

Course 1: History, Records & Administrative Systems Study Guide

COURSE DESCRIPTION:

This is an introductory series of videos that establishes the context of the CFedS Program. Topics covered in this course include:

- Brief history of surveying as it relates to the United States
- Cultural Awareness
- History of Indian Land Law
- Bureau of Land Management and Bureau of Indian Affairs structures and records that each may have
- Basics of federal survey authority

COURSE OBJECTIVES:

Upon completion of this course, students will be able to:









- Review administrative functions, structures, and process of the Bureau of Land Management and the Bureau of Indian Affairs
- Increase awareness of cultural and historical legal issues when working in Indian Country
- Identify records sources for survey projects in Indian Country

COURSE INSTRUCTOR(S):

Dennis Moulard, Bureau of Land Management
 Dominica Van Koten, Bureau of Land Management
 Pricilla Wilfarht, Office of the Solicitor
 Colleen Kelly, Office of the Solicitor
 Ron Applebaum, Bureau of Indian Affairs (Ret.)

VIDEO LECTURE TITLE:

History of U.S. Surveying (40 minutes)

ICON LEGEND							
 WEB COURSE	 EXERCISE	 DIAGRAM	 READING ASSIGNMENT	 PROBLEM	 HANDOUT	 2009 BLM MANUAL	 QUIZ

HISTORY OF U.S. SURVEYING

A History of the Rectangular Survey System



**READING
ASSIGNMENT**

Before you begin this topic, take a few minutes to read “A History of the Rectangular Survey System”, pages 10-15 and 54-55 which is located in the Reading Assignment section at the end of this study guide.

Introduction

Welcome to Course Number 1, Module Number 1, Video Lecture Number 1 of the CFedS Training.

I’m Dennis Mouland and you briefly met me along with Ron Scherler in a previous interview that we had done to get you started, to get you some information on what’s going on.

And its fallen my opportunity to bring you up to date on a few things here regarding historical prospective about surveying, about some background things that will be of help to lead into things that will be in this course as well as future courses that are a part of this program.

So that’s where we are going to go, but I thought I better start; I didn’t introduce myself all that formerly in the prior video and so just want to let you know. A lot of you probably know me, I did a tremendous amount of seminar work around the country for over 20 years and actually had over 50,000 people take classes from me during that time, so many of you may know me, and I may not know you by name, I might know your face.

But I have been surveying since 1972, started up in Prescott, Arizona, which is where I live now. It was kind of a long circuit to get back there. About half of my experience during that time has been in the private sector, of course coming up through the ranks of surveying but then even more those years in the private sector was running various survey departments, you know survey manager in various private civil engineering and surveying companies.

HISTORY OF U.S. SURVEYING

The other half of my experience has been, though, with the federal government and the majority of that with the U.S. Forest Service, 17 years with them. And now with the BLM; my current job is the Cadastral Training Coordinator here at the BLM Training Center in Phoenix, Arizona.

And we are real glad to have you all, you're not here per se in Phoenix, if you're watching this in the dead of winter, you probably wish you were in Phoenix, but this was the best way, the best medium that we had to be able to reach so many people in so many different places, diversity, so we are in the television studios here at the National Training Center. That is where all, I believe, all of the videos that you are going to see has been produced.

So it has been my opportunity and a challenge really to design the training that initially is for the CFedS and then to also help produce it. I don't think I would call myself a producer, but training person, training designer, and we have some pretty talented people who have been helping us along the way to put these things together.

So, we'll get started here, get you started on subject matter and as we encouraged you in the previous lecture, the introductory interview, you know take lots of notes. One of the beauties of this is that you can always go back and listen to what we said. And if you didn't quite get it, go back and listen to it again or if it seems to not make sense or something someone else said, well go back and listen.

You have a permanent record of this training and all of the lectures that are here. So it should work well and we, of course, always welcome your feedback on those things.

Historical Perspective

So let's get started on historical prospective. This is kind of a generic subject. My objective really today is to help you become familiar with the historical aspects of surveying in America and especially how it lead to the creation of the **Public Land Survey System (PLSS)** which you will find referred to throughout our handouts in the course as the PLSS, Public Land Survey System.

As you know the Americas were basically inhabited by native

HISTORY OF U.S. SURVEYING

peoples, and then various things happened and of course, there are arguments going on as to whether Columbus was really the first one or the Vikings or and now here recently there have been things about the Chinese had produced all kinds of maps that they provided to Marco Polo that are proof that they had been here even earlier than the Vikings. So, who knows?

But the bottom line is that Europeans did start to explore and visit this area. And you know a lot of times we like to say that is when history began, but not really, that may be when written history began in many cases, but the natives have been here for hundreds if not thousands of years prior to that and so you know there is a lot of history there and I will just mention that, and you'll hear more about this later in the program, but the natives, they look at land quite differently and they feel like it belongs to everyone and they are one with the land and those kind of concepts.

And I am not making fun of that because it is the foundation of why we have difficulty in talking to some of the Indians sometimes and getting them to understand the importance of certain documents or the importance of a survey even. Because they don't quite follow that.

Now even with that in mind there were still boundaries that the Native Americans, the Indians, recognized. I am here in Arizona so I will reference, you know up North, here of course we have the largest Reservation in the country, the Navajo Reservation, and they and a number of other tribes that inhabit Northern Arizona, they recognize, sometimes in conflict, but they recognize that our territory goes to that mountain peak, or goes to that river, usually a dry river in Arizona, but you know it went to there and so there were boundaries. And we would call these bounds, right?

A **bound** is some kind of limitation to what you own or that you control and so it can be any kind of a limitation. We will learn more about that later in one of the other courses. But the bottom line is that there were still boundary issues and there were violations of those boundaries issues.

There were tribes that were raiding others or that their resources were running thin and they moved on and invaded what some other group thought was their land and so, you know, we have always had boundary issues of one sort or another but it was never

HISTORY OF U.S. SURVEYING

as complex or as intricate or as perhaps even sensitive as it was once the Europeans showed up because we were of European background here in the United States, especially, we write everything down, we had to record documents, we had to have surveys and we had plats of the surveys.

We made a lot of those things a lot more complicated and in many cases for good reason. But the point is that it is not something new. The Europeans did not bring boundaries to the colonies, but they did bring their brand of boundaries and it was much tighter, much more related to economics than it was just that we were part of the land and we enjoy the benefits of the land, which is how many of the Indian cultures look at it, and I'm no expert on that. I'm not claiming that. We have brought in experts to talk to you about that. But it's just to show that we have always had boundary issues and boundary concerns on this Continent.

Well, you know we have, it doesn't really matter what part of the United States you are in, some of you watching this are in public land states, some of you are in Colonial states, some of you are in Texas, which you know us public land guys kind of lump you in with Colonial, but you really weren't, you weren't part of the original colonies, you were part of another country and then you were your own country for a while, if you are watching this from Texas, and then we have Hawaii, which the United States acquired, I forget, 1898 somewhere in there, maybe a little earlier, but that was its own country and system of surveying and that sort of thing.

Similarities in Surveying

But here is my point, it doesn't matter which part of the United States you are in, you can be in the Colonial states, you can be in the Midwest, you can be up in the Great Lakes, down in the South, you can be here in the West, you can be up in Hawaii, you can be up in Alaska, it just doesn't matter, every one of those cultures had the same kind of land description systems and it is what we usually call **Metes and Bounds**.

Now, **metes**, of course, are measurements of any kind. A **mete** includes distance, bearing and even areas in some peoples' minds. Whereas a **bound**, is as I mentioned earlier is a limitation and that might include a monument or some record object and so we have

HISTORY OF U.S. SURVEYING

metes and bounds descriptions and they were of varying of, how should we say it, varying quality early in time, of course land values were low, as the Colonists arrived here in the United States, hey it seemed like the land was unlimited. So that not only kept the value down, but also perhaps caused people to say I'm not going to worry about a 10 or 20 or 30 foot discrepancy between my land and somebody else because I've got more than I know what to do with anyway, so you know there were attitudes and economics and just even psychology that were involved that allowed surveying and legal descriptions to be sloppy. I think it was precise for the time, so don't misunderstand me, but it was sloppy by today's standards.

And you know we even come across things historically in some of the Colonial states, and you can find this a little bit in some of the Western states, where back in the day, you know, back 150 to 200 years ago or more they would exaggerate the acreages, either up or down.

I know of places where I have seen deeds where the parcel was 100 acres, but it wasn't very good land, so the surveyor (even though he measured something that came up 100 acres), he called it 80. He had given it a 20 percent discount right off the bat. So we had a lot of loose kind of operation and Metes and Bounds can run in a more effective and efficient manner, but the bottom line is the **land tenure** system, the ownership of land and how it was described, and sold and owned and documented and all those things, that's land tenure in a nutshell, that it was a very loose foundation upon which the Colonial states were built. Surveyors who are in Colonial States deal with that all the time, they are experts at it.

You know they know far more about much of that than I do because they have had a lot of experience with that, although you know I will mention that I did a lot of surveying in New Mexico and when you are working inside the land grants, you're dealing with people and land ownership, and occupation that predates the Pilgrims' landing and you need to keep that in mind and that many of us from the West have a considerable amount of Metes and Bounds experience, but I haven't had any on the East Coast where you have had certain flavors, certain record systems, all that sort of thing. So I'm just acknowledging, I don't claim to be an expert on the Metes and Bounds in its totality on the East Coast or in the

HISTORY OF U.S. SURVEYING

Colonial States.

But you know the bottom line is that these surveys and legal descriptions many times without a survey, which still goes on today, you know they created certain future problems. Now you are familiar with these, you are familiar with a lot of these things.

We have what we call the seniority of calls and that is based on case law that the courts have given us and is very, very consistent as to which kind of calls are more important, and you know the reason for this is because anytime you have more than one call, you have the potential for and usually the likelihood of a conflict.

Seniority of calls

So you look at this list that is on the screen now this is generally, it depends on which textbook you are reading and there are certain differences here, but just go with me here on this.

We have monuments and some of the books we read divide natural over artificial. Then we have other record adjoiners calling for an adjoiner deed or something, a survey of record that may not even be of your parcel, and then we have distances, bearings, area, when it is used as an addendum, and we'll be covering some of this stuff in a later course in this program, but the area and then even in some places coordinates are down at the bottom of the list.

Now when you look at the list, let me highlight a couple of things here for you because what we need to remember or recognize is that these first three, I am just going to circle the dots there, those first three, this to me is more important than anything else on the list, those first three are bounds, aren't they? They are all bounds, yet these remaining ones are, you know distances, bearings, area, coordinates, those are all metes, and they are all measurements, right?

So, you know, I'll be discussing some of that in one of the other courses about boundary law where we will kind of go over that: some of the things we really don't want to be reading into the seniority of calls. But I am using that as an example to show you that conflicts exist almost always. I mean you call for a bearing, a distance and a monument; you are going to have conflict. It will not measure right.

Seniority of Calls

- Monuments (natural over artificial)
- Record adjoiner
- A record survey
- Distances
- Bearings
- Area (as an addendum)
- Coordinates

HISTORY OF U.S. SURVEYING

The monument may not be the one that you were expecting and all those things. I am not here to talk about those now, but I am mentioning that because what we need to realize is that the courts have had to answer a tremendous number of questions for us over the last several hundred years, including some of our European background and the common law that came with us from there that helped us to understand Metes and Bounds because it has a lot of inherent problems in it.

Now let's understand that originally the Crown, the English Crown, especially the East Coast, they were handing out land in huge parcels to friends of the King or to giant corporations which were usually headed by friends of the King and almost immediately, those parcels that were being meted out, were in conflict.

Huge overlaps by 100 miles in some cases and it is just because they didn't have good maps and they weren't doing surveys. The King was just giving them land from this point on the ocean north or from this latitude south and not realizing that those are overlapping each other so right off the bat, because of not paying attention to good mapping, good surveying, good foundation for some of the reasons I've discussed we already have title issues, we already have boundary disputes, we already have situations that came up. And as I mentioned, there was very limited precision and I don't criticize the surveys or the quality of the ways that those surveys were done, although sometimes you could.

I have a great book at home that's got a collection, I forget, of 30 or 40 plats that George Washington drew and I got it, I think, from the Virginia Surveyors Association but it's a great book and you look at it and even here is one of the founding fathers of the United States who was at least a part time surveyor. I don't know how long he surveyed, but some of those plats are a little loose, a little poorly drawn and you know a lot of information missing and so you know I am not going to be overly picky about, I just want to say that attitudes at the time the paradigms that they were operating under, precision wasn't important.

We do know that for a tremendous amount of metes and bounds it really was just bounds. Sometimes they didn't even have metes in there, they just had bounds. They just said "go from the creek to

HISTORY OF U.S. SURVEYING

the tree to the rock wall to the whatever” and that is a legitimate description, its not precise, it’s not mathematically containable or definable, but it’s still a valid description.

If somebody did a valid deed and that description was on it well they conveyed that title. And we have those same things here in the land grants and other metes and bounds situations here in the West. So you know that limited precision was one thing and then calls for a natural object, some of which don’t exist anymore, or there is confusion, you know, to the tree and you go out there and there are six trees there now, you just don’t know. These things can happen even in public lands; they have.

Lack of Standards

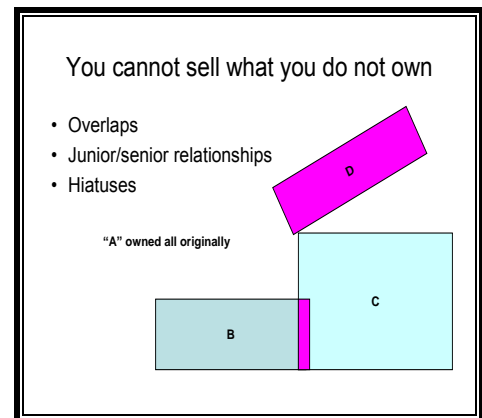
But there were a lot of historical issues there that surveyors in the Colonial states were dealing with. There were no standards; of course, there wasn’t any until the end of the early 1900s anywhere in the United States as far as real surveying standards and policies and procedures and recording of data, that sort of thing. It was pretty loose and as I mentioned earlier many parcels were created without a survey and even to this day that is done by developers and people and they don’t realize some of the risks they take and the problems that are potential there. And so what we see is the title issues that begin to arise.

They are not immune from, when you got a land description system that works like that, you don’t have control over a lot of situations because as you describe land and that’s what, the words in the deed, that is what conveys the land, but then when we go out and survey it later we come up against things, we start finding all sorts of issues, we have overlaps and hiatuses, and Junior/Senior rights and even unwritten rights.

HISTORY OF U.S. SURVEYING

Now I have a Power Point here just to show you and you will see this one in a later part of the course or the program. But, you cannot sell what you do not own, that is really the foundation of **Junior/Senior rights** when it comes to title. Now you will learn about different kinds of Junior/Senior situations here when we talk public lands later in this program.

But you can't sell what you do not own. So here we have, say the whole slide here was owned by A and he owned everything originally then he sold something to B and then he sold something to C. Well, as it turns out, a strip as you can see there in pink and here I will circle it. That strip was sold twice. It was sold to B then it was sold to C.



And the general rule is that B is going to get it because he was first in time, first in right. And it is not just because he got to the courthouse first, although in some states there are issues there, and I am not going to discuss those. But what really matters is that when A sold it to C, he didn't own that strip, and he had already conveyed it. And you cannot sell what you do not own.

We call it the Brooklyn Bridge Principle. I don't know if that is just urban legend or if people were dumb enough to buy the Brooklyn Bridge. But I am sure there were people dishonest enough to try to sell someone the Brooklyn Bridge. So, you can't sell what you do not own.

Now going back to the slide then, we also have the other situation and that is where C was sold and then later D was sold, but we have a hiatus.

There was an assumption that this area in here that this was a common line but when you get out on the ground and you use the words in those deeds and you find the monuments that they had or whatever they gave you, you discover that those are not contiguous lines that there is a hiatus there.

These are some of the things that started occurring and have always occurred really in the Metes and Bounds world and especially if you just start using Metes and you don't mention enough Bounds, then you really get into trouble and most of you have experienced all of that.

HISTORY OF U.S. SURVEYING

So we have a lot of **title issues** that started to rise because of that. We had other things unwritten rights, adverse possession, prescriptive easements, people using things, acquiescence, all those things. I am not here to discuss those things with you in this course but the bottom line is hey there was all these unwritten rights going on out there that were more controlled by what people were doing on the ground, irrespective of what their deed said.

And on top of all of that, then we also have words, and of course in the surveying, and deed, and realty business, words are very important and I am amazed at how sloppy some people are, surveyors, realtors, lawyers, others, you know title insurance companies even. How sloppy they are with words sometimes and not realizing that words are very important. Of course, we as surveyors primarily pay attention to the words in the legal description.

If you have ever read any books on this subject, in particular what I think is the best one by Gurdon Wattles, book entitled, *Writing Legal Descriptions*. If you have ever read any of those, you know they have a listing for you of terminology that you should use or that you should not use. And some of them are almost crazy; you know they are just silly. They're dumb, but we are going to list those for you when we talk about boundary law and title analysis.

But I am just mentioning those words because you see where the problem is when you are creating metes and bounds descriptions, which are essentially paragraphs of words, there is all these potentials for conflict of just the things you say, then there is the potential of conflict of the things you said and what is really on the ground, and how the adjoiner said theirs and then on top of that the words that you used may be construed by the courts to mean more than one thing or they are construed to mean more than one thing then the courts step in, barring any other evidence, here is what that means so we have a lot of potential confusion, a lot of issues and if you have ever worked with any Metes and Bounds situations, then you know how complicated, messed up and challenging they can be.

HISTORY OF U.S. SURVEYING

A National Debt

Well, here we are in this new country that is all metes and bounded to death, and we have a Revolutionary War. And we finally expel the British and declare a victory and we have our new nation. And we are all familiar on July 4, 1776, signing of the Declaration of Independence, I am not going to give you a full history lesson, but you know not too many years after that, in fact 1784, the United States Continental Congress began to discuss a number of issues that they had. The war was finally over.

But they had a real problem; the country was broke. That sounds familiar..... you see I can safely say that because we always have a national debt in the United States. The nation was broke. We had a huge national debt. We had borrowed money from individuals, from corporations and especially from other foreign governments to help us finance the war against Britain. So we needed to pay this off.

We also had a tremendous number of soldiers who had fought in the war both American citizens who fought in the war and as well as even other conscripts from other nations who came and helped us fight the war and we needed to pay them, we didn't have the money to pay them. We didn't have a real economy at the time.

I wouldn't say that our economy was totally in shambles because it is not quite like it is today. It was very agrarian based at that time and although there was a lot of shipping and things going back and forth, the war had taken its toll on some of that, so we were not in the best of economic conditions and the Continental Congress wanted to resolve this.

Vast Lands to the West

Now they started thinking about all that land lying west of the Appalachians. There were people moving out there and they were having some skirmishes out there with the native peoples. But there were people who wanted to homestead out there. Great Britain was still claiming to control a portion of the upper Midwest and the United States wanted to secure its ownership of those, its control of those, the safety of those areas for homesteaders and they also wanted to take advantage of that tremendous asset.

HISTORY OF U.S. SURVEYING

You know it was one of the few assets that the United States had. Now originally the Colonies that extended westerly, and you have seen some of those old maps where the map just kind of fades off as they get to the mountains there, you are never quite sure how far you know Tennessee or Virginia is going to go. Because you can't tell by the map because they really didn't know what was out there so they were just kind of it was like from here on out as if to the Pacific.

There was tremendous debate in the Congress about ceding those lands back to the Federal Government. You see, there was no federal land at that time. It was all state or colonies and then became states. And they were claiming all these vast lands of the West. And so a tremendous debate when on for quite a while and I forget I think it was Georgia was the one hold out and I think they waited a year or two before they ceded but eventually during a several month period, the states ceded their land to the Federal Government that was lying west of the Appalachians.

That is a very general boundary because there were some other things that went on, and the creation of a couple of new states and that sort of thing. But here is the bottom line: all of a sudden the Federal Government had ownership and control of what they felt was an unlimited asset, an unlimited amount of land that just went West to the western ocean, wherever that was. And you know we, at least Europeans, didn't have any real knowledge of where that was or how far that was until we sent Lewis and Clark.

And then we got a real good idea of how far it was and how difficult it was and especially how rugged it was: That it didn't all look like Missouri or Virginia, or the rolling hills or what they call the mountains of the East (which some are pretty cool), but it was quite a surprise for Lewis and Clark and Company went they got to the Rocky Mountains. Nobody knew how far that went so the government owns all of that so they decided that they were going to sell off that land.

And there were a lot of reasons for selling off that land, one was to raise money, two put people out there, homesteaders occupy the land so that if any other nation or anybody wanted to claim ownership, we could say well we are occupying it. That was in particular with the issues with the British up there in the upper

HISTORY OF U.S. SURVEYING

Midwest. So you know we kind of had a plan there.

This would also help secure more people farming and producing which we could then tax. This also got our economy going because new people out farming and they are going to buy new stuff to help farm and then produce crops and that sort of thing and on top of all of this gave us a way to without even using cash in some cases pay off soldiers.

There were situations where soldiers were simply given 320 acres or something and said that's your payment for being in the war. So this was kind of a God-send in their minds. They just thought "well, all this vast land, let's start selling it".

Surveyors Input

Now before they started to sell it though, the surveyors in Congress (and let's face it there were several land surveyors in Congress back then), the surveyors in Congress said, "Whoa, Whoa, wait a minute, are we going to dispose of all of this land, are we going to continue the same problems that are inherent with Metes and Bounds?" and of course remember this is from their prospective of precision, their perspective of purpose, of value, of land, of all sorts of things. They said "wait, we don't want to continue with that. We want to do something different."

There was a committee put together that was originally headed by Thomas Jefferson, also a land surveyor. Jefferson had a lot of ideas but not all of his ideas were incorporated, that's for sure. But about part way through the process, he was sent off to France as our ambassador there.

So the committee was made up of people from each of the colonies and they had a lot of different ideas and what ended up being the Public Land Survey System really is quite a hybrid of different things from different states, but there were some basic things that they wanted to do that had to happen in order to change the foundation of the Land Tenure System of how it is described, how it is conveyed and how it is surveyed and so those surveyors jumped in with these ideas that stuck and I want you to think about this.

HISTORY OF U.S. SURVEYING

First of all, we were going to survey it first. Brilliant idea, right? I mean even to this day we go out and survey something that someone already sold ten years ago they had to make assumptions when they wrote the legal description of that and we go out and we find that it is not the way they thought it was. And that happens all the time. So Jefferson said, (it was one of his ideas), “we are going to create this grid” and we’ll find out more about that here soon, but we are going to create this grid and it’s going to, when we say survey it, they were not saying that they were going to survey every parcel, every property corner of every person’s parcel because they didn’t know what shapes the people would choose to buy land in.

Using terminology that you and I would use today, this might help you to understand it better; they wanted to **control** the surveys. So originally it was section corners every two miles then it dropped down to section corners and quarter corners which is basically what most of the country ended up being and that most of us in public land states are familiar with.

But understand that it was that setting of the control in other words wherever you were in the public domain, wherever you were that you were going to homestead, you were never more than a half a mile from a corner that had been set by the government and you needed more than one to figure out where your land was but you had enough out there that you could do this and you didn’t have to rely on thence from the old tree to the creek and when you get out there the creek splits and goes around an island or which side do we go. You don’t have to worry about all that stuff. It was predetermined on the ground and on the plat as to what was being conveyed.

You had to survey it first, there was not going to be any Metes and Bounds in the legal descriptions that the government was going to convey. You know that we call them patents. A patent is really a government quit-claim deed. That is what it really is.

When the federal government would issue a patent, it would not have a legal description in the normal sense that everyone was used to, that being Metes and Bounds, beginning at the tree, thence around the rock wall and down to the creek and to the road and all of that. It’s not going to have any of that. It’s going to be based on this grid first of all and they are going to give every parcel a name

HISTORY OF U.S. SURVEYING

and so they came up with the system, which if you are not familiar with it, you will have the opportunity to be familiar with it, of quarter sections and half of quarters, and quarters of quarters and all that stuff. They came up with this system so they could name every parcel. The land could be described and conveyed by the name and not be bound, if I can use that pun, to the Metes and Bound system.

On top of that, the plat, an official map filed by the government, would also give you the area. So there would be **official acreages**. They may not be very precise but there would be official acreages so there would be any arguing about how big is that piece of land and all that.

Congress set what the rate was initially, I think at first it was a dollar an acre then it went up to \$1.25 and then it eventually got to \$2.50 an acre on homesteading. But the point is this, Congress set the price but the surveyors for the general land office had to go out and define the boundaries with marks on the ground, monuments. And then produce a plat that gave the official acreages. So really what you have is the legal descriptions on the patents or what they include is a description by name and an official acreage.

And that official acreage is what you multiply by the \$1.25 an acre or whatever the price was at the time that he was buying it.

Sequential or Simultaneous Conveyances?

Now I want to draw an analogy for you that most of you surveyors, if not all of you, understand. You know in surveying we have what we call **sequential conveyances**. The example I showed you, you cannot sell what you do not own, that was a sequential conveyance.

A owned it all, he sold to B then C. There is a sequence there, a time, and a chronology. But we also have in land boundary law we have what is called a **simultaneous conveyances**. Although they are not actually conveyed at the same time, it is a simultaneous creation; I prefer to call it, where we create all of the parcels at the exact same time.

Now the most common of those that you and I are familiar with is the residential subdivision. Where I live it, it doesn't call for

HISTORY OF U.S. SURVEYING

Metes and Bounds, it says Lot 4 of Block A of Shady Deal Estates. That is for sure in Arizona, Shady Deal Estates, you know, all of our land fraud history we have here in this state. So that is my legal description. Now what is that doing?

I am in a lot and block situation. So all the old lot block surveys, the residential subdivisions many of you watching this are in the business of creating. You are creating a simultaneous creation. All of the parcels in that subdivision are created at the same time and that time is when you sign the plat and record it, right? In the county or whatever jurisdiction you work with approves that plat or accepts it. All of the parcels on there are equal, is that right? So there is no Junior/Senior between lots in a subdivision, other than maybe on the exteriors because you are up against other owners there.

Because you own, I say you, the developer owns the whole parcel and then carves it up into 50 parcels. Well they are all created at the same time. That is what we call a simultaneous conveyance. I want to use that as an analogy, you see the Public Land Survey System, therefore, because of the way Jefferson and the rest of the committee designed it, became with very few exceptions, a giant simultaneous conveyance.

Because all of the parcels in there, you know the plat of a whole township is approved, everything in there was created at the same time. So you know somebody owns this section and somebody else owns the section next door, it didn't matter. There is no Junior/Senior relationship there. So you see that is just one example of how they were getting rid of the some of the inherent problems that Metes and Bounds brought or that they had brought with them from Europe that had plagued them and had plagued our land tenure system.

If you think about this, you realize that in a giant simultaneous conveyance, there is very little chance for overlaps, we have some and they are there because of mistakes because we didn't stick with the system. And we are not really covering much of that in the CFedS program although some of the continuing education CFedS courses will definitely go into that.

But you know, when you are a giant simultaneous conveyance you don't have a lot of chances for overlaps or hiatuses, and frankly

HISTORY OF U.S. SURVEYING

the Public Land System even thwarts unwritten rights. It doesn't eliminate them; there are still some issues there. But we will see more about that later. But what I am giving you is a historical prospective to see why the public land system was brought in and what was going on in the Colonial states to create that kind of a new atmosphere.

Now you will be going from this video lecture in this module to another one next that is taught by Dominica and she will be covering the basics of Public Land System and history of it itself and talk about some of the ins and outs of how that system works; especially the records that exist for that system because much of this course here is about administrative and records kinds of issues and later of course we will talk about what we are going to with those things.

I would just encourage you to read the 1785 Land Ordinance Act which is the law that Congress passed in 1785 to create the Public Land System and you will find a lot of other things in there and even some rather strange things to us today; like social issues addressed in there but it will give you an idea and it will give you a little more background and perspective as to why they wrote what they did in that law and where that takes us in the next lecture.

So Dominica will be taking over for me for the next portion of the course, so I appreciate your attentiveness and I will be talking to you later on some other subjects.



**READING
ASSIGNMENT**

a really valid claim; the King and Parliament had issued the original charters and grants on which the colonies laid claim to the western lands, then through the 1763 Proclamation and Quebec Act they rescinded those grants. But that point was made moot by the war and subsequent independence from English rule.

EVENTS DURING AND FOLLOWING THE REVOLUTIONARY WAR

Land Confiscation

Immediately following the Declaration of Independence on July 4, 1776, the newly declared States confiscated the lands of those people who remained loyal to the English Crown, and declared such lands State property. Each state also declared all "Crown Lands" and the unpatented proprietors' lands State property. In this manner, the new States became owners of millions of acres of public domain within their own boundaries and under their jurisdiction. These confiscations included the "Crown Lands" in the western territory to which the States laid claim. They later sold the lands within their borders to pay debts and raise revenue. Much of the land was used to pay the soldiers who fought in the war.

Military Bounty Warrants

It was a common practice to grant lands as a reward for military service in the colonies, in the form of a warrant for a stated number of acres, ranging from as little as 20 acres for common soldiers to several hundred acres for officers. After the Declaration of Independence, each of the States granted bounty lands to her soldiers for military service. The Continental Congress had no land but still offered bounties of 100 acres for soldiers and over 500 acres for officers, which were given to Revolutionary soldiers and to men who deserted from the British army. Land warrants could not be sold until after the close of the war. Military bounty land warrants were issued for several million acres of land.

Currency Depreciation

The Continental Congress had no power to levy taxes and had no direct method of raising funds to pay for the war. The Congress issued bills of credit, somewhat similar to promissory notes, in the form of currency. Congress asked the States to levy taxes and redeem these bills, but the States failed to do so, and in addition, issued their own paper money. Since the Continentals were not backed with silver and were not redeemable, they soon depreciated in value. In 1780, one silver dollar was worth 40 continental dollars, and by 1782, the continental paper dollar was nearly worthless and speculators bought them for almost nothing, hoping that Congress would eventually redeem them for at least part of their face value. Much of this money was converted to securities, or bonds, and the bonds were later used to purchase public lands in the Ohio country.

Treaty With England

At the close of the Revolutionary War, the treaty to end the conflict was negotiated with England, Spain, and France. England was inclined to favor the United States at the expense of French and Spanish territorial claims. The final treaty was signed on September 3, 1783, and gave the United States jurisdiction over all the territory east of the Mississip-

pi River, south of the Great Lakes and north of Spanish Florida (31° north latitude). The United States also acquired full navigation rights on the Mississippi River; however, because New Orleans was held by Spain, navigation of the Mississippi was restricted and impeded settlement in the Ohio country until after 1800.

Land Cessions

The Continental Congress had made several requests, without success, of landed colonies to relinquish their claims to western lands. The western lands question was a hot political issue; the seven States with western land claims were opposed by the six States with definite boundaries. Maryland led the battle and refused to ratify the Articles of Confederation until the landed States ceded their claims. Maryland had been reduced by the Pennsylvania boundary settlement and by the Delaware counties; she especially disliked Virginia and that State claimed an enormous area. The smaller States feared the power of the larger States and the greater power they would have if allowed to retain their western land claims.

New York had a dubious claim to lands based on her sovereignty over the Six Nations. Since the Indians claimed lands in New York and to the west and southwest in Ohio, New York claimed those Indians lands. New York broke the deadlock in Congress by ceding her land claims to the Congress on February 19, 1780.

Connecticut followed New York's lead and ceded her claims on October 10, 1780, but reserved a total of 3,800,000 acres between 41° and 42° north latitude, extending 120 miles west from the west boundary of Pennsylvania. These lands were called the Connecticut Western Reserve and the "Firelands." Connecticut lost her claim to lands in the Wyoming Valley in Pennsylvania.

On January 2, 1781, Virginia agreed to cede most of her claims north of the Ohio River. In doing so, Virginia relinquished all of her claims northwest of the Ohio River except an area between the Scioto and Little Miami Rivers. This area, known as the Virginia Military Reserve, was used to pay military land bounties issued to soldiers by Virginia. Virginia retained Kentucky and also stipulated that 150,000 acres in Ohio be granted to George Rogers Clarke and his regiment, and that private land grants already made in Ohio by Virginia and France be confirmed.

Eight states, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Virginia and South Carolina, had ratified the Articles of Confederation. When Virginia agreed to cede her claims, Maryland ratified on March 1, 1781, and thus completed the necessary two-thirds to put the Articles into effect.

Massachusetts and North Carolina ceded their claims in 1784. North Carolina ceded all of her lands in what is now Tennessee, except lands needed to satisfy her land grants and military bounties. After those reservations were satisfied, so little land remained that in 1841 Congress gave any remaining land to the State of Tennessee, so for all intents and purposes, Tennessee was not a public land State.

South Carolina did not cede her claims until 1787. Georgia was the last state to cede; her cession was ratified in 1802. After the New York, Connecticut, Virginia, and Massachusetts cessions and ratification of the Articles of Confed-

eration, the Congress of the Confederation had land but no money. The immediate question was how to sell the land to raise revenue to pay off the massive debts incurred during the war.

Land Companies

The land-speculating companies began early to petition the Congress for land grants. Wealthy and influential men held stock in these companies and also held large amounts of continental currency and treasury notes. These companies put forth various schemes to buy millions of acres, first in Kentucky and Tennessee, and then later in Ohio and Indiana. Since land companies had been very active and a large part of the land-settling system in the colonies, they were very persuasive in their plans for land grants and settlement in the Northwest Territory. The Ohio Company of Associates was the company that finally succeeded.

Need for Revenue

Congress under the Confederation was deeply in debt to France and other creditors. Millions of dollars in continental bills and treasury notes were outstanding and Congress had no power to levy taxes on the land or States.

The Northwest Territory loomed as the only asset the new country had which might be turned into hard money. If the vast public domain could be sold to settlers, it could return millions of dollars to the treasury and solve the pressing immediate need for money. The big question was how the sale of the western lands could be accomplished.

Small Farms Versus Large Grants

Politically there were two factions in the debate:

- (1) On one side were the advocates of sale to individual settlers in small parcels. The small farmers, frontiersmen, and merchants argued that an essential part of a democracy was the right to own property. They could not afford to buy land in large tracts, and if it were sold in huge blocks to wealthy men, the small man would be squeezed out or forced to pay high prices and interest.
- (2) The conservative group, generally made up of wealthy southern aristocrats and plantation owners, did not think the democracy advocates were capable of settling the land intelligently or capable of handling land ownership. The conservatives were in favor of large grants at low prices to companies or wealthy men who would then handle the business end of settlement, such as surveying and patenting.

Generally the democracy advocates were from New England and other northern States. The spokesmen for this group were John Adams and Thomas Jefferson. The conservatives were led by Alexander Hamilton and John Jay.

The Jefferson group advocated a system of rectangular survey before any sale or settlement, with land to be sold at auction with a minimum price and in small parcels, giving everyone a fair chance to acquire land. They argued that survey before sale was necessary to prevent overlapping claims and to simplify deeds and registering. A rectangular system would survey all the land, with no gaps or gores, make the buyer take the poor land along with the good land, and make every man's land have a common boundary with his neighbor. The thousands of boundary disputes already in the

courts made the rectangular system and prior survey sound attractive even to many of the conservative group.

Hamilton was in favor of indiscriminate location, the old metes and bounds system. This group thought that prior survey would never work and that people would settle and occupy the land faster if left free to do so. It had not been the general governmental policy in the colonies to sell land as a source of revenue prior to the war. The people were familiar with the free settlement system and would occupy and hold the territory faster if allowed free location.

In 1784, a committee headed by Jefferson drafted an ordinance which called for prior survey of tracts ten geographical miles square, which were called hundreds; they would be subdivided into lots one mile square. The lines would run due north and south, east and west and settlement would be by hundreds or by lots. This plan did not call for reservations for schools or churches. It is generally believed that Jefferson drafted the original ordinance. This draft was debated at length and was then referred to a committee composed of one man from each State. Jefferson was in Europe and Grayson from Virginia was named to replace him. This new committee made some alterations; they reduced the tract size to a seven-(statute) mile-square township with 49 lots. One lot in each township was reserved for schools, one lot for religious purposes and four lots to Congress for future disposal. One third of any gold, silver, lead, or copper which might be found was also reserved. The townships would be sold whole at auction for a minimum of \$1 per acre, minus the reservations of six lots.

This plan drew objections. The sale of whole townships would place most of it in the hands of land speculators and would also encourage widespread and scattered settlement affording little protection from the Indians. In debate the size of land sales was reduced to 640 acres, although attempts were made to get the size down to 320 acres. Many other points were debated and the final result was passage of the *Land Ordinance on May 20, 1785*.

LAND ORDINANCE OF 1785

The following is the text of the Land Ordinance as finally approved by Congress:

AN ORDINANCE FOR ASCERTAINING THE MODE OF DISPOSING OF LANDS IN THE WESTERN TERRITORY

Passed May 20, 1785.

"Be it ordained by the United States in Congress assembled, that the territory ceded by individual states to the United States, which had been purchased of the Indian inhabitants, shall be disposed of in the following manner:

"A surveyor from each state shall be appointed by Congress or a committee of the states, who shall take an oath for the faithful discharge of his duty, before the geographer of the United States, who is hereby empowered and directed to administer the same; and the like oath shall be administered to each chain carrier, by the surveyor under whom he acts.

"The geographer, under whose direction the surveyors shall act, shall occasionally form such regula-

tions for their conduct, as he shall deem necessary; and shall have authority to suspend them for misconduct in office, and shall make report of the same to Congress, or to the committee of the states; and he shall make report in case of sickness, death, or resignation of any surveyor.

"The surveyors, as they are respectively qualified, shall proceed to divide the said territory into townships of 6 miles square, by lines running due north and south, and others crossing these at right angles, as near as may be, unless where the boundaries of the late Indian purchases may render the same impracticable, and then they shall depart from this rule no further than such particular circumstance may require. And each surveyor shall be allowed and paid at the rate of two dollars for every mile, in length, he shall run, including the wages of chain carriers, markers, and every other expense attending the same.

"The first line, running due north and south as aforesaid, shall begin on the river Ohio, at a point that shall be found to be due north from the western termination of a line, which has been run as the southern boundary of the state of Pennsylvania; and the first line, running east and west, shall begin at the same point, and shall extend throughout the whole territory; provided, that nothing herein shall be construed, as fixing the western boundary of the state of Pennsylvania. The geographer shall designate the townships, or fractional parts of townships, by numbers progressively from south to north; always beginning each range with No. 1; and the ranges shall be distinguished by their progressive numbers to the westward. The first range, extending from the Ohio to the lake Erie, being marked No. 1. The geographer shall personally attend to the running of the first east and west line; and shall take the latitude of the extremes of the first north and south line, and of the mouths of the principal rivers.

"The lines shall be measured with a chain; shall be plainly marked by chaps on the trees, and exactly described on a plat; whereon shall be noted by the surveyor, as their proper distances, all mines, salt-springs, salt-licks, and mill-seats, that shall come to his knowledge; and all water-courses, mountains and other remarkable and permanent things, over and near which such lines shall pass, and also the quality of the lands.

"The plats of the townships respectively, shall be marked by subdivisions into lots of one mile square, or 640 acres, in the same direction as the external lines, and numbered from 1 to 36; always beginning the succeeding range of the lots with the number next to that with which the preceding one concluded. And where, from the causes before-mentioned, only a fractional part of a township shall be surveyed, the lots, protracted thereon, shall bear the same numbers as if the township had been entire. And the surveyors, in running the external lines of the townships, shall, at the interval of every mile, mark corners for the lots which are adjacent, always designating the same in a different manner from those of the townships.

"The geographer and surveyors shall pay the utmost

attention to the variation of the magnetic needle; and shall run and note all lines by the true meridian, certifying, with every plat, what was the variation at the times of running the lines thereon noted.

"As soon as 7 ranges of townships, and fractional parts of townships, in the direction from south to north, shall have been surveyed, the geographer shall transmit plats thereof to the board of treasury, who shall record the same, with the report, in well bound books to be kept for that purpose. And the geographer shall make similar returns, from time to time, of every 7 ranges as they may be surveyed. The secretary at war shall have recourse thereto, and shall take by lot therefrom, a number of townships, and fractional parts of townships, as well from those to be sold entire, as from those to be sold in lots, as will be equal to one-seventh part of the whole of such 7 ranges, as nearly as may be, for the use of the late continental army; and he shall make a similar draught, from time to time, until a sufficient quantity is drawn to satisfy the same, to be applied in manner hereinafter directed. The board of treasury shall, from time to time, cause the remaining numbers, as well those to be sold entire, as those to be sold in lots, to be drawn for, in the name of the thirteen states respectively, according to the quotas in the last preceding requisition on all the states; provided, that in case more land than its proportion is allotted for sale in any state, at any distribution, a deduction be made therefor at the next.

"The board of treasury shall transmit a copy of the original plats, previously noting thereon, the townships, and fractional parts of townships, which shall have fallen to the several states, by the distribution aforesaid, to the commissioners of the loan-office of the several states, who, after giving notice of not less than two nor more than six months, by causing advertisements to be posted up at the courthouses, or other noted places in every county, and to be inserted in one newspaper, published in the states of their residence respectively, shall proceed to sell the townships, or fractional parts of townships, at public vendue; in the following manner, viz: The township, or fractional part of a township, No. 1, in the second range, shall be sold by lots; and No. 2, in the same range, entire; and so in alternate order through the whole of the second range; and the third range shall be sold in the same manner as the first, and the fourth in the same manner as the second, and thus alternately throughout all the ranges; provided, that none of the lands, within the said territory, be sold under the price of one dollar the acre, to be paid in specie, or loan-office certificates, reduced to specie value, by the scale of depreciation, or certificates of liquidated debts of the United States, including interest, besides the expense of the survey and other charges thereon, which are hereby rated at 36 dollars the township, in specie, or certificates as aforesaid, and so in the same proportion for a fractional part of a township, or of a lot, to be paid at the time of sales; on failure of which payment, the said lands shall again be offered for sale.

"There shall be reserved for the United States out of every township the four lots, being numbered 8, 11, 26, 29, and out of every fractional part of a township, so many lots of the same numbers as shall be found thereon, for future sale. There shall be reserved the lot No. 16, of every township, for the maintenance of public schools, within the said township; also one-third part of all gold, silver, lead and copper mines, to be sold, or otherwise disposed of as Congress shall hereafter direct.

[Here follow the terms of the deed to be given when a township or a lot is sold.]

"Which deeds shall be recorded in proper books, by the commissioner of the loan office, and shall be certified to have been recorded, previously to their being delivered to the purchaser, and shall be good and valid to convey the lands in the same described.

"The commissioners of the loan-offices respectively, shall transmit to the board of treasury every three months, an account of the townships, fractional parts of townships, and lots committed to their charge; specifying therein the names of the persons to whom sold, and the sums of money or certificates received for the same; and shall cause all certificates by them received, to be struck through with a circular punch; and shall be duly charged in the books of the treasury, with the amount of the money or certificates, distinguishing the same, by them received as aforesaid.

"If any township, or fractional part of a township or lot, remains unsold for 18 months after the plat shall have been received, by the commissioners of the loan-office, the same shall be returned to the board of treasury, and shall be sold in such manner as Congress may hereafter direct.

"And whereas Congress, by their resolutions of September 16th and 18th, in the year 1776, and the 12th of August, 1780, stipulated grants of land to certain officers and soldiers of the late continental army, and by the resolution of the 22nd September, 1780, stipulated grants of land to certain officers in the hospital department of the late continental army; for complying therefore with such engagements, Be it ordained, That the secretary at war, from the returns in his office, or such other sufficient evidence as the nature of the case may admit, determine who are objects of the above resolutions and engagements, and the quantity of land to which such persons or their representatives are respectively entitled, and cause the townships, or fractional parts of townships, hereinbefore reserved for the use of the late continental army, to be drawn for in such manner as he shall deem expedient, to answer the purpose of an impartial distribution. He shall, from time to time, transmit certificates to the commissioners of the loan-offices of the different states, to the lines of which the military claimants have respectively belonged, specifying the name and rank of the party, the terms of his engagement and time of his service, and the division, brigade, regiment or company to which he belonged, the quantity of land he is entitled to, and the township, or fractional part of a township, and range out of which his portion is to be taken.

"The commissioners of the loan-offices shall execute

deeds for such undivided proportions in manner and form herein before-mentioned, varying only in such a degree as to make the same conformable to the certificate from the secretary at war.

"Where any military claimants of bounty in lands shall not have belonged to the line of any particular state, similar certificates shall be sent to the board of treasury, who shall execute deeds to the parties for the same.

"The secretary at war, from the proper returns, shall transmit to the board of treasury, a certificate, specifying the name and rank of the several claimants of the hospital department of the late continental army, together with the quantity of land each claimant is entitled to, and the township, or fractional part of a township, and range out of which his portion is to be taken; and thereupon the board of treasury shall proceed to execute deeds to such claimants.

"The board of treasury, and the commissioners of the loan-offices in the states, shall, within 18 months, return receipts to the secretary at war, for all deeds which have been delivered, as also all the original deeds which remain in their hands for want of applicants, having been first recorded; which deeds so returned, shall be preserved in the office, until the parties or their representatives require the same.

"And be it further ordained, That three townships adjacent to lake Erie be reserved, to be hereafter disposed of in Congress, for the use of the officers, men, and others, refugees from Canada, and the refugees from Nova Scotia, who are or may be entitled to grants of land under resolutions of Congress now existing or which may hereafter be made respecting them, and for such other purposes as Congress may hereafter direct.

"And be it further ordained, That the towns of Gnadenhutten, Schoenbrun and Salem, on the Muskingum, and so much of the lands adjoining to the said towns, with the buildings and improvements thereon, shall be reserved for the sole use of the Christian Indians, who were formerly settled there, or the remains of that society, as may, in the judgment of the geographer, be sufficient for them to cultivate.

"Saving and reserving always, to all officers and soldiers entitled to lands on the northwest side of the Ohio, by donation or bounty from the commonwealth of Virginia, and to all persons claiming under them, all rights to which they are so entitled, under the deed of cession executed by the delegates for the state of Virginia on the first day of March, 1784, and the act of Congress accepting the same: and to the end, that the said rights may be fully and effectually secured, according to the true intent and meaning of the said deed of cession and act aforesaid, Be it ordained, that no part of the land included between the rivers called Little Miami and Scioto, on the northwest side of the river Ohio, be sold, or in any manner alienated, until there shall first have been laid off and appropriated for the said officers and soldiers, and persons claiming under them, the lands they are entitled to, agreeably to the said deed of cession and act of Congress accepting the same.

Done by the United States in Congress assembled,

the 20th day of May, in the year of our Lord, 1785, and of our sovereignty and independence the ninth.

“RICHARD H. LEE, President.”

“CHARLES THOMPSON, Secretary.”

An examination and evaluation of the Land Ordinance reveal the basics of the system and some reasons for them.

- (1) Only the land that had been purchased from the Indians was to be surveyed. This provision would appease the Indians, follow the practice of purchase traditional in the colonies, and since only Congress could buy land from the Indians, would prevent private claims based on private purchases.
- (2) A surveyor from each State was to take an oath before the Geographer of the United States. The western lands had been won in a war fought by all the States, each of which had a common interest in the territory and would participate in the surveying. Many fraudulent surveys had been made during colonial times causing land disputes. The oath of faithful discharge of duty would hopefully cause honest work to be done. A Geographer of the United States, representing the federal authority to supervise the work, would be in charge of the surveyors.
- (3) The townships were to be six miles square (reduced from seven) with north and south lines crossed at right angles, as near as possible. It must have been recognized that surveying was not an exact science. Indian boundaries were also recognized as a limiting factor.
- (4) The survey was to begin on the Ohio River (presumably the north bank) due north of the western termination of the south boundary of Pennsylvania, which was the southwest corner of that state. The west boundary of Pennsylvania was not surveyed to the north bank of the Ohio until later in 1785. The first line was to run due “east and west,” however, it could only run due west for there was no public land in Pennsylvania. The Geographer was to personally run the first line, running west, which would insure that a proper and correct line would be surveyed as the base for the townships to the south. Though not called a base line, the Geographer’s Line (the boundary of the seven ranges) was just that in actual fact. The line was to “extend throughout the whole territory.” Taken literally that would be all the way to the Mississippi River. The first range was to extend from the Ohio to Lake Erie.
- (5) The lines were to be measured with a chain, which didn’t necessarily mean that a Gunter’s link chain had to be used, just that the chain was the unit of measure. The chain unit was used throughout all of the colonies to measure land, but Jefferson had originally advocated a geographic mile (approximately 6,080 feet) be used. This would have made a lot about 849 acres, a very oddball figure, so the unit of measure was made part of the Ordinance to make it clear that the accustomed 80-chain mile was to be used.
- (6) The lines were to “be plainly marked by chaps on the trees, with stakes and bounds system of indiscriminate location, the surveys were often very difficult to find

and poorly identified. This was remedied by law; the lines were to be clearly and plainly blazed (the monument of the survey itself) so that the survey could be found on the ground.

- (7) All major items of topography, including land quality, were to be noted at their proper distances. Topographic features, such as streams and mountains, would help to locate the survey. Mines, salt licks, salt springs, mill-seats and soil quality would greatly aid in knowing the value of the land for settlement. The lands were to be sold at auction hundreds of miles away, so it was necessary to know just what was being sold or bought.
- (8) The plats of each township were to be divided into 36 lots, now called sections, with number one in the southeast corner of a full township and number 36 in the northwest corner. The interior lines of the townships were not surveyed on the ground, only protracted on the plat, which must have been purely an economy measure to keep the surveying cost to a minimum.
- (9) After seven ranges were surveyed, the Geographer was to return the plats to the Board of Treasury because the whole purpose of the land sale was to raise money for the Treasury. The Secretary of War was to have recourse to the plats and draw from the hat one-seventh of the townships for use by the Continental Army. This made provision for granting lands to ex-soldiers to satisfy the military land warrants issued to them. Many warrants had been sold; thus it is unknown just how many actual veterans received land in those townships.
- (10) After one-seventh of the townships for soldiers were drawn, the remaining townships were to be distributed to the States by lot or drawing. The plats were to be sent to each State where they were to be sold at public auction to the highest bidder at not less than \$1 per acre. The first township in the first range was to be sold whole as one solid tract. The second township in the same range was to be sold by lot, the next township whole, and so on. This sale method would in theory satisfy the proponents of both the land speculators and the New England town system settlement. A religious group could band together and buy a whole township, subdivide it and settle on the land, forming their own community, or the land speculator could buy a whole township and sell the land to settlers, hopeful of a profit. An individual could also be satisfied by letting him purchase a lot for himself. The sales held in each State could give everybody a chance to buy without travelling all the way to Ohio, New York, or some other central point in those days of poor roads. The minimum price of \$1 per acre was also the going price of land in many of the colonies just prior to the war.
- (11) The price was to be paid in specie (hard-coined money) or in depreciated loan office certificates reduced to specie value or certificates of liquidated debts (treasury bonds) including interest, which assured a return for those who held continental dollars. Certificate of debt (bond) holders could get the face value plus interest for them. And the government could get out of debt.

In addition to the \$1 per acre minimum price, the expenses incurred were fixed at \$30 per township. Survey and sale expenses were also to be paid by the buyers.

The \$36 figure may not have covered the expenses but was obviously \$1 per lot, so a buyer of a single lot would have to pay a minimum of \$641 for it.

- (12) The money was to be paid immediately with no credit given. If a man bid on a section and then couldn't pay for it, the section was reoffered for sale.
- (13) Four lots were to be reserved for future sale. The reason Congress made this reservation is not immediately known, but it may have been to provide for government seats or for future educational or even religious grants. In the original draft of the ordinance, one lot in each township was reserved for religious purposes. Giving religious grants was the ordinary practice in colonial days, but these grants were deleted in the Ordinance as passed.
- (14) Lot 16 in each township was reserved for use in maintaining public schools and was located as near to the center of the township as possible. If a township was purchased and settled by a group and a school was built on this land, it would be centrally located, but, most importantly, governmental support of public schools was established. In colonial days grants were made for education, but the schools were usually available only to the affluent population. Now the common man would theoretically have access to an education.
- (15) The last reservation was for one-third of gold, silver, lead or copper found in the township and was almost automatic. The King had always reserved one-fifth of all gold and silver in his land grants, then the proprietor or settlement company reserved another one-fifth. Since no significant amounts of gold or silver had been discovered in the colonies, this reservation was a hedge against the possibility that it might be found somewhere.
- (16) The final paragraph of the Ordinance explicitly spells out that the Continental Army was to receive their lands. Years had gone by without the Army being able to cash in their land warrants and they were getting restless over the delay. The paragraph puts the anxiety to final rest.

It should be realized that this Ordinance was passed by a Congress which had limited powers under the Articles of Confederation. It left much to be desired in regard to how the surveys were to be executed, how field notes were to be written, how plats were to be constructed, how corners were to be monumented, and how townships were to be subdivided into lots of 640 acres. But it was a good basic start. Thomas Hutchins, the Geographer, was involved in land companies and was an experienced surveyor, and the details of executing the field operations were left to him to work out. Also, many Congressmen did not favor the rectangular system and prior survey. Some flexibility was necessary to bend with the political tide if experience proved faults in the system; fortunately, no great faults were found.

THE NORTHWEST ORDINANCE OF 1787

It wasn't sufficient to pass a law for the surveying and sale of land without providing for government in the territory being settled. In 1784 a committee headed by Jefferson sug-

gested in a report that the Northwest Territory be divided into states approximately 150 by 200 miles in area, but this report was never passed into law.

The Ohio Company of Associates, a land-speculating company led by Manasseh Cutler, Samuel Parsons, and Rufus Putnam, was pressing Congress for a land grant in Ohio. These men succeeded in getting Congress to pass the Northwest Ordinance which provided for establishing governments in the territories and was the basis for establishing territorial governments and later Statehood. It is basically still in effect. Some items of principal importance in the Northwest Ordinance of July 13, 1787 are:

- (1) It outlawed primogeniture and entails in land tenure by providing for inheritance by all the children and the widow. Land could be freely sold. In effect, it outlawed any feudal type of land tenure including quitrents.
- (2) It provided for appointment of territorial governors, secretaries, and judges. Each man appointed had to have a freehold estate of a specified number of acres in the territory which would prevent outsiders from being government officials. A provision was made for territorial legislatures and their election. These members also had to be residents and landowners, as did an elector. These provisions placed the local government and territorial affairs in the hands of the residents.
- (3) After providing for territorial government and laws, the Ordinance spelled out fundamental rights and policies in the form of Articles, similar to the Constitution, which was being drafted at that time.

ARTICLE 1: Complete religious freedom.

ARTICLE 2: Habeas Corpus, bail, trial by jury, property rights.

ARTICLE 3: Public schools, protection and rights of the Indians.

ARTICLE 4: States to be formed must become part of the United States, settlers subject to pay their share of the Federal debt, no property taxes on Federal land, nonresidents cannot be taxed higher than residents, navigable streams are public highways and forever free to everyone without taxes or duties for using them.

ARTICLE 5: Northwest Territory to be divided into three to five new States with Congress fixing the boundaries. When a territory contained 50,000 free inhabitants, it could be admitted as a new State.

ARTICLE 6: Slavery and involuntary servitude outlawed in the Northwest Territory.

Although the Northwest Ordinance contains nothing pertaining to surveying, it did outlaw entail estates, established fee simple estates as a national land tenure policy, provided government and protection of property rights, and provided for the establishment of new territories and States. These policies encouraged rapid settlement which in turn created the need for surveys and land offices. In the years to come, surveyors would be very busy men indeed.

remainder of the vast purchase was called the District of Louisiana. Sec. 14 of the act provides in part:

“And that if any citizen of the United States, or other person, shall make settlement on any lands belonging to the United States, within the limits of Louisiana, or shall survey, or attempt to survey, such lands, or to designate boundaries by marking trees, or otherwise such offender, shall, . . . forfeit a sum not exceeding one thousand dollars, and suffer imprisonment not exceeding twelve months. . . .”

These stiff penalties were supposed to halt squatters’ activities and to prevent the marking out of false private land claims. In fact, they did neither and false land claims would be a big problem for the land commissioners and deputy surveyors for years to come.

Act of March 27, 1804, 2 Stat. 303

This act added the Georgia cession lands to the Territory of Mississippi and extended the public land surveys to the additional territory.

Fig. 22 indicates the boundaries of the Mississippi and Orleans Territories as they were claimed by the United States after passage of this act.

Act of January 11, 1805, 2 Stat. 309

This act divided the Indiana Territory and created the Territory of Michigan; the south boundary of the Michigan Territory is described as a line drawn east from the extreme southern end of Lake Michigan until the said line intersected Lake Erie. The State of Ohio would later protest that line and create a boundary dispute wherein Michigan and Ohio nearly went to war. The so-called “Toledo Strip” eventually went to Ohio and part of the Michigan Meridian surveys are therefore in Ohio.

Act of February 11, 1805, 2 Stat. 313

The provisions of this act of Congress, now codified in Title 43 of the United States Code, are still the statute law of the land and brought the public land surveys to the basic system still in use, even though some of the provisions are obsolete. The entire act as taken from Volume II, Statutes at Large, follows:

Chap. XIV—An Act concerning the mode of surveying the Public Lands of the United States. (a)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the surveyor-general shall cause all those lands north of the river Ohio, which by virtue of the act, intituled “An act providing for the sale of lands of the United States, in the territory northwest of the river Ohio, and above the mouth of the Kentucky river,” were subdivided, by running through the townships, parallel lines each way, at the end of every two miles, and by marking a corner on each of the said lines, at the end of every mile; to be subdivided into sections, by running straight lines from the mile corners thus marked, to the opposite corresponding corners, and by marking on each of the said lines, intermediate corners as nearly as possible equidistant from the corners of the sections on the same. And the said

STATUTE II.
Feb. 11, 1805

Act of May 18, 1796
Ch. 29. Mode of surveying public lands north of the Ohio.

Corners to be marked.

surveyor-general shall also cause the boundaries of all the half sections, which had been purchased previous to the first day of July last, and on which the surveying fees had been paid, according to law, by the purchaser, to be surveyed and marked, by running straight lines from the half-mile corners, heretofore marked, to the opposite corresponding corners; and intermediate corners shall, at the same time, be marked on each of the said dividing lines, as nearly as possible equidistant from the corners of the half section on the same line: *Provided, that the whole expense of surveying and marking the lines, shall not exceed three dollars for every mile which has not yet been surveyed, and which shall be actually run, surveyed, and marked by virtue of this section.* And the expense of making the subdivisions, directed by this section, shall be defrayed out of the monies appropriated, or which may be hereafter appropriated, for completing the surveys of the public lands of the United States.

Sec. 2. And be it further enacted, That the boundaries and contents of the several sections half sections, and quarter sections of the public lands of the United States, shall be ascertained in conformity with the following principles, any act or acts to the contrary notwithstanding:

1st. All the corners marked in the surveys, returned by the surveyor-general, or by the surveyor of the land south of the state of Tennessee, respectively, shall be established as the proper corners of sections, or subdivision of sections, which they were intended to designate; and the corners of half and quarter sections, not marked on the said surveys, shall be placed as nearly as possible equidistant from those two corners which stand on the same line.

2d. The boundary lines, actually run and marked in the surveys returned by the surveyor-general, or by the surveyor of the land south of the state of Tennessee, respectively, shall be established as the proper boundary lines of the sections, or subdivisions, for which they were intended, and the length of such lines, as returned by either of the surveyors aforesaid, shall be held and considered as the true length thereof. And the boundary lines, which shall not have been actually run, and marked aforesaid, shall be ascertained, by running straight lines from the established corners to the opposite corresponding corners; but in those portions of the fractional townships, where no such opposite corresponding corners have been or can be fixed, the said boundary lines shall be ascertained, by running from the established corners, due north and south, or east and west lines, as the case may be, to the water-course, Indian boundary line, or other external boundary of such fractional township.

3d. Each section, or subdivision of section, the contents whereof shall have been, or by virtue of the first section of this act, shall be returned by the surveyor-general, or by the surveyor of the public lands south of the state of Tennessee, respectively, shall be held and considered as containing the exact quantity, expressed in such return or returns: and the half sections and quarter sections, the contents whereof shall not have been thus returned, shall be held and considered as containing the one half, or the one fourth part respectively, of the returned contents of the section of which they make part.

4th. And be it further enacted, That so much of this act intituled “An act making provision for

Half sections purchased before July 1, 1804, to be surveyed and marked.

Whole expense of survey not to exceed three dollars per mile. How the expense of making the surveys is to be paid.

Principles upon which the boundaries and contents of the public lands are to be ascertained.

Boundary lines run and marked by the surveyor south of the Tennessee River to be the proper boundaries of sections.

Boundary lines not actually run to be ascertained.

Surveys to be returned.

the disposal of lands in the Indiana territory, and for other purposes," as provides the mode of ascertaining the true contents of sections or subdivisions of sections, and prevents the issue of final certificates, unless the said contents shall have been ascertained, and a plot certified by the district surveyor, lodged with the register, be, and the same is hereby repealed.

APPROVED, February 11, 1805

Act of March 26, 1804,
Ch. 35.

Sec. 1. Enacts into law the method of subdividing the two-mile blocks and subdivision of sections which Jared Mansfield had issued to his district surveyors. The question of who is to pay for these surveys is answered — the government will.

Sec. 2. (1) The first clause fixes the corners established by the Surveyor General in position regardless of any errors and requires that any corners of the half or quarter section not established in the original survey must be established at midpoint and on line.

(2) The second clause fixes the lines actually run and marked as the true boundary lines, even if they were crooked, of the section or section subdivision. It establishes the length of the lines returned by the Surveyor General as being the true length. This provision is the basis of single and double proportion as the proper method of restoring lost corners and also fixes the method of subdividing sections, either whole or fractional.

(3) The third clause establishes the quantity or area of land returned as the true quantity and that a half section or quarter section of a full 640-acre section contains 320 or 160 acres. It provides for different areas in fractional sections or in the sections along the north and west boundaries of a township. But they will contain the quantity as returned by the Surveyor General. Mansfield had advocated these principles throughout 1804 and they are now law.

Sec. 3. Repeals the provision that district surveyors could ascertain the area of land in a section or section subdivision and the necessity of such a survey before a final certificate could be issued, which returned full authority and responsibility to the Surveyor General. The ill-thought-out provision in the *Act of March 26, 1804*, Sec. 13, lasted less than a year; Mansfield had never honored it anyway.

The most important parts of this act are:

- (1) All section lines will be surveyed and all quarter corners on those lines established.
- (2) The corners set by the Surveyor General are unchangeable.
- (3) The lines marked by the Surveyor General are unchangeable.
- (4) The lengths of the section lines are unchangeable.

(5) The quantity or area of a section or fractional section is unchangeable. Of course, the Surveyor General, i.e., the government, could correct or change a survey up until such time as private rights were acquired based on the survey; however, that fact was established by case law in the courts.

Act of March 2, 1805, 2 Stat. 324

Sections 7 and 8 of this act extend the authority of the surveyor of the lands south of Tennessee to cover all the Mississippi and Orleans Territories, and the system of rectangular surveys is extended to cover all the lands in those territories. On *March 3, 1805*, 2 Stat. 331, the District of Louisiana was changed to the Territory of Louisiana.

Act of March 3, 1805, 2 Stat. 343

This act extends the public land surveys to the lands in the Indiana Territory in Illinois and Indiana ceded by the Kaskaskias and the Sac and Fox Indians in 1803 and 1804, and to the lands south and east of the Vincennes Tract ceded in November 1804. Indian cessions would be very frequent during the ensuing years, and laws were passed extending the land surveys to them. The rectangular surveys would proceed in an orderly fashion only so far as Indian cessions would allow. Many of the Indian boundary lines in these early cessions were surveyed by surveyors under contract with the Surveyors General.

1805 — A Busy Year

During 1805, the rectangular surveys were extended in Ohio and Indiana. As already noted, the Third Principal Meridian was run north from the mouth of the Ohio River and the Second Principal Meridian surveys extended into Illinois to determine the Third Principal Meridian Baseline.

In letters to Gallatin from Isaac Briggs dated February 10, 1804, and December 31, 1804, Briggs complained of the low maximum price for surveys (\$4 per mile) and that his deputies had been ruined trying to survey at that price. Apparently these deputies were Charles DeFrance and George Davis who helped him run the two trial meridian lines of the Washington Meridian in 1803. Between 1803 and 1805, Briggs had done nothing more with the rectangular surveys in the lands south of Tennessee; however, some private land claims may have been surveyed.

On February 20, 1805, Gallatin wrote to Briggs urging him to get the rectangular surveys underway. On March 13, 1805, Gallatin again wrote to Briggs, referring to the *Act of February 5, 1805*. That letter follows:

Sir,

"I have the honour to enclose an Act concerning the mode of surveying the public lands of the United States, which although principally intended to palliate the errors made in the surveys north of the Ohio, contains certain general principles, in relation to the mode of establishing corners and running interior lines, which apply to all of the public lands.

Permit me earnestly to repeat my request that you would take immediate measures for running the township lines & for executing generally all of the surveys within the tracts lying in the Mississippi Territory which the Indian Title has been extinguished. The Legislature has fixed the price at four dollars per mile;