Interview with Bruce Raudio, Engineering & Physical Dev. NMU.
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RM: Okay Bruce could we start out with your date of Birth?

BR: That would be April 1, 1939

RM: could you tell us, and how long have you been in this position at Northern? And what is the position?

BR: Well my position right now is the director of facilities. I have been in this capacity in various forms of this capacity for probably 12 years. I really want to check on those date, because time flys and I really don't remember. But before I was the director I was the campus mechanical engineer, I also ran and supervised the technical trade shops at one time. But really when I became the first form of a director was after Ernie Neuman retired. So those date also I would have to check on, but I did start at the University in 1970, May 18, 1970. And like I said I performed various functions for the university, both kind of doing the mechanical and electrical engineering throughout the years, what I did when projects came up through at that time a department called campus development which was headed by David McClintock, and later Paul Eumarie succeeded, but I did work with them on projects to check electrical specifications and mechanical specifications. With regard to the design factors involved. So that is the sort of thing I was responsible for. I don't know if you want to me to ramble on here but after serving in that capacity for X number of years my superior Ernie Neuman retired and I succeeded him. At that time I had what is called director of physical plant. What physical plant of course the department involved all the trades which would be architectural trades, the technical trades which is mechanical and electrical, and the grounds and the custodial staff. I was responsible for them only the operations and maintenance of the campus. In later years then there was a reorganization during Lyle Shaws time that put the campus development department under physical plant as well. At that time there was another name for it I believe, well anyway Paul Eunarmie was heading up that department which was absorbed by the physical plant department at that time then I became responsible for what is now known as engineering and planning in addition to physical plant duties. Engineering and Planning of course what is the department that handles all the construction and renovation and remodeling on campus. I in this position do all of the contact with the office facilities department of management and budgeting in Lansing. Dealing with construction projects capital outlay matters Michigan institution roadway funding, which involves campus roads, there is funding in place that you can apply for roadway projects on campus. As far as the organization goes we probably could come up with organizational charts that would explain or show exactly how we are organized at various points during my career, all we need to do is get those dates nailed down to as when all these reorganizations happened and these successions.

RM: Could you talk a little bit about, you told us about your background, could you talk about sort of parallelling that, to your best memory, how these various parts of your, the present day operations came together? what was, there was a development office and there were various parts could you talk a little bit about that focusing move.

BR: Okay, while I was, while the University had this Physical Plant department there was also a

separated from that the department that dealt with construction and renovation on campus. And that was basically a one man, or one man department, Dave McClintock, Dave came on I think during the boom time when they needed to have someone that is responsible for dealing with Lansing and capital outlay matters and other renovations that were going on campus so they established some point in time that department and they called it Campus Development. Then hired Paul Eumarie to work under Dave McClintock, to help with the workload I am sure, then Paul became the main person in dealing with Lansing, Dave retired at one point there. And then Paul had hired Ted Balzarini to be his assistant, then again the work load was too much for one person. So during that period of time, during the boom years, let me just interject this, there was also a need for field supervision on the projects, for the university so they hired John Fassbender, so John Fassbender then while he was only hired for the purpose of helping to monitor projects going on Jamrich Hall, Learning Resources, West Science all these buildings were coming on line. John eventually got a permanent job with the University in the trades department and he was responsible for then architectural trade. Right around that same time I believe it was the time Ernie Newman came on board that he was the first true physical plant director on campus he was a former city manager of Marquette and he did develop a physical plant department that's when Max Mielle and John Fassbender Max taking over the grounds responsibilities John Fassbender was responsible for the architectural trades and I don't recall but there was someone responsible for custodial and for technical and mechanical and electrical trades and I mean we need to fill in that blank cause I can't think of who that would be but there was a person named Frank ? fits into this picture somewhere and I believe that Frank yes Frank preceded Ernie Newman, John Fassbender and Max Muelle and Frank worked out of the service building behind Spooner Hall that and I believe at that time even central receiving was in there I mean they even had their I believe that they received a lot of we need to check on this but at some point in time this birds eye building became central receiving but Frank Surman was the person I guess that was heading up every thing unofficially he wasn't called a physical plant director but he had a title I'm sure but I think everyone kind of reported to Frank it was a small organization then we didn't have many buildings and we didn't have much equipment the campus roadway system and sidewalk system wasn't near what it is today in the late 50's and early 60's. But as the buildings grew so did the physical plant staff. and the equipment needs and grounds department needs I know that fact even in Max Muelly's time in the 60's the grounds equipment they had no new equipment, they had to get old wheel dozers from the airforce surplus they used to call it the monster. They used to plow snow with airforce surplus equipment when those kinds of machines that tug planes around on the tarmac, they rigged them up somehow, they used all this jerry rigged equipment to clean the campus roads and sidewalks. So things have through the 27 years I have been here just have there has been a dramatic change in the equipment and staff through these years. The staff required to maintain approximately 2.8 million sq. ft of buildings and over 300 acres of main campus. So there is a lot of memories and a lot of development through the years that needs to be dated and other factors filled in names and dates. It is difficult to do that off the top of my head.

RM: Bruce, could you tell us a little bit about the campus renovations that we had this summer. We had the pipes removed, we had the streets torn up, and we had the Learning Resources Center development. Could you tell us a little bit about, well we will work in that direction and then President Vandament's involvement in some of the decisions, some of the early decisions on how things were going to go.

BR: Yes, that a very interesting this project that took place over the past year was called the Heating Plant/Services Building Project; it doesn't really describe what the project is all about. We had on our capital outway list for several years a project called Heating Plant/Services Building Project and that project was priced at $19.5 million and what the money was going to be used for was too put an addition onto the heating plant, with new boilers and we were also going to build a brand new services building that was going too be a stand alone services building, so that was the program statement, that was all there was to it. When President Vandament came on board the project, I believe, was just in the approval stage, in fact, I think that we had some approval for planning and Dr. Vandament, Mike Roy, myself, and John Bakela; he wanted us to sit down and reevaluate what we could do with this 19.5 million dollars. And during the process of meeting on this subject we decided that there are alternate routes for the steam lines we do not have to go all the way around circle drive but we could take direct routes through the academic mall and the shortest distance between two points so too speak. And we were thinking of putting in a tunnel system and tunnel systems were getting very expensive at $1,000 to $2,000 a lineal foot we revaluated that and said well there are systems that are available to day called pre-insulated, jacketed, steam and condensate systems that we could probably install for $300 to $400 to $500 a foot depending on the size of the pipe. And by shorting up the steam routes, steam line routes on campus and using an alternate direct buried, pre-insulated jacketed pipe we could save millions of dollars as compared to what tunnels would cost. We had thought that because we are building a domed stadium on campus that our heating plant would not be able too handle that additional load, but it turned out that the Superior Dome is so energy efficient that our boilers easily handled the load just in time for us to know, it was very timely because with that information we knew that we would not have to aid capacity to our heating plant and that the existing boilers could in fact handle the load so instead we decided of putting in new boilers and addition to the building we would improve the boilers that we had. We would go to the latest technology on combustion control we would replace obsolete equipment in the plant and we would bring the heating plant up to today's technologies in equipment and controls we would improve the operating charateristics make it so more efficient that between the...because of the insulation of these new pre-insulated, jacketed steam lines we knew that this giant radiator that we had underground the former, previous one that was failing badly, leaking and had no insulation left it was a big snow melter all over campus and it was a tremendous load on the boilers. With the replacement of the system again the load ont he boilers was reduced avoiding the need to add new capacity. What the new combustion controls on the boilers and what we call economizers, they taker the flu gas from the boilers and pass it through another heat exchanger causing even more efficiency. So we used all these ideas and implemented them into the program statement into a new program statement. So with all of these improvements in fuel efficiency and insulation of underground piping we again could save $2 to 3 million dollars or avoid that cost by using alternate methods of making the plant safe and reliable plant for another 20 to 30 years. So once we had the heating plant taken care of and the steam distribution we looked at the services building. We have well over a 1,000,000 square feet programmed for a new services building and the president again begin and Mike Roy begin involved all the way asked the question "Well would it be more economical to use some existing square footage" that is the Birdseye building and just continue to use it as a central receiving building and put additions onto it for the shops and perhaps we could even move the physical plant department offices there as well and what else could we move. We thought maybe we would move building services and purchasing so that seemed okay, there was plenty of room in the project we had programmed plenty of space for them. Then another thought came, well public safety and police services is kind of stuck in Lee Hall there

in cramped quarters and it is kind of...and we have other uses for that building possibly for art and design expansion, department expansion. So as it turned out all these departments could move out of Cohodas and Lee Hall and there was sufficient space in this project for them at the Birdseye location. So what to do with art and design who is in the Birdseye building, if these other departments are going to move here then the art and design department has to find a home. So we knew that we were going to be abandoning the old services building and heating plant behind Spooner Hall so after much decision and thought on the matter we said well we will examine the square footage needs of the art and design department and it turned out that there was sufficient space in the building behind Spooner Hall to house the art and design department and the president said that would be a good idea even in the stan point of centralizing and consolidating the art and design department because they are in Lee Hall and there also in Thomas Fine Arts. They would all be in one area again, finally. So of course there was a lot of programming to do and a lot of schematic design to see too make sure that they could fit in there. And as it turns out only minor additions were required to the building that was the old heating plant and services building to accommodate them. So with the savings, cost avoidance I guess you could say at the heating plant and the direct buried system in leu of tunnels and the use of existing building space were able to generate enough cost avoidance to create a new and renovate the old service building to be an art and design facility. So all these pieces of the puzzle both the financial and the space needs pieces so then the only thing that was left for us to do was to phase the project properly so that the academic function would not be disturbed to much, that is the academic calendar had to be looked at very carefully and then the construction phasing had to be planned carefully so that all the work that was done needed to be done in the old services building and heating plant would be timed that when classes were finished in May or April 30th or so in the Birdseye building that summer the work would have to excelerated so that classes could be held in the fall in the art annex as they call it, now called art and design north. And it worked out, the contractors were well aware of the timing requirements and they were very efficient and the building was ready for classes last fall, which would be the fall of 96'.

RM: What did you do, just to get it on the record, what did you do with the equipment between moves for the art and design.

BR: Oh yes that was quite a chore too and Carl Pace managed to find enough old semi trailers to store it in so we had 15 or 17 trailers full of art and design equipment and other departmental equipment that was being transferred one way or another stored in the Summit Street gravel parking lot and they were there lined up for all these months. So then of course that was our temporary warehousing just putting them in these old semi trailers it worked out pretty well and we were able to by doing that we were able to preserve and reuse a lot of art and design equipment that may have been difficult to maintain or even store anywhere else, and it was secured storage of course. So that was a temporary storage.

RM: So could you as part of this project of the summer of 96' could you talk a little bit about, a topic that people are always interested in, there was a number of years ago there was discussion of putting tunnels and then finally we get the connector link between the University Center and Gries and then eventually a tunnel between West Science and the library. Could you talk a little about the original idea and what happened to it.

BR: Sure, right. Again President Vandament had a vision of linking the campus buildings with covered walkways or whatever would provide an easy access or a route for students and faculty, staff on this campus during inclimate weather or at any time really. But he had a concern about the wheelchair users that they have to fight the elements like anyone else and I am sure that it is much more difficult. So one of his visions again was the first one was the link between the University Center and Gries Hall that was a different project other then the summer project of 96' but separately funded but it was the first step in the linking of buildings and while there was some opposition, it was mild opposition but there was a lot of remarks and comments whether or not that is needed but as it turns out it certainly has been excepted and well used.

RM: What year was that?

BR: That was in the year of 1995 I believe that one went in. But the President even in this heating plant project the 19.5 million dollar project, I forgot to mention that there was still money left over after building the art annex to possibly link Learning Resources building with the West Science building we had hoped even to link Jamrich Hall with the West Science building and then another.....

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BR: Because there was money left in the project by all our cost estimates we may be able to do more linking and that would be from the second floor to the ground level of the McClintock building. And then furthermore that would provide a link all the way to the Forrest Roberts Theatre from Learning Resources. We thought maybe we could even go to as far as linking the theatre with Gries Hall that one would have required crossing Seventh Street and then there was tentative plans to close off Seventh Street to allow this link to proceed across. That would have given linkage from the University Center, the east side of the university all the way too the Learning Resources Center. It would have been an accessibility wonder, but the money just didn't hold up, we didn't have enough money to do all of that but we did manage to run a underground tunnel between the LRC and the West Science building, that tunnel partially serves as a steam line, a main steam distribution route also and we wanted to tie it in somehow with our steam distribution system just to make it more exceptible probably to however was concerned why we are doing it. It is serving as a steam tunnel as well. And the president had, we could have put it above ground but the president again in his many trips to the sites to envision these links between felt as though the vista would be destroyed as your looking from Jamrich Hall out to Sugar Loaf Mountain or to the north and west. That would obstruct the view, it would spoil the vista and he was very concerned about that so it was decided that we would put that link underground. And again it did serve as a steam tunnel so it's proper that it would be underground, so that also was added to the project. With all these changes of course the program statement was approved by the Joint ?????? Subcommittee was no longer really what was programmed and what was approved so we had to scrabble to re....we must add this, we also thought that we might have enough money to renovate Lee Hall and be able to move the art and design department out of the third floor of Thomas Fine Arts then they would truly be consolidated and centralized into the Lee Hall complex and the new art and design north. However, the money did not hold up and we had to delete that from the project but getting back to the program statement. The program that was approved in Lansing was no longer the program statement that we wanted to follow and build according to. So we had to scrabble to rewrite the

program statement all the elements that we discussed here had to be included in the new program statement so were able to get in just under the wire. We sent the necessary documents to the department of management budget and it a it was approved a new program statement that would follow all the changes that the President thought would be more beneficial to the university it had a much wider benefit it was just so much better it was a package that helped the academic way of the University as well as the physical facilities. So it was awful, it was just a miraculous transformation of a program statement. I must say at first I didn't know if it was even possible but as we examined each item in the old program statement we found a that there were alternate less costly ways to achieve proficiency and to use that cost avoidance to do a lot more on this campus. In other words we got a bigger bank for our buck. By Far

RM: So how much was or how much from the 19 million was used for the ? or how much was saved and reused?

BR: I have those figures if you want to turn that off for a second.

RM: Bruce could you tell us connected with the other projects of 1996, they talk a little about the renovations that went on in the basement or the lower level of Learning Resources.

BR: Yes as everyone knows here that the faculty was housed in the first floor of the Library in temporary offices for 30 years. And we have always looked for ways to move the faculty out of there so that the library could use it for its design purpose.

RM: Let me just interrupt you for a minuet, could you talk about the first renovation and movement of people out of, we are sort of backtracking here, when the people moved, started to move some of the offices down to Majors Hall.

BR: Right the first phase of moving people out of the first floor of the Library was a projected that renovated Majors hall and with that we were able to move several department out of the first floor of the library to majors hall that was, following that

RM: That was what year?

BR: I believe it was around '91 or '92, we can check on that, but I believe it was around there. It seems about right. But after that Majors hall was a residence hall, and the next step was to acquire Grease Hall and convert that facility into offices for faculty. That one allowed us to take all of the Psychology and Sociology out of Carey hall and put them into first class offices in Grease Hall as well as other departments that were still in the Library.

RM: And what year did Grease open?

BR: that was I believe in '94 and that left that still left the CAPs Faculty, the Communications and Performance Studies departments were still in the first floor of the Library. But however on the east side all of the Library was completely vacated by the 1996. And we the campus as a whole was looking to consolidate academic computing. WE had taken over classroom, valuable classroom space in Jamrich hall and in the Thomas Fine Arts facility. WE had academic computing

scattered around and it was not efficient so people other than me decided it would be good to consolidate that. So we became involved in programming space and developing space needs for a central academic computing laboratory. And Academic Computing classrooms in Learning Resources. Well it turned out there was ample square footage available in the Library to house all the academic computing. With the changes in through the years in Library science, and with the advent or coming to the University of Tom Piscel it, he was part of the programming and development of this idea. Money in the amount of 1.8 million dollars was available through a 12 million dollar bond sale, the university took advantage of during low interest periods, and I know Mike Roy is the person to talk to about the financing of these projects but one of the projects was of course was the academic computing laboratory. We engaged in and hired architects, local architects to design that east half of the floor for that purpose, and during the summer of 1996 spring and summer the project was undertaken. The actual demolition of the old offices was actually done by our custodial department. They took down all the walls and did the and did the carpeting, got it ready for the building of this new Academic Computing.

RM: now that demolition took place of summer of '95.

BR: During the winter of '95. yeah. There was plenty of time for the custodians to do this, mostly on an overtime basis. So that worked out well, it was necessary to do that, because we had such a tiny window to work in. We are talking about three months and we have to have all these things ready. For the new school year. And it turned out the contractors were aware again of the tight time lines and we were able to have it ready as planned.

RM: In terms of the initial plans and as they progressed did President Vandament get involved?

BR: Yes, the president and I was there with him on several occasions and he really liked the openness of that concourse, the north south concourse in that first floor, while the space might of been used for expansion of the academic computing lab he really envisioned it should be a friendly place for the students to enjoy as they have through the years and it should not be destroyed. So as part of the project design, as it evolved Bookbinders was a small cramped quarters, popular but it did not have the menu or the room to accommodate students and the President knew that with the centralization of academic computing it is going to bring more people to that area and further more with the linking of the West Science building with learning resources it is probably going to draw more people just if not for convenience alone. He also knew, the president also knew it was in the plans were in place or at least envisioned the linking of Jamrich Hall with West Science which then make it very convenient to students and faculty that are in Jamrich hall to have and for people with disabilities to travel freely in all kinds of weather from Jamrich and West Science to the LRC. So that lead to the idea that perhaps Bookbinders should become part of this project. So the food service people, Dick Whitman, and others worked with us on a new Bookbinders which is now reality and it is located on the West side of the concourse of the first floor. Then again, the President thought that, looking down that concourse it looked pretty drab, it needed a face lifting, beyond that where are students going to sit if so he had envisioned a outdoor cafe type setting and so what we did is completely removed the ceiling in that concourse and made it very attractive with drop ceilings and new lighting, design lighting and ceiling so then the architects thought they wanted to do something to the floor as well, because the tile was there from initial construction so they added some features to make even the floor look more attractive. But the as far as the seating

goes, the outdoor cafe type that the president envisioned was designed into the project as well and today you will see the seating into that concourse, and one of things we couldn't put enough seating because of fire safety rules, you have egress according to the rules. There is not enough seating but we are working on ways to accommodate more students and others who use bookbinders. It turned out again, and when I say the president becomes involved in these projects, he certainly does and he influences in a very, very positive way, it is amazing to me how he can envision things, and he has been a great help, on the heating plant project and on other projects. And certainly the President, I keep referring to him because I have to because he was instrumental and his initiative that started actually started yes these projects that probably would of never happened. You can go on to other things to certainly other projects like the volleyball facility in the PEIF. He was instrumental in that, he had many, many ideas about how to utilize the Dome for more, the Superior Dome for as you are well aware, for the things the display cases the historical and bigger than life displays, people that were bigger than life to display to use his terminology, the history of the U.P. talking about minerals and industry. Much of that is reflected in there the presidents room that is in there is his idea, and that of course is been well used. The President or the Presidents I don't know the VIP deck in the dome, originally it was very narrow step with seats up at the top level of the seating on the north side. He thought if you entertain a lot of guests here, he does that at the football games, but he couldn't really circulate because there was no room to get by the chairs. So with his vision and his thoughts we incorporated a VIP deck, again this deck is accessible and he had that in mind that the he couldn't accommodate or entertain people with disabilities because it was inaccessible where it was located, so that was not a problem we built the deck and added a stop on the elevator, so we were able to do that so that he has freedom to move and circulate and entertain. So those are some, the parking situation on campus, I know he takes a few shots for the asphalt, but I don't here people using the parking lots complaining, it is the we have added hundreds of spaces on campus during his time. Even on parking lots I have stood out there with him where he envisioned the vista, he didn't want to see just a asphalt and cars he wanted to see some green spots so we tried to landscape as well as put down the asphalt. We want to make a course accessible and adequate number of parking spaces for the people with disabilities and he has had he's been very close to all of the projects that have gone on during his tenure.

RM: Didn't he also I think the initial project was started before he got here the accreditation of the university center, that was is in the plans but he did, i mean intervene there I know with the Peter White Lounge it was going to be a blank wall of and he wanted the cases to be put in.

BR: Right that's the more of the heritage themes that he likes to incorporate into his projects and that's the time to do it because during that period time you don't have to do any demolition you simply work it into the project and it's much less expensive to do it at that time so yes the things you see in the Peter White Lounge are his inputs.

RM: Kind of to look back your experience with other presidents did you have that kind of interaction you know with that coming involved with projects like this?

BR: I would say it was very minimal, during John Jamrich tenure I was not involved in construction that would have been Paul Lamary but I understand that John Jamrich did have some say in what the fascid of the administration building would be but I think if you get a chance to talk to Paul Lamary he would be the person to talk to during that and maybe Ernie Newman. Those two

people would be able to give you some better idea of the presidents involvement in projects but my involvement with John Jamrich was strictly of a physical plant nature and I do have some recollections of my encounters or dealings with Dr. Jamrich.

RM: Do you want to talk about do you want to finish of with that or do you want to talk about, ok lets draw a conclusion just kind of getting your ideas or comments about what sort of in the works, immediate and in the future in terms of the developments on campus.

BR: I'm going to refer again to the President on some of these because even beyond on what I said about heritage at this very time we are installing some additional display cases in the Jacobetti center that are going to honor and display Dominic Jacobetti's artifacts, so that is happening. I think that in the future as we develop projects on the west science Seaborg Center is going to have has been approved for planning at this time and we are about to put send out bids for professional design services and that project is going to be 46.9 million dollars 25 % which will be funding by the university through a fundraising campaign, the built in to that project though is the linkage between West Science and Jamrich Hall that was never early was not considered as a but as the President came involved he saw that as a golden opportunity to incorporate that linkage.

RM: So this will be a legacy of his after his gone.

BR: That's no question and I think that what he has started with the heritage theme and the projects I think that probably at least I hope will carry on to the future with future administrations because it makes the buildings so much more interesting and it honors those that have been here before us and it enriches our understanding of history and heritage so I think those influences are going to be around for awhile and maybe forever and that's a good thing. We are going to, I think that once the West Science is remodeled and the Seaborg Center is added we going to have this campus in good shape. The only projects I see in the future would be the total renovation of Lee Hall.

RM: What about Carey?

BR: Carey Hall is because of again the possibility of moving communication disorders into this West Science Seaborg Center Project it's a science discipline and it's a fit for the West Science type facility with the laboratories and specialized classrooms. So once we do move communication disorders from Carey Hall it will be an empty building and it will be returned to the housing and residence life department and it's future would depend on what use they find for it. They find no use for it perhaps and it will be raised because it is certainly an expense to maintain to heat it to keep the utilities running.

RM: Is that type of building is it possible for that to be say parts of it taken off of it

BR: Yes it would be possible to downsize it because of the wing nature of it you could take off a wing and downsize it to a special need but at present we are looking at the possibility it's just the possibility of moving the USOEC operation into that building were having it studied right now by a local arctechtual firm and that possibility exist as a use but that is the only use that I know of at this time and if it is feasible both physically and financially feasible to do it, it will probably happen.

RM: And then what would happen to Meyland Hall then where the USOEC is now?

BR: Well it would return to a residence hall it would, of course right now they are leasing the space to house their olympic athletes and summer programs and all their events, programs that they sponsor. So I would say that the future of Carey Hall..... END OF TAPE