and enhanced by the authentic furniture of this period

ERIC BAKER



the same as when the historic campaigns of the Revolution were being planned.

The Washington Association of New Jersey, which gave the Ford Mansion and its valuable collection to the Fed-

eral Government in 1933, has continued its interest, and has assisted in the work by substantial contributions. Many private persons, as well as the National Park Service, have rendered invaluable aid in this project.

You're money ahead when you paint with
White Lead
STROKES from the PAINT BRUSH

THE Lead Industries Association frequently receives requests for information as to the difference between machine-mixed and hand-mixed paint, the inquiries being prompted by advertising literature endeavoring to create the impression that all paint may be divided into two classes with a sharp distinction between them based on the mixing operations used in their manufacture.

Paint is a mixture of dry pigment and a liquid vehicle, generally linseed oil. The manufacturing process thoroughly wets the dry pigment with the vehicle. Some manufacturers leave their product as a thick or semi-thick paste; ready-mixed manufacturers simply add more vehicle to thin the paste to a consistency suitable for application. All high grade paint used today, whether it is derived from white lead-in-oil paste, ready for thinning to brushing consistency, or sold directly as prepared paint, is machine made at the factory. Both white lead

paste with the added vehicle and ready-mixed paint have to be stirred by hand or small machine before use.

White lead manufacturers grind white lead and linseed oil to a paste consistency by modern machinery, most of it being in the form of soft or semi-paste for the convenience of users. White lead in paste form has many advantages to the painting contractor and to the home owner, notably, (1) *the lower cost per gallon of paint when the paste is reduced to paint consistency* and (2) *the ease and simplicity with which paint formulations can be varied to meet home construction requirements.* Prepared-paint manufacturers also mix their product by machine but they thin the product at the factory with sufficient vehicle so that the paint is more nearly ready to use. Whereas white lead manufacturers deal with only one pigment, prepared-paint manufacturers usually incorporate several pigments in their product.

Both forms of product, that is, white lead and oil and prepared paint, must be stirred by hand before they can be used. White lead in oil is easily reduced to paint consistency by adding the required amounts of oil or oil and turpentine to the paste and stirring during the operation. It is well known that prepared paint, when removed from the shelf, where it may have rested for an extended period of time, will be found to have settled in the can. Prepared paints are made ready for application by pouring off the vehicle, gradually stirring up the stiff paste at the bottom of the can, and gradually replenishing with the poured-off vehicle. Moreover, directions of the prepared-paint manufacturers on the can frequently require the addition of more linseed oil or turpentine for various coats of paint. Essentially, therefore, no fundamental difference exists in the technique of preparing white lead paste or prepared paint for the brush.

Pure White Lead and Oil Paint Contribute Largely to Beauty of Magnificent Rosenwald Residence

PURE white lead and oil for exterior and interior painting has contributed largely to the outstanding beauty of the Lessing J. Rosenwald residence in Jenkintown, Pa., a magnificent home described by PENCIL POINTS magazine as the "unquestionably Twentieth Century house of a gentleman of the Twentieth Century." Combining a residence with a private museum of rare prints, this house achieves a unity of design that is a tribute to the talent of the architect. The building consists essentially of three parts, built into a single unit plan because of the general topography and the position of existing foliage. The main section embodies two wings with a central forecourt. One wing houses the collection of rare prints and the offices of the museum curator and secretary. The garage and servants' quarters occupy the other wing, while the central portion contains the family's living quarters.

The residence is constructed of Chestnut Hill stone, split and matched, with a dark slate roof. Interest on the garden side of the house centers on two semi-circular bays extending

from ground to roof line and divided by curved double-hung sash. These bays and all other exterior trim and sash were protected and beautified by four coats of pure white lead and oil. From the bays one may view the magnificent sweep of landscape stretching down from the terrace past the tennis courts and pool to the woods beyond.

The concrete soffit which forms the roof of the entry way into the bath houses, as well as all basement concrete, was painted with white lead. The effectiveness of white lead and oil on wood and plaster is a matter of widespread knowledge. However, similarly with the versatility of many other lead products, pure white lead and oil is equally efficient, durable, decorative and easy to apply on brick, stone, concrete, cement, stucco and like surfaces. The benefits of this versatility are several. Not only is a superior job assured, but the specifier and the contractor need not bother figuring on special finishes and preparations for the varied surfaces. White lead alone does the trick on all of them, and means that one material only can be specified and used for the

entire work regardless of surface.

Styling of the interior walls is carried out mainly by the use of soft neutral shades and off-white tones. In all parts of the interior the decorator has demonstrated his skill in producing colors and combinations that complement the mood and purpose of each room. All interior walls were primed with white lead and oil to provide a durable and elastic anchorage for the enamel finish.

Formulas for painting concrete and similar surfaces are included in the text on page 2 of this issue. For complete formulas, tinting instructions, as well as a wealth of other information on white lead paint and its application write for the free booklet "What to Expect From White Lead Paint," listed on page 11 with other literature.

Ernest A. Grunsfeld, of Chicago, was the architect and Wallace F. Yerkes, associate. J. S. Cornell & Son, Inc., Philadelphia, were the builder. Painting contractors were Palm and Palm, Chicago, for the interiors of the main portion of the house and gallery and Frederic Gerber Company of Philadelphia, for the service portion and all exterior work.

A general view of the beautiful Rosenwald home and a close-up of the wood bays, painted, as are all exterior trim, with pure white lead and oil

F. S. LINCOLN





F. S. LINCOLN

The modern and charming interiors of the Rosenwald residence are painted with white lead to provide a firm and elastic undercoat for enamel finishes

The following articles and reprints contain information, drawings and specifications on the use of lead products helpful to architects, engineers and others in the construction industry. They are available, free of charge, upon request to the Lead Industries Association, 420 Lexington Avenue, New York City.

WHAT TO EXPECT FROM WHITE LEAD PAINT

An attractive 28-page booklet with charts, formulas, and mixing instructions covering some of the problems of painting and how white lead meets these problems.

PAINTING YOUR HOME by Dr. F. L. Browne, Senior Chemist, Forests Products Laboratory, Madison, Wisc.

A discussion of house painting reprinted from American Forests, May, 1939.

SOME PAINTING PROBLEMS AND THE ANSWERS by Dr. F. L. Browne, Senior Chemist, Forests Products Laboratory, Madison, Wisc.

Reprinted from the National Real Estate Journal, Sept., 1939.

WHITE LEAD PAINT FOR MUNICIPAL, COUNTY AND STATE GOVERNMENTS

Specifications and information covering the purchase, use, and application of white lead paint.

STAMFORD'S DOUBLE LIFETIME HOME

A complete analysis of hard lead flashing, white lead paint, lead plumbing, plywood and red cedar Certigrade shingle details and installation methods. Reprinted from the American Builder, July, 1939.

SHEET LEAD INSTALLATION DETAILS

A detailed analysis of the principles and application of lead flashing and sheet lead work for small homes. Reprinted from Sheet Metal Worker, June, 1939.

SUMMARY OF NOTES ON LEAD ROOFING

Reprinted from Sheet Metal Worker.

SHEET LEAD SHIELDING X-RAY ROOMS

A discussion of X-ray protection and installation methods reprinted from Sheet Metal Worker.

PLUMBING CODES—AN ANALYSIS AND SURVEY

By Robert Dick, Member, Research Committee, American Society of Sanitary Engineering.

A detailed study of modern plumbing ordinances, their purpose, deficiencies, proposed remedies and future outlook.

LASTING LEADWORK IN MODERN PLUMBING

By T. N. Thomson, Technical Editor, Plumbing and Heating Journal.

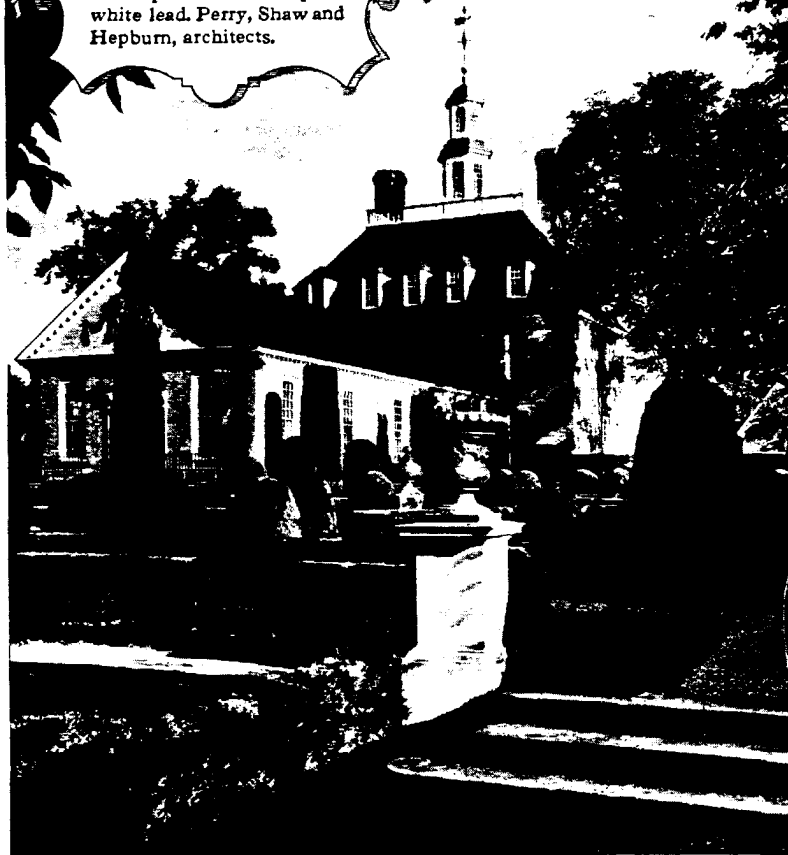
Reprinted from Plumbing and Heating Journal, Feb., 1939.

LEAD PUT IN AT SCREW PIPE COST ON COMMODORE PERRY PROJECT

Reprinted from Plumbing and Heating Business, Jan., 1940.

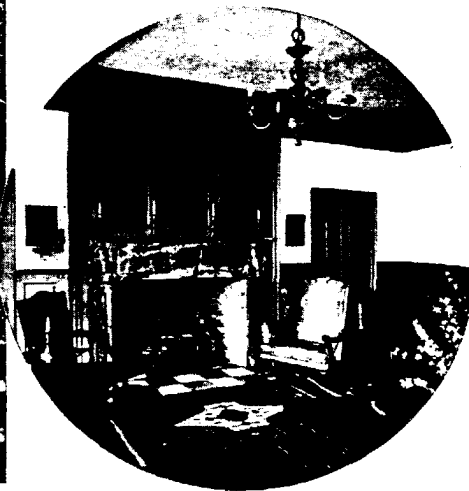
UPON REQUEST, THE LEAD INDUSTRIES ASSOCIATION WILL BE GLAD TO MAIL "LEAD" REGULARLY, FREE OF CHARGE, TO THOSE INTERESTED, AND WILL COOPERATE, WITHOUT OBLIGATION, IN THE SOLUTION OF YOUR LEAD PROBLEMS

The late renaissance colonial Governor's Palace and Apollo Room, Raleigh Tavern (right), at historic Williamsburg, Virginia — both painted with pure white lead. Perry, Shaw and Hepburn, architects.



Take a
tip on **PAINT**
from Beautiful

Williamsburg



IN the beautiful restoration of Colonial Williamsburg, Virginia, there's a lesson in paint for every architect.

In this work — probably the most famous decorative job in recent years — pure white lead paint was used exclusively on the House of Burgesses, the Governor's Palace, Raleigh Tavern, Bruton Parish Church and other principal public buildings — *both inside and out*.

Inside — because the rich beauty of the colonial colors, obtained by tinting pure white lead, so faithfully recapture Williamsburg's original loveliness and can be economically maintained since this paint is easily and *safely* cleaned by washing.

Outside — because white lead, which is made from the durable metal lead, gives paint an elasticity and a toughness that enable it to protect and last for years without cracking and scaling.

WHAT RANGE OF COLORS CAN YOU GET WITH WHITE LEAD? This is only one of the many important paint questions you'll find fully answered in the valuable booklet "WHAT TO EXPECT FROM WHITE LEAD PAINT." Send for your free copy today.



As Williamsburg so strikingly illustrates, pure white lead paint is the ideal medium for decorative interior paint styling. Furthermore, when it comes to exterior painting, Williamsburg stands as a testimonial to the soundness of the rule: The higher the white lead content, *the better the paint*. You can't get a more durable outside paint than pure white lead paint, that is, one containing one hundred per cent white lead. This is the kind good painters mix from lead-in-oil. In many localities it is also sold now in prepared, ready-to-use form — in white and colors.

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