

City Commissioners Office

Call^d 5th April 1812

Notice is hereby Given

That Proposals will be received at
the Mayor's Office until the 11th Inst^h for
making a survey and correct plan of the
City of Baltimore agreeably to an Ordinance
passed 25th March last.

For further information apply to
the Mayor of the City or either of the City
Commissioners—

By Order

Samuel Vincent *Ch*

Early 4 Times

April 5th 1812

City
of Baltimore
for making a
survey

Copy of the Advertisement
for Survey of City
Apr 11 1812

To the Board of City Commissioners
Genl.

In pursuance of a notice dated 3. April
which has appeared in the newspapers of this City, inviting
proposals for making a survey & correct plat of the
City of Baltimore agreeably to an Ordinance passed 25. Jan.
1812. I offer myself to your notice as being disposed
to exert my utmost abilities in performing all the
duties imposed upon the artist by the above named
Ordinance, to attend with the necessary assistance and
tender every possible aid to the Commissioners when making
their establishments - to pay that attention to the
progress of the work as its importance requires that
shall accord with the wishes of your Board - and,
generally, generally to conduct a disposition of proceedings
hand in hand with the Commr in pursuing such steps
as may be deemed most eligible to facilitate the business -
I would it up creditable and satisfactory to all parties -
I beg further to submit that having had
much experience in that particular branch of surveying,
I feel myself amply possessed with the requisite portion
of skill - The Appropriation made by the Ordinance
(viz) Three Thousand Dollars is the remuneration
for the faithful and able discharge of the duties it
enjoins - I am Gentlemen

North Howard Street
Baltimore

April 10 1812

Yr Obedt Servt.

J. Poppleton

Copy

A... and that each condemnation as it is finished shall pass examination - receive the approval of the Commissioners & the Mayor and be lodged with the Register as required by the Ordinance, prior to entering on the next in rotation... in order to discharge from the mind unnecessary pressure...

B... if further explanation is required relative to extension of lots &c

C... That the said Commissioners, with the approbation of the Mayor are at liberty at any moment or in any stage of the business to stop the proceedings upon stating to the Surveyor in writing their reason for such a measure... If the Surveyor enjoy a like privilege of giving his resignation, stating his motives also in writing to the Commissioners or the Mayor... and in either case to be paid a compensation in proportion as the service then demanded is to the whole duty to be performed, which compensation (if necessary) shall be referred to the decision of two persons, one to be appointed by the Surveyor, the other by the Comm^r & the Mayor, with liberty for them to appoint a third (if needful) whose award shall be final

D... If the addition to the first provision is adopted Disputes arising as there several surveys will from the delay required: the scale of reward the Commissioners may determine on... whether this is a condition not required by the Ordinance, I hold the same opinion with the Comm^r that it is necessary... therefore have nothing to object...

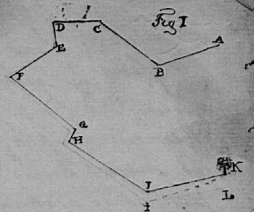
E... The attitude of the ground is a subject I submit to the reconsideration of the Board with this remark... It is unquestionably desirable & would enhance the value of the work, but to render it useful it must be well performed, and in order to perform it well, experience has convinced me it would require three entire months of a man's time at least... An error in level is of far more consequence than an incorrect survey - it is a matter of very nice operation & the Ordinance has no bearing whatever upon that subject & of course could never enter into my calculations when making my property - Nevertheless, if the Comm^r & the Mayor, when the survey is complete should desire or necessary addition to the work, I will cheerfully perform it upon the condition that your Board with the approbation of the Mayor will officially lay before the Corporation to whose liberality I shall be at liberty to apply for a remuneration but I must decline being bound to it personally as apart of the Duty I engage to perform under the present Ordinance

Dr / agreeably to your request that I would explain to you where I consider my mode of practice to have the superiority over the method in use generally in this country, as well as my motives for rejecting the compass, I shall endeavour to convey in the subsequent statement ample proof - but as I must necessarily be prolix, & the subject being rather of an obscure nature, I must crave a patient investigation thereof, as well as the figures, I shall annex for elucidation.

To commence with the compass - it is an imperfect instrument even in the hands of a skillful practitioner, liable to be out of order from many causes which are not perceptible, therefore not suspected - accidental damp, may warp the pivot, the pivot point of the pivot may be blunted, the inside of the caps may get a scratch, or the agate stone (if furnished with one) may become a little loose, these are incidents, I have met with, by which means the needle will hang, is hindered from traversing freely & although it may settle apparently North South, yet it will deviate with the least vibration previous its parallel, & stationing together, and thereby lay the foundation of error that will afterwards appear in a most formidable shape, another cause may be the attraction of a magnet being in the neighbourhood, it being ascertained that such effect will proceed from such a cause, but I am not inclined to admit it on the extent it is very generally considered, the knowledge of the existence of such a power renders the compass still more incorrect in the hands of an unskillful Surveyor - for all errors are unmercifully placed to the account of attraction, without any investigation as to a more probable cause, the key of a Vice Chisel or a penknife in the pocket of a bystander is generally sufficient to rescue the reputation of the artist - Men in every profession are interloped in concealing the mystery & hiding the defects, Surveyors have to prevent detection of errors hit upon a method admirably calculated to perplex and confuse by their description of what they call a home line - in almost every document that has passed thro' my hands, I have found, after a long winding of course and distance, the home line expressed 'thence by a straight line to the beginning' the most contemptible description of a home line that can be conceived - but a complete cloak for all faults - For example

A man is called upon to survey your collection to it - After some

a track of land he certifies to be such & such course and distances from A. B. C. &c. &c. on to K. & thence by a straight line to the beginning - see the black line, in the annexed figure - at a subsequent period another Surveyor or Survey, the same tract, can extract from from the records is put in his hands to direct his course, he places his compass at the point of beginning A and depends solely upon his needle, after allowing for the variations as the card may require to put him in his precise tract his predecessor went 40 Years before. - let us suppose chance guides him as he wants the hit the precise line, he will then have to set up his instrument 10 times before he completes his Survey. It is not impossible but at some point or other, say D, his needle will assume a fresh meridian & not settle parallel to the direction it had when first put up at A. - by which he will be insensibly lead out of the former tract & will most likely end his survey at U. he supposes himself correct & winds up with a straight line to the beginning, see the red line, but those home lines and of different lengths - had the course and distance of the home line been given by the first Surveyor - the second would have had the means of proving the accuracy of the work, but for the want of such connecting line he is completely cast adrift. - Again let us say the first Surveyor represents the point K to be a stream or a creek which shall still be in existence when the latter Surveyor goes over the Land. - after precambulating as before expressed to him he abandons the other course stated in his document & runs to the river or Creek, because it is called for (see the dotted line) & thence straight to the beginning. Since the reason why adjoining tracts of Land when platted together will in some parts run in upon each other and in other parts leave an opening for the Land jobber to enter. Moreover the custom of making allowance for variation is by no means calculated to guide different Surveyors at different periods in the same tract. I am informed they allow about 28 degrees for every 20 Years, but am by no means satisfied as to the accuracy of such an allowance, for I have seen documents of 50 Years back, which only differ about 3 degrees from the present time, nor do I consider the variation to be uniformly the same every 20 Years, it is (I believe) the practice to make no allowance for an intervening space of 1 or 2 or 3 or 4 Years.



whereas if variation is to be allowed at all, it should be about 7 Minutes for one Year or 1 Minute for every 7 or 8 Weeks nearly. At least this mode of making allowance is but a game at chance. (I have heard since I have been in Batavia, of making a moderate allowance - or a full allowance, for an error on only 3 Minutes will carry a man away from the truth, another reprehensible custom is measuring with a tape - which holds the same fault among admeasurements, as the home line among courses (viz.) convenience, for by a dextrous management a tape will measure any distance good or bad from 3 inches under to 3 inches over its whole length something like Indian Rubber - the foregoing are part of my objections to the method in use.

In the mode of practice which I have been taught, the Surveyor is deprived of all excuse for inaccuracy, and justly so, for I furnish him with so many checks and proofs in the progress of his work, that it is impossible an error of any consequence can exist unknown to him. Having nothing to do with variation, attraction &c. all subterfuge is cut off - hence a fair presumption that if a plan is delivered incorrect, it is either want of talent or wilful neglect. This reputation is lost. I shall now attempt to give you an idea of this superior degree of accuracy. My instrument is furnished with a needle & compass box the same is in use here, in addition to which the limb or outrider edge is divided by means of Nonius into 21600 equal parts, or 1 minute of a degree, the instrument is furnished with 2 telescopes, one attached to the lower or fixed limb; the other to the Nonius or moveable limb, it likewise has a vertical arch on the upper limb divided to minutes of a degree to take the angle of elevation or depression of those unequal surfaces that will affect the measurement as to distance - with a table of the deductions necessary to be made in either case, to reduce the Hypotenuse to a base line - it has a spirit level to adjust it, parallel to the horizon & a plumb or bob line to place the Centre direct over the point of Station. - It is adjusted the instrument at the first Station of a survey - I bring it horizontal by means of the level (or bubble) & then let the needle to averge. - The index of the Nonius is placed at Zero (or 360 Degrees) of the edge of the instrument - when the needle settles I give it a slight motion to see if it settles again as before; when I suppose it fixed, I turn the whole apparatus till the N. & South line in the Compass box & the 360 - or 0 - your attention is to it. - After some

From the outside limit, ^{considered} with the meridian line as pointed out by the needle, I then saw all fast & am prepared to pursue a course of angles.

I will now suppose myself directed to survey the tract of Land before described (Fig 1.) we will further suppose the stone, and placed at the point, or, that it is enclosed the location not disputed. instead of traversing 10 different lines (the way of the figure) I should choose only 3 stations, because the fewer the angle, the fewer the error. - I would measure from A to C, C to B and from B to A in the direction of the dotted line and take offsets from those lines, perpendicular to the several stones, or corners of the fence as the Engineer will be used and

the angle, I should then fix my instrument at A (see fig 3) and having adjusted it as before described I should reject the needle altogether I turn the monies or moveable limb till the Telescope cut the point B the 360 on the fixed limb, remaining firm in the meridian line as first placed. It would then appear the monies cut $94^{\circ} 12'$ upon the fixed limb - that I should enter in my field Book as a Return Angle. I would next turn the monies till the Telescope cut the point C... I should find it read on the Limb $154^{\circ} 12'$ with the Instrument thus fixed I would remove to the point C. After placing it horizontal I should direct the Telescope back to the point A and find it $154^{\circ} 12'$ still being the point cut by the monies - it may appear by reference to the figure that the 360 or first meridian line is parallel to the position it held at A (altho the needle, by looking into the Box may vary)

Fig 2.

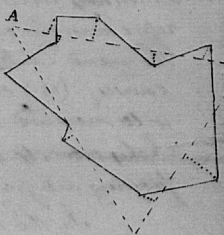
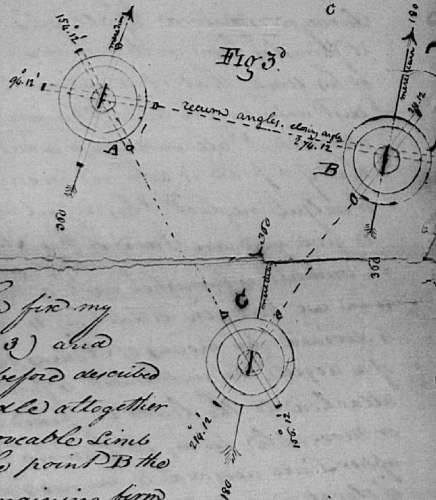


Fig 3.



a Degree) I now turn the monies to the point B. If I find it read $214^{\circ} 12'$ on the limb... I move on to the point B. back $214^{\circ} 12'$ back to C... I again turn monies till I cut A the point of beginning - here I call your attention to the result. I have stated that at A I took a Return Angle $94^{\circ} 12'$ and upon looking at my monies, at my present station B - I find it read $274^{\circ} 12'$ in the direction to A, which I term a Closing Angle - because $274^{\circ} 12'$ is the opposite to $94^{\circ} 12'$ - thus to $94^{\circ} 12'$ add 180 - is $274^{\circ} 12'$ } return Angle, & Closing Angle

upon proved each other, & always affords the Surveyor the means of correcting himself by running up to some former part of his work, and seeing if he can close upon it.

If the land was uninclosed, or no boundary to be found, I should be obliged to pursue the course as specified in the Record in that case after adjusting my instrument at the point of beginning I should abandon the Compass at the first station & lay off my course by the hand of the instrument - by which I should determine my course from the first meridian. - but the truth of

first meridian being the same as the original survey, is, have before said a Land of Chance, and will ever remain until a line instead of a point is given to begin with.

You will perceive by this mode I can never be long in an error without detecting it, my system being a series of horizontal angles each commencing with a return angle from some former branch of the work, & ending with a closing angle, or proof home to the same point.

There are besides, many methods of surveying which a Surveyor may occasionally use, according to the situation. he may get into which must be left to his discretion & experience so as to bring out truth as the result - truth is the object of all mathematical researches - as your request did not extend to an absolute treatise upon surveying, I think I have already said sufficient for the purpose.

It may not be improper, nevertheless, to detail the mode of my proceeding in commencing the survey of this City; I beg to arrest your attention to it. - after some

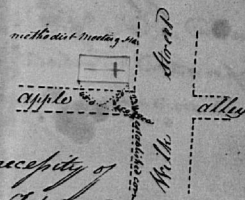
search for a good piece of ground I found sufficient for my purpose on the Review Ground. - I chose 2 points as the extremes of a Baseline upon that line drove pegs at every 300 ft. - preserving the line straight by means of my instrument; I next strained a Garter line from peg to peg, quite free & of course perfectly straight. - with pins made for the purpose I then measured the distance of the greatest care and accuracy, I found I had a straight line of 2455 feet 10 inches $\frac{7}{8}$ in. from one extremity I chose a point for an intermediate station - which with the 2 Ends, made 3 Stations, the necessary number - from those points I commanded a view of the principal Objects in the City; in addition to which I placed flag, on Namstead Hill, Windmill Mole, Croft's shingle Bank, Pall Mall Wharf, the Observatory &c. - And from the points on Baseline I fixed my trigonometry about 16 points - I after laying them down on my plan I proved the distance they measured by the scale to be correct by Logarithmic calculations - I then established a series of trigonometrical points as the grand frame work or foundation of the whole work - I then commenced a series of horizontal Angles & measurements branching from and closing upon each other in the manner before described, and this series upon series ultimately closing upon the main points as fixed by trigonometry, must I conceive, ensure a great deal of accuracy as it is possible for practice to arrive at. - Of course evince undoubted superiority of method -

Having now as I suppose refuted the charge of incapacity, I must trespass upon your patience a little longer. - having received official notice of my appointment to make the survey - I am desirous of commencing my operations without frittering away any more time, but I discover that the Ordinance has unfortunately placed me under the direction of those incompetent to direct, I am unwilling to allow field scope - more inclined

to create impediment, than remove them, and notoriously hostile to the appointment, if not to the undertaking - It therefore becomes my duty to apprise you that unless the ordinance can be so modified as to leave me untrammelled & free as air, I shall never produce any plan - I take the liberty of suggesting the substance of an amendment to the Ordinance, that I think will remove all obstacles which I submit to your consideration (viz) That one or more of the City Commissioners be directed by themselves or their Surveyor to show me upon the ground the precise spot where they have established the corner of St. Paul's - also the boundaries of the City (not give me an extract from the Record to go and find it out myself, but touch the point & show that to be the fixed establishment). - I need record or reference to that point to be then made in such manner as I shall deem best, in a Book of Diagrams, which I will prepare for that purpose - which Book shall be afterwards fairly transcribed & be delivered with the Plan of the City as a necessary accompanying Document - a copy of said Diagrams to be kept by the Com^r their Clerk or Surveyor - somewhat similar to the annexed figure

That they be directed to proceed in determining those points not yet established and from time to time as they progress to point them out to me as above described -

I will here explain the necessity of the above measure, when the Com^r had me out upon Light Street extended they had a record of the NW corner of Camden & Light Street being $398^{\circ} 0'$ from the NW corner of Wm Owings Warehouse. I measured it 397.9 Metres followed me with a Tape I made it 397.1 here and 3 measurements of the same line I saw 2 alike - and I am positively that $398^{\circ} 0'$ will never hit the point they call the station corner, but will run into upon Camden Street & leave a gap that 66 feet wide -



Again at the corner of Apple Alley in Milk Street their
Record says the established Corner is 24 ft from the Corner
of the Methodist Meeting House - I declare it to be only
23.10 - Hence the discrepancy of more correct reference
without disturbing the actual points of establishment - In
both the above cases, the Survey has only one measurement
Pa Courts by the Compass whereas it is essential to have
several lines of short convenient measure, by which
50 men at 50 different times, will always hit upon the
just Point -

To proceed in my amendment - I should
then wish the Term City Comm^r to be struck out from
every other section of the Ordinance & the word Mayor
substituted in the place thereof - It will not be till the year
of the next annual Session of the Council that I shall
want the assistance of any Comm^r to aid in determining
the Divisions of the several Condemnations for Preconement
it to be the last thing done, & then hope to be associated
with gentlemen friendly to the undertaking, either
~~as the Commissioners or as special Commissioners~~
City Commissioners - and as I shall have in a great degree
prepared the way - I anticipate no material difficulties
- tho it may prove rather complicated - I have only now
to add, Sir - that knowing the views & wishes of the
Corporation I shall use every endeavour, after my
own manner to meet them -

I remain Sir
Yr Obed^t Serv^t
J. Poppleton

May 12th 1812

Gentlemen

The appointment of Private Surveyors to
your Board being unexpected as well as unsolicited on
my part would have been very flattering, had I not
considered at the first entranced upon its duties, Circumstances
of a character too marked to be mistaken, and which forced
me any longer to act in that capacity

I am Sir
Yr Obed^t Serv^t

J. Poppleton

P.S. When it shall suit the convenience of the Board
to enter upon the public Survey, I will obey their call

29 Apr 1812

Copy

B the whole was read by Mr Poppleton himself
after some explanation. except the Remarks
on the other side -