



Village of Arlington Heights
Plan Commission
Board Room
Arlington Heights Village Hall
33 S. Arlington Heights Road
Arlington Heights, IL 60005
January 24, 2018
7:30 PM

I. CALL TO ORDER

II. ROLL CALL

III. APPROVAL OF MINUTES

- A. Chapter 28 Text Amendments - Phase 2 - 1/10/18
- B. Annual Review of Comprehensive Plan - 1/10/18

IV. PUBLIC HEARINGS

- A. 703-723 W. Algonquin Rd. - PC#17-013
PUD, Preliminary Plat of Subdivision

V. OTHER BUSINESS

VI. ADJOURNMENT

Persons with disabilities requiring auxiliary aids or services, such as an American Sign Language interpreter or written materials in accessible formats, should contact David Robb, Disability Services Coordinator, at 33 S. Arlington Heights Road, Arlington Heights, Illinois 60005, (847)368-5793 (Voice), (847)368-5980 (Fax) or drobb@vah.com.



Item: Chapter 28 Text Amendments - Phase 2 - 1/10/18

Department: Planning & Community Development

ATTACHMENTS:

Description	Type
Chapter 28 Text Amendments - Phase 2 - 1/10/18	Minutes

PLAN

REPORT OF THE PROCEEDINGS OF A PUBLIC HEARING
BEFORE THE VILLAGE OF ARLINGTON HEIGHTS
PLAN COMMISSION

COMMISSION

RE: CHAPTER 28 TEXT AMENDMENTS - PHASE 2 - PC#17-005

REPORT OF PROCEEDINGS had before the Village of
Arlington Heights Plan Commission Meeting taken at the Arlington Heights Village
Hall, 33 South Arlington Heights Road, 3rd Floor Board Room, Arlington Heights,
Illinois on the 10th day of January, 2018 at the hour of 7:30 p.m.

MEMBERS PRESENT:

TERRY ENNES, Chairman
MARY JO WARSKOW
JOE LORENZINI
BRUCE GREEN
GEORGE DROST
JOHN SIGALOS

ALSO PRESENT:

BILL ENRIGHT, Planning Deputy Director

CHAIRMAN ENNES: I'd like to call this meeting of the Plan Commission to order. Would you please all rise and join us in the pledge of allegiance?

(Pledge of allegiance recited.)

CHAIRMAN ENNES: I think the first item is approval of the St. James meeting minutes from our last meeting.

COMMISSIONER DROST: I'll make that motion.

CHAIRMAN ENNES: All in favor?

COMMISSIONER GREEN: I'll second it first.

CHAIRMAN ENNES: All in favor?

(Chorus of ayes.)

CHAIRMAN ENNES: Any opposed?

(No response.)

CHAIRMAN ENNES: Okay. We will move on to our first item of business and ask Bill to present the changes.

MR. ENRIGHT: Well, first, do the roll call. Commissioner Dawson.

(No response.)

MR. ENRIGHT: Commissioner Drost.

COMMISSIONER DROST: Here.

MR. ENRIGHT: Commissioner Green.

COMMISSIONER GREEN: Here.

MR. ENRIGHT: Commissioner Lorenzini.

COMMISSIONER LORENZINI: Here.

MR. ENRIGHT: Commissioner Sigalos.

COMMISSIONER SIGALOS: Here.

MR. ENRIGHT: Commissioner Warskow.

COMMISSIONER WARSKOW: Here.

MR. ENRIGHT: Chairman Ennes.

CHAIRMAN ENNES: Here.

MR. ENRIGHT: Public notice was provided in the Daily Herald.

Well, as you are well aware, the Ordinance Review Committee reviewed this project on October 25th. Phase one of the text amendments were recommended for approval by the Village Board, adopted by the Plan Commission and approved by the Village Board earlier this year, or rather 2017.

Phase two now gets into various other sections of the code, some of which is just, you know, shortening the code on its length, redundant sections that aren't necessary to show up in multiple locations. Many of the zoning districts have the Christmas tree regulations which we're just going to have once in the code, it's still there but only once, as well as the community residence standards. Rather than having it show up multiple times in the code, it will just be at the end of the use district section and appear just once. So, that will be good to just shorten the code because any user of the code flipping through its numerous pages, shortening it is certainly beneficial to the users.

Regarding some of the actual textual changes that have a little more impact, one definition that we wanted to update for sometime and kind of overlooked as part of phase one was our definition of amusement facilities. It's a very archaic definition that refers to computer internet places where, remember back in the day when you'd have storefronts opening

up with 20 or 30 computer monitors when the internet first came out and that's where people would go to get hooked up to the internet. Well, you know, that's kind of gone to the side now with the advent of the smart phones and laptops and so forth. So, and it didn't really reflect some of the things that we are seeing with respect to amusement facilities.

So, we have a new definition that caters to real uses that we're seeing in today's world and the business world, a facility that provides indoor activities for kids or adults including video arcades, games, or other recreational type of amusement such as play equipment, trampolines, laser tag, et cetera. We're recommending that larger facilities of 5,000 square feet or greater are special uses, and smaller facilities less than 5,000 would be permitted as of right. So, that was something that we wanted to add in to the recommended changes.

Chairman, would you like me to pause for any questions as we go along? Or do you want me to just move through all of these?

CHAIRMAN ENNES: I would just as soon that you went through since we've reviewed them. But if anybody has questions, do you want to --

COMMISSIONER GREEN: I just have one quick question. How many lots do we have that are actually 49 feet?

MR. ENRIGHT: Well, when we get, do you want me to, I'll address that --

COMMISSIONER GREEN: No, I'm just reading it here.

MR. ENRIGHT: Yes, I'll address that when we get to it. That's coming up shortly.

COMMISSIONER GREEN: Okay, okay.

MR. ENRIGHT: So, regarding amusement facilities, I'll take it that nobody has any concerns about that additional definition or revision.

Regarding the next section in the code, the use district sections, we're looking at the 50 to 49 feet minimum lot width. Right now, the code permits you to build on a 50-foot lot, and that's width, if a majority of the houses on your street between two intersection streets on either side of the block are less than the standard 70 feet. There are quite a few that are 50 in the center of town, the older part of town. Obviously, as you get north and south, the standard 70 with all the subdivisions in the 60's and 70's and 80's were built to the current standards.

49 footers though, we do have a couple of locations. There is one neighborhood that's south of Central and east of Arlington Heights Road where there's quite a few 49 footers. I don't quite understand it looking at the plat maps, but that's how they were platted for some reason, and these go way back, you know, 100 years. We have found in some instances where people want to either do an addition or build a new house or a tear-down, or again just an addition to an existing house because they don't meet that minimum of 50 feet, they have to go to the Zoning Board. So, we have a few of these go through the Zoning Board, you know, maybe a couple, two to three a year. So, we're recommending just altering that section just slightly to incorporate those odd locations, there's a few other small neighborhoods where this occurs kind of happenstance. So, that would be, you know, we think that's a pro-citizen or pro-resident change because it will, you know, allow people to not have to go to the Zoning Board.

In addition, as part of that, right now if you have a 50-foot lot but the majority of the houses on your block are not less than 70 feet, it's not a buildable lot. You have to go to the ZBA to get a variation to build on it. That also includes, if there is an existing house

there, so if someone wants to build an addition which is largely a nonconforming use or do a tear-down, they would have to go to the Zoning Board. We think it's illogical that someone can't build on a lot where there already is a house established there, and onerous on the citizens who own lots like this to have to go to the Zoning Board. So, we've added language or recommending language to basically in effect exempt those types of properties that already have a house on them, even if it's a tear-down. If there's a house established, then it's buildable. So, we're recommending that change because there are a handful, you know, two or three a year that go to the ZBA, they get the approved variation because it's illogical to not allow someone to build an addition where you have a house there already, as long as they meet, they still have to meet all the setback, FAR standards and impervious coverage.

So, I don't know if that, Commissioner Green, if that --

COMMISSIONER GREEN: I just was curious how many there were. But that kind of answers it.

MR. ENRIGHT: Well, I don't have a count but there's, I would say there's probably a couple of hundred.

COMMISSIONER GREEN: Okay, that's a lot.

MR. ENRIGHT: Yes.

CHAIRMAN ENNES: Are there any that might be 48 feet?

MR. ENRIGHT: No, we don't see 48 feet. We see like 48.9 but we --

CHAIRMAN ENNES: So, 49 is the exception.

COMMISSIONER DROST: So, you round them up?

MR. ENRIGHT: We round them up, yes, if it's close like that.

Moving forward with the R-4, R-5, R-6, R-7 and B-5 development standards, some of the things that we're looking at include, well, I'll just go to the next slide. Also, M-1, M-2 and P-L industrial performance standards, those are the existing Chapter 23. That's another thing we wanted to do is if there are things in other chapters, like with the Plan Commission and the Zoning Board of Appeals, the enabling language that creates those commissions is already in Chapter 6, that's where it should be. It is also in Chapter 28 where it shouldn't be, so we've eliminated that. Same thing with these industrial performance standards, they're in Chapter 23 of the building code, we don't need them to show up in the zoning code as well. Then Hickory-Kensington Overlay, we're recommending a modification of the density standards for just a small area which I'll get to.

Regarding the development standards, in R-4, we don't have much R-4 zoning in town, so this isn't a big change. But right now we're requiring 15 percent of the lot width for a side yard. We're recommending 10 percent which is the standard. The reason for that is most R-4 developments are actually single family homes, which is fine. You could do duplexes, but we just don't see people doing duplexes anymore, building duplexes. But the 10 percent is more consistent because we do see single family homes in R-4, and then they have to comply with 15 percent whereas most single family homes are just 10 percent. So, we think that's just a positive change although it's very minimal in terms of its overall impact considering there aren't many lots zoned R-4.

With respect to R-5, we're recommending the increase to the height. R-5's typically, you know, are either row homes or townhouses. 25 feet is a very old standard. Keep in mind that a lot of these standards were established in 1959, and there's been amendments to the code up until '85, I know we've had smaller amendments. But a lot of these

are pretty archaic in terms of contemporary development standards. So, the Ordinance Review Committee agreed to bump it up 10 feet.

We also have these very archaic spacing standards and this affects both the R-5 and R-6 and R-7 zoning districts where if you have a complex of multifamily townhouses like the Old Arlington Heights Road development by Lexington, the spacing of those buildings varies drastically from several feet to 50 feet, depending upon the windows type, what room is there. Well, we think that just doesn't make a whole lot of sense. If it's a bedroom facing a bedroom, it's a greater distance or less, different if it's a kitchen facing the bedroom. So, we think we should, you know, and we're finding that most of these types of developments, a 25-foot space in between the buildings is adequate. A lot of these are, well, they are PUDs anyway because they're multiple buildings, so you can always, you know, require greater setback. But we think 25 is more than adequate especially given the heights of these districts.

The height in the R-6 we're recommending going from 40 to 50 feet. Some of our R-6 developments that are less than 10-12 years have needed variations just to 40 feet. You know, the floor plates as you all know are just a little greater now. People want nine-foot ceilings instead of 7.5 like 50 years ago or 40 years ago. So, the 50 feet will accommodate four to five stories in the R-6 district, probably closer to four but you could probably get five in. Then again, the setbacks, we're looking at just 25 feet in the front, side 10 percent of lot width, rear 30 feet. Right now in R-6, for every foot of building height above 25 feet, you have to add an extra foot of setback, and we're seeing developers having to seek variations, not just about a recent development that we'll get to in a second, but these types of R-6 developments. We think that the standards put forth here are more than adequate to address, you know, required setbacks.

The R-7, we're not recommending that change in height, we think 60 is fine. Again, there's a 25-foot space in between buildings although very rarely do you see multiple buildings in R-7. I don't know if we have, we might have one older development northwest of the Jewel. But again, it's away from this, you know, what type of windows are facing, it just comes up with a standard 25 feet. Again with setbacks, you know, again R-7 requires when you're above 40 feet you have to add a foot of setback to the front and side. We're saying standard 25 feet, 10 percent of lot width for the sides, also a slight increase to the building lot coverage, 45 to 55 percent because it's more downtown urban. However, we are not recommending any action on this at this time.

The reason for that is of course we have the CA Ventures development that was recently denied by the Village Board. They have resubmitted with a modified plan and we did not want to put this forward at this point in time and have different standards set up which would, you know, change the variations, lessen them quite significantly. So, we just didn't feel at the administration level that it was appropriate, and we talked a little bit about this at the Ordinance Review, to move forward with those changes at this time because we have an active project that's controversial in the neighborhood and we didn't want to recommend these changes right now, although we would want to revisit those down the road.

Then B-5, we're looking at more rational setbacks in the B-5 Downtown District. Right now, you know, one size doesn't fit all. In the B-5 district, we basically want zero lot line in the front, and if it's an infill development on the sides, too. Right now we are different requirements for that depending upon the situation of the property. So, what we're recommending in the B-5 is that we have public street frontages as one standard, and then

interior lot lines as the other standard.

So, public street frontages, so let's take for instance the development that's going up right now, the Park View Apartments, that is completely surrounded by commercial property on all sides, and it has public street frontages on two streets, on Dunton and on Eastman. So, you know, that would be zero lot line, that's all that would be required which makes sense. The only time we'd require a setback is if that public street frontage is actually across the street from residential property. So, for instance, the block where, well, the CA development but that's R-7, north of that is --

COMMISSIONER DROST: The old Paddock property.

MR. ENRIGHT: Yes, the old Paddock property owned by Mr. Adriani. If you look at this downtown zoning map on my cursor here, this is the B-5 part. Part of it's across from R-6, but part of it's across from R-3. So, even though it's a public street frontage, because it's across from residential R-3, we would recommend a 25-foot setback. But up here, up north along Campbell Street or along Highland, since it's across from B-5, it would be zero lot line in terms of code. Then to the south, you know, you have interior lot lines, you have to have 25 feet abutting residential. So, at the south of this property, since it would be abutting R-3, at the south end of the block you would have to have a 25-foot setback.

So, we think this is just more reasonable and fits to the downtown. We think that some of the restrictions previously just didn't make sense in a lot of cases. One good example is 13 East Miner, Mr. Panzarino got the preliminary PUD up on Miner. It's basically zero lot line up front and on the side. He's going to put some windows in on one side, so that has to be five feet back pursuant to building code, but you need a big variation for that. So, you know, those types of infill developments are going to be built building to building more or less and up to the sidewalk. That's kind of the form that we want downtown.

So, we think that these new setbacks are a lot more applicable to the reality of downtown and what we want to see without having to grant all these variations. Then going back to the Hickory-Kensington Overlay, we're recommending an increase to the density. The overlay zone for Hickory kind of involves not this whole blue area but that's the Hickory redevelopment area, we're really just talking about two block faces. As you know, Campbell Street we want to come through, so it's, you know, two lots on either side of the spur line, one lot is that development that's proposed for 74 units. Because of the streets coming through, it's chopped that property by about a third. So, the building they're proposing is five stories, it's meeting all the setbacks and the height for the overlay zone. But because of losing that property to the north for the street and the excess land, they would have to seek variations.

The same would be the case if the Ladoff property where the Mariano's employee parking is, same thing there, with the street coming through, the density doesn't quite fit for what's left over. So, we're just trying to match it with our other development standards for the Hickory overlay zone. It does not affect, you know, the Heller site because that's R-7, or anything north of what will be Campbell Street because that remains R-7. Then the only other portion of the B-2 site, this is where the new daycare is going, so that's going to be there we're presuming for quite some time, is this other block where you have the little strip center here, Kensington and Hickory, and there's, you know, a couple of abandoned buildings. You have the bowling alley here and a couple of service type businesses.

So, it's just the smaller area in red that would be affected by this overlay, but it does allow for increased density, but the form still looks the same. It's the same

height, it's the same building without the penalty of losing that extra land. If this one developer didn't lose all that extra land, they would have been close because I think they were like two or three over. But given that this overlay zone was intended to be form based, what I mean by form based is this is what we want to see, the shape and the setbacks. We don't want 30-foot setbacks, we want it kind of zero lot line to five feet, on Kensington, 10 to 15 feet. So, it meets all those standards. So, that's kind of the gist behind amending that overlay zone just for these two block faces.

General provisions. Height of fences. We used to allow six-foot fences in town and we changed it about 25 years ago maybe, something like that. We're finding a lot of people, we haven't done surveys, but we're finding a lot of people over the years, you know, complaining about not being able to do a six-foot fence. They don't think five is private enough. We do allow six feet when you're adjacent to commercial property. We do allow it if you're adjacent to a major road, as well as solid fences in those cases. But it's five feet otherwise. We're recommending increasing it to six feet. We're also recommending allowing solid fences.

In addition, because we're getting a lot of these prefab fences now with the hard core plastic, they look nice but most of them are solid. Some of them have tiny little gaps in it, but most of them are solid. We think they look fine. People can still choose to do a semi-open fence if they want. Certainly this just affects the sides and the rear, not the front yard. They're still limited to three feet and open in the front.

Then the corner setbacks, corner lot setback, if you have a corner lot and your backyard fronts on a street, you have to set back your fence half the distance between your house and the property line or a minimum of five feet. You know, let's say a house is set back 30 feet, then they'd have to set back their fence 15 feet. That carves out a big chunk of their backyard. We're saying just set it back five feet no matter what the circumstances. On the outside of that, you still have to landscape it like you do now. But we think it's a little onerous to have people having to set back the fence quite a bit, and we get a lot of complaints on that. That's probably one of our biggest fence complaints, because people are basically losing a portion of their backyard if they fence it in because a big portion is on the outside of the fence which no longer really becomes usable.

So, that's a change that, you know, doesn't come up a lot but there's quite a few corner lots. Most houses aren't set back 30 feet. They're, you know, more like, you know, 20 or 15, so most setbacks would be 7.5 to 10 feet. We're saying five for these corner lots.

In addition, our table of permitted obstructions, we want to update it and add things that are more common now. I mean, I don't know why generators -- done before but we'd like to add that. Fire pits are becoming more common although it's not in the permitted obstructions table which is, these are things that are allowed in backyards. Outdoor living kitchen areas, we're getting a lot of those. The sport courts as well, although all of these still have to meet the impervious surface coverage in the rear yard which cannot exceed 40 percent.

Then also in the front, the entryways, we don't allow porches unfortunately unless you meet the setback. So, they can't be a permitted obstruction. We do allow little entryways to be a permitted obstruction into your setback, but it can only be four feet deep and then eight feet wide, which is kind of small. We see a lot of people would want to do a nice little entryway that's a little more proportional, five feet extended out from the front door, and

then 10 feet wide. That allows a little more architecture and, you know, a little more work done with any columns or posts, but nothing huge. We think we're just adopting to, you know, current development standards, things people want to see with their homes and proportion the front entryway to the rest of the house.

We're also recommending eliminating the detached garage 10-foot setback from the house. It's already in our building codes. You can get an exemption from that by building a fire-proof garage, which means the building code does allow less than 10, but our zoning code doesn't. So, people would have to come to the Zoning Board to get a variance. It's strictly a building code issue and that's where we want to leave it, so we're recommending getting rid of that out of the zoning.

Are there any questions on anything --

CHAIRMAN ENNES: With these permitted obstructions, these have to be set back, generators, fire pits, outdoor living kitchen?

MR. ENRIGHT: Yes.

CHAIRMAN ENNES: They have to be set back from the lot line?

MR. ENRIGHT: Yes, they do.

CHAIRMAN ENNES: Are there also restrictions?

MR. ENRIGHT: Yes. Most permitted obstructions in the rear yards have to be set back three feet from the side and five feet from the rear. That's consistent, for instance, a detached garage which could be 720 square feet in size, 15 feet height to the peak, those are required to be three feet and five off the rear. So, that would be the minimum. Pools have to be a little more.

CHAIRMAN ENNES: Do they also have to be separated from the house?

MR. ENRIGHT: Generally not. There may be some code requirements for fire pits, but generally no. I mean, you know, a generator, they're often right up against the house or a couple of feet away for circulation.

COMMISSIONER DROST: Yes, have we, you're aware of what Des Plaines is doing right now? They're creating a little bit more massing, more density in their community.

MR. ENRIGHT: Right.

COMMISSIONER DROST: Reading between the lines, it appears that they're trying to become more developer-friendly and they're trying to reinvent or to make some, well, let's say improvements from what, you know, originally evolved in the downtown area. Are some of these little pieces, you know, kind of going in that direction, too, helping developers out, you know, making our standards more contemporary with the marketplace and some of the competing areas in the northwest suburbs or west suburbs?

MR. ENRIGHT: I think yes. What I like about this phase two is that it's not just, you know, developers building, you know, midsize to large projects depending upon the location, but it's also making I think positive changes for single family homeowners in town. You know, these issues come up a lot. Homeowners are always asking about fences and setbacks for fences and putting fire pits or outdoor living kitchens, things of that nature. So, I think a lot of these changes are positive for homeowners in town, and often we kind of overlook them, we focus on the big stuff. So, I think it's a combination of both.

I do think that the development standards purely with these, a little bit with the changes in the height, I think, you know, certainly make some more contemporary

developments that have been approved. So, these height changes aren't things that are out of whack with the intent. It just eliminates the need for a few variations. Most of those variations get granted anyway. So, I think the Plan Commission and the Village Board recognize that our code is a little out of whack on some of these things.

I think the setback changes, or I think the setbacks now in some of these districts are a little punitive. The higher you go, the bigger the setback. But then, you know, then it becomes harder and harder to even build on the property. So, I think those are definitely positive changes.

COMMISSIONER DROST: Yes, and there's just one horrible example here of the setbacks, you know, on the south end, or just south of us on Arlington Heights Road, that building that always gets, you know, it's almost in the street. So, there is a balance here on we're not going to be afraid of any of those monstrosities coming out of the woodwork.

The second piece, too, is when we're thinking about these changes, do we think about them in a holistic sense from the standpoint of, okay, here are some of the trends? But the trends also bring a certain type of resident and we're looking at sort of the economics, the demographics, the sustainability. How does this add to the, let's say the entertainment piece of the Village? How does it, that's the restaurants and some of the services, particularly in the more vertical downtown area.

MR. ENRIGHT: Well, I think regarding, you know, how is this pro-business, I think really phase one when the Plan Commission recommended and the Board adopted the change to the special use waiver for restaurants, increasing it from 1,500 square feet to 4,000, I think that was a real positive step for those types of businesses. We want to see that all throughout town, not just downtown.

COMMISSIONER DROST: Right.

MR. ENRIGHT: So, that's been beneficial I think in terms of being pro-business and then stimulating the market at least for that category of use. I think that some of these changes, I mean we're doing pretty well, I mean you know.

COMMISSIONER DROST: Yes, and that's sort of the dialogue, I mean not that we're going to change it here, but you know, to put it in to sort of the perspective of again a macro look, you know, what we're doing to make our, and again, the downtown area might be the canary in the coalmine, but you know, 20 years ago we didn't allow for outdoor dining, al fresco dining.

MR. ENRIGHT: Right.

COMMISSIONER DROST: Now, you know, with windows and with rollups and, you know, sort of what the expectation level is now from the marketplace to respond to that.

MR. ENRIGHT: Our Village Board is going to be looking at evaluating some of the liquor code changes which may or may not happen. But if they do, you know, it could open up some new types of businesses in town, and we're looking at where those would be appropriate from the zoning standpoint.

COMMISSIONER DROST: Good, just for the record.

MR. ENRIGHT: Okay. Moving on to parking, one of the big issues that the Plan Commission has rightfully had as well as the Village Board is, you know, the parking requirements for elementary schools being kind of out of touch, and we think they are. We're recommending that with the new code, that elementary schools are parked at one space per employee plus one space for every five classrooms. We did a survey of a bunch of communities

around us, and we found out that a lot of them do kind of this hybrid, it's a mix of employee and number of classrooms, you know. An elementary school is adding, you know, five or six classrooms and they're expecting enrollment to go up, then, you know, we've seen that recently with several elementary schools where they may need 90 to 100 spaces but our code requires 320.

So, we're recognizing that our code, and I think every, you know, I don't want to speak for the Plan Commission but that's the feedback that we've gotten from the Plan Commission and Village Board is some of these things seem a little out of whack given the magnitude of variations, and also given the data that the schools have provided to us with actual counts. So, we've tested this new standard and it fits in. It doesn't mean that every elementary school would not have sought a variation. Olive had very little parking space, they would have needed a variation. Some of the other schools that have come through recently would not have needed a variation, or at least wouldn't have been nearly the extent. So, we feel that it's a good standard to make it more fair for the schools.

We haven't found a problem with the high schools in terms of the standards working. You know, the only issue we've had historically is really St. Viater with spillover into streets, but when they built their additional parking lot in the front, that helped a lot.

One other thing we're looking at is the collector provision requirement. We talked about this at the Ordinance Review Committee. The collector provision requirement can sometimes be a bit onerous for community centers or places of worship where we're, or even like Ivy Hotel, where we're looking at the different components within that use and applying the different standards rather than just, okay, this is a place of worship, you need one space for every five seats in the sanctuary. It's kind of grown into more of a map where, you know, you've got the sanctuary and then you've got a meeting space over here and another space over here, and you look at all of them and add it up and you need 600 spaces. Well, the reality is you don't necessarily use all those spaces at the same time, very rarely. So, we want to look at that a little closer.

Certainly, the collector provision works for shopping centers. I mean a shopping center is going to have different types of uses that each have different parking requirements. So, we adopt to that and use the collector provision portion of the code where a restaurant is at one to 45, retail is at one to 300, furniture store is one to 600. So, that's the collector provision. But we also apply it to these bigger uses and we're seeing these huge variations being requested because of the collector provision. So, we want to do a lot more research on that and then report back to the Plan Commission, first to the Ordinance Review Committee probably in, you know, in the next couple of months once we get more data on that. So, we didn't want to push that through at this point.

Accessible spaces, we have the number of accessible spaces in our zoning code; however, it's regulated in the state code which we follow as required. Sometimes the state code can be modified a little bit, and then we don't modify it in our code. So, our attorney is recommending just deleting it from our zoning code, since it's in the state code and we still have to follow it. We as planners all have the chart that says what you need in terms of parking, and when developers ask we can hand that out to them or put it on our website, but it's not something that would be in our code because it's again getting back to being somewhat repetitive.

Then the other thing we're looking at that I think is a real positive for

small businesses and smaller uses is the substantial compliance section. We're recommending that Staff can approve a variance, or not even approve a variance, I should rephrase that, it's determining that parking is in substantial compliance with the code if their deficit is less than 10 spaces or it's less than a five percent deficit. So, if you have 100 spaces required and you have 96, that would be a less than a five percent deficit. Or if you're required to have, you know, 100 and you have 91, then that's less than 10 spaces. So, what would have to happen there is a developer or landowner, and usually this comes into play with small, older developments in town, if this is a brand new development, you can't invoke this clause, you have to meet code or get a variation. But if it's an existing building, an older building in town that don't quite have enough parking but they want to bring it in use, if they can demonstrate to us that they have adequate parking through parking counts and data, then Staff can make a determination, as we do everyday with our zoning code, that there is enough parking there so they don't have to go to the Zoning Board of Appeals.

We probably have, you know, five or six of these types of variations that go to the Zoning Board every year. By and large, I think most of them have all been approved, which is fine because they've demonstrated that they have enough parking. So, we think with the smaller type, and they're typically smaller, although it could affect a large location as well, but if it was a big shopping center, you've got 700 parking spaces, you know, if they could demonstrate that, you know, if they're less than five percent short, they've got plenty of parking, why make them go through either Plan Commission or the ZBA. So, we think this is again, you know, small business friendly and avoiding having to go through a somewhat arduous process and leaving it up to Staff to make some of these determinations.

Hardship criteria. We've of course talked about that on many occasions. The Zoning Board, or I'm sorry, this affects the Zoning Board as well, and we did provide this to the Zoning Board on Monday for their information. But we have several, and I included them in the packet, several different types of requirements that different communities have as well as the LaSalle factors which was a 1950's court case in Illinois that kind of established some standards for evaluating variations. What we've come up with, one thing we heard at Ordinance Review is, you know, liking the idea of simplification. We've heard that from the Plan Commission and the Village Board for years now that, you know, some of these things are hard to understand, or not necessarily hard to understand but hard to really evaluate, and hard for developers to really address.

So, we've kind of morphed our existing standards and incorporated a couple of new ones. But we think these four standards really address the issues that come up on variations. The way they're written, they can really be for, you know, a variation for density or height, or it can be a variation for a business that wants to go in that's not allowed in the M-2 District, if it's only 2,000 square feet in size, you know, something of that nature. So, they're really, we wrote them carefully so they can really be applied to either of those types of situations because they're different.

But basically, the proposed use will not alter the essential character of the locality and be compatible with existing uses and zoning of nearby property. That's a pretty fundamental thing that the Plan Commission looks at and rightfully so.

The plight of the owner is due to unique circumstances, may include the length of time the property has been vacant for instance. That's something we look at, too. So, developers are still going to have to, big and small, are going to have to demonstrate that

they meet these criteria. But we think these are a little more crisp and a little easier to understand. We still need to coach them sometimes at the Staff level but that's fine.

The proposed variation is in harmony with the spirit and intent of this chapter. I think what that means is, you know, let's take, you know, a parking garage in a building where they, you know, because of the columns, they can only do 22-foot drive aisles instead of the required 24. Well, that variation, it's meeting the intent of the code. They have a demonstrated reason for that, a unique circumstance, you know, because it is unique, Bruce Green understands that as an architect. So, those types of things where it's still meeting the intent of the code in its totality.

Then, the variance requested is the minimum variance necessary to allow reasonable use of the property. That's kind of reined people in so they just don't come in and say we want 5,000 units when we allow 50, you know, things like that. So, it has to be reasonable.

They have to meet, you know, they have to provide the findings for that and what the justification is. When they're granted, too, it's important for the Plan Commission and the Zoning Board to, you know, state why they think it's okay. You do that kind of during comments. I don't think it necessarily has to become more formalized. The Zoning Board actually issues findings of fact where they'll go one, two, three four. But usually they're looking at like one variation or maybe two for a single family house, a little more straightforward, yours can get a little more complex depending on the scope of the project.

So, you know, we think these are more clear. We used to have that, you know, the economic part of it which was tough to understand, just the basic hardship of our code. You know, in particular, that the property cannot yield a reasonable return. Well, that's always been a tough one for anybody to try and justify, you know, what a reasonable return is. I know Commissioner Jensen brings this up a lot about, you know, how do you do that like for not-for-profit schools? I mean they're not in the business of reasonable return unless it's, you know, good grades.

So, we think these are better and more clear. I think, Commissioner Warskow, this addresses, well, you weren't at the ZBA, I'm sorry, that was, Commission Dawson was there and Commissioner Jensen were the only two there that night. But these are the types of things that they brought up and hopefully that was reflected in the minutes of the Ordinance Review Committee.

So, at this point, you know, there is a nonconforming use section, a Design Commission section. That's just kind of clarifying things, getting rid of duplication with the Design Commission stuff that exists in the enabling ordinance in Section 6 of the code. Nonconforming use, I don't think anything is changing the gist of that, we're just making it a little more clear in the way it's written hopefully.

So, with that, we're recommending approval of the amendments to the various sections listed except for the R-7 standards which we'd like to visit at a later date. Are there any questions?

COMMISSIONER DROST: Good job.

MR. ENRIGHT: Thank you.

CHAIRMAN ENNES: Do those proposed changes for the R-7, would they impact the proposed development that's out there for Campbell?

MR. ENRIGHT: They would.

CHAIRMAN ENNES: They would.

MR. ENRIGHT: They would greatly lessen the setback variations. I still think they would need some setback variations, but it wouldn't be nearly as large. We don't want to, you know, although Staff supported that development and supported the setback variations because in our opinion, as I'm stating today, the R-7 standards and the R-6 and the R-5 with those graduated increases based on height, we think, you know, are a bit antiquated. So, but we're not recommending those changes because we just feel that it's inappropriate, bad form to be putting forth these changes while development is going through the process which would potentially benefit them.

CHAIRMAN ENNES: Is that primarily because of the neighbor complaints?

MR. ENRIGHT: Pardon me?

CHAIRMAN ENNES: Because of the issues the neighbors are having with it?

MR. ENRIGHT: Yes, it's certainly part of that. But I think it's just, even if we didn't have concerns from the residents, I still think that when you have a project that's active going through the process, you don't want to change the code that's going to directly impact that for better or for worse.

COMMISSIONER DROST: Yes, it's the appearance of --

CHAIRMAN ENNES: But is it fair to the developer? I mean if we're talking about doing this anyway --

COMMISSIONER DROST: That's going to be up to the Village Board of Trustees to decide. I mean I think that's, they can, they've got that power to do it.

MR. ENRIGHT: Irrespective of the CA Ventures, I think it's the right thing to do just looking at the zoning ordinance. But again, as Commissioner Drost just briefly stated, you know, there is the appearance, too. We don't want it to look like we're doing this for a developer.

CHAIRMAN ENNES: All right, yes. I understand.

COMMISSIONER DROST: Right. We want to help positive development. There was good article, too, on apartments and the development of apartments in the area. We were not, we're sort of deficient with other communities. We're also talking about the crescendo, you know --

MR. ENRIGHT: Yes, we haven't seen as many. Yes.

COMMISSIONER DROST: Sort of the, again, the economic issue. If you don't mind, I'll make the motion to approve. Is that okay?

COMMISSIONER SIGALOS: I just have one question. You touched on it, when I was reviewing this here tonight. I started, we're eliminating all the different fees. Is that elsewhere in the code or are you eliminating the fees?

MR. ENRIGHT: That's, no, we're not eliminating the fees. Those fees are in other sections of the municipal code, so they don't need to be in the zoning code because they're not zoning issues.

COMMISSIONER SIGALOS: That's what I assumed. Okay, thank you.

COMMISSIONER DROST: If it's okay, I'd like to propose a motion.

CHAIRMAN ENNES: Please do.

A motion to recommend to the Village Board of Trustees approval of PC#17-005,

Amendments to Chapter 28, Sections 3, 5, 6, 7, 10, 11, 12, 13, and 14 as outlined in the Staff memo dated January 3, 2018.

COMMISSIONER SIGALOS: I'll second that.

CHAIRMAN ENNES: All in favor?

MR. ENRIGHT: No. Typically, we'll do roll call.

CHAIRMAN ENNES: I don't think we need one though.

MR. ENRIGHT: Well, we might as well.

CHAIRMAN ENNES: But we can, yes. Okay.

MR. ENRIGHT: Let's see. Commissioner Drost.

COMMISSIONER DROST: Aye.

MR. ENRIGHT: Commissioner Green.

COMMISSIONER GREEN: Yes.

MR. ENRIGHT: Commissioner Lorenzini.

COMMISSIONER LORENZINI: Yes.

MR. ENRIGHT: Commissioner Sigalos.

COMMISSIONER SIGALOS: Yes.

MR. ENRIGHT: Commissioner Warskow.

COMMISSIONER WARSKOW: Yes.

MR. ENRIGHT: Chairman Ennes.

CHAIRMAN ENNES: Yes. So, you've got a unanimous approval.

COMMISSIONER DROST: Yes, but there's no guarantee. We're just here

to advise.

(Whereupon, the above-petition was concluded
at 8:20 p.m.)



Item: Annual Review of Comprehensive Plan - 1/10/18

Department: Planning & Community Development

ATTACHMENTS:

Description	Type
Annual Review of Comp Plan - 1/10/18	Minutes

PLAN

REPORT OF THE PROCEEDINGS OF A PUBLIC HEARING
BEFORE THE VILLAGE OF ARLINGTON HEIGHTS
PLAN COMMISSIONCOMMISSION

RE: ANNUAL REVIEW OF COMPREHENSIVE PLAN

REPORT OF PROCEEDINGS had before the Village of
Arlington Heights Plan Commission Meeting taken at the Arlington Heights Village
Hall, 33 South Arlington Heights Road, 3rd Floor Board Room, Arlington Heights,
Illinois on the 10th day of January, 2018 at the hour of 7:30 p.m.

MEMBERS PRESENT:

TERRY ENNES, Chairman
MARY JO WARSKOW
JOE LORENZINI
BRUCE GREEN
GEORGE DROST
JOHN SIGALOS

ALSO PRESENT:

BILL ENRIGHT, Planning Deputy Director

MR. ENRIGHT: So, next on the agenda, we have the annual review of the Comprehensive Plan. We typically do this in December, but since we didn't have a meeting, we're going to do it today.

There has been a couple of amendments, as you're well aware. The Heart's Place development amended the Comprehensive Plan. Also, the Comprehensive Plan was amended earlier by adopting the Bicycle and Pedestrian plan. In addition to that, just an update, we have in the budget this year for 2018 improvements to Rand Road and Northwest Highway in terms of the corridors.

In addition, the South Arlington Heights Road Corridor Study was presented to the Comprehensive Plan Subcommittee which Commissioner Warskow is on. Who else? Commissioner Drost is on and Commissioner Lorenzini, and Commissioner Ennes. Practically everyone. They recommended approval of that corridor study. So, we're probably looking at, it looks like the second meeting in February, I think that's the 24th I believe, whatever the fourth Wednesday in February for the public hearing on that, and then it will move forward to the Village Board.

Otherwise, we have no additional amendments at this time or recommendations. Any questions about the Comprehensive Plan?

COMMISSIONER LORENZINI: The subcommittee did a great job.

CHAIRMAN ENNES: Yes.

MR. ENRIGHT: Yes, we had a good meeting.

COMMISSIONER DROST: Just trying to make the place look more attractive and friendly and wide and inviting, to make it not only a village of good neighbors but a village of good property values.

MR. ENRIGHT: So, we will have a Plan Commission, looking at my calendar here to get the dates right, the 24th, we will have 703 West Algonquin. That's the warehouse trucking facility just east of the Weber site down in Algonquin on the far southwest corner of town, right by Meyer Drive in Algonquin across from Pappadeaux. That's a redevelopment of a one-story office complex that's had chronic vacancies for years. So, that will be on the 24th.

We might have Conceptual Plan Review that night as well, but we will let you know late next week. Chairman Ennes had asked, and we will start doing this, that when Pat Tamatio asks for, you know, who's going to possibly attend up three meetings, we'll let you know what projects are on to the extent that we can. We might say tentative if it's still tentative, but to at least give you an idea of the projects that are coming when we ask that question.

Then in February, you know, we're looking at meetings on both the 14th and 28th. So, we'll see how that proceeds forward with the different projects we have. But certainly the 28th would be the South Arlington Heights Road Corridor plan.

CHAIRMAN ENNES: Seeing no other business, can I have a motion to adjourn?

COMMISSIONER GREEN: I'll make that motion.

CHAIRMAN ENNES: Is there a second?

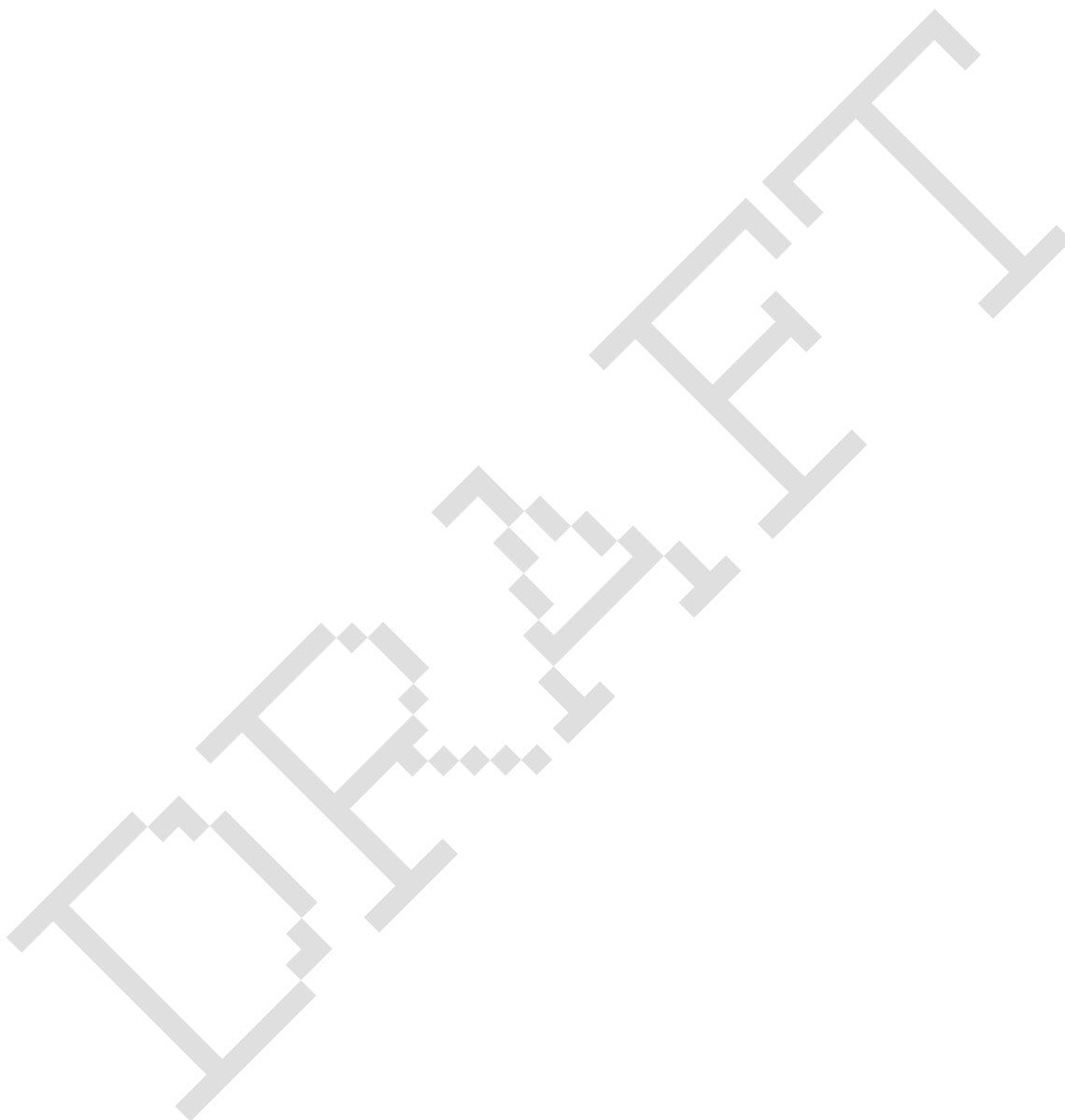
COMMISSIONER SIGALOS: I'll second.

CHAIRMAN ENNES: Do we need a roll call? I'm kidding. Okay, all in favor?

(Chorus of ayes.)

CHAIRMAN ENNES: Go ahead.

(Whereupon, the hearing was concluded
at 8:20 p.m.)





Item: 703-723 W. Algonquin Rd. - PC#17-013

Department: Planning & Community Development

Requested Action

1. Planned Unit Development.
2. Preliminary Plat of Subdivision to consolidate all lots into one lot.

Variations Identified

-
None.

Recommendation

The Staff Development Committee is supportive of the project and believes that the subject property is a suitable location for distribution/warehouse uses. However, there are three primary issues that remain unresolved relative to this petition:

1. There needs to be better coordination between the subject property and the Weber property to the west. These properties share a common private access drive, and the easements that govern this private drive need to be further studied to ensure that the proposed use will not have a negative impact on the shared drive and that the easement documents include the necessary permissions for use of the drive by trucks from the subject property.
2. The required changes from IDOT have not been incorporated within the plan and traffic study. The petitioner should incorporate the IDOT revisions and update the traffic study accordingly to determine the effect of these changes. If possible, the petitioner should obtain a second preliminary review from IDOT to determine if they are supportive of the timing change for the signal at Meijer Drive and Algonquin Road.

The Village of Rolling Meadows has raised some issues about the truck traffic on Meijer Drive and its impact to the street relative to traffic and maintenance.

Due to these issues staff recommends a continuance until the February 28th Plan Commission for application #17-013, a Planned Unit Development and Preliminary Plat of Subdivision to allow the additional time to address the aforementioned issues.

Should the Plan Commission determine that approval of this application is warranted, staff recommends the following conditions:

1. Final Plat of Subdivision approval shall be required.
2. IDOT review and approval shall be required.
3. Prior to Final Plat of Subdivision approval, the petitioner shall provide a written analysis of all relative easement documents, which analysis shall cite the provisions within these documents that allow for any proposed improvement within the easement area.
4. Prior to Final Plat of Subdivision approval, the petitioner shall work with the Village to resolve issues raised by the City of Rolling Meadows.
5. The petitioner shall install a fence around any detention area as requested by the Public Works Department.
6. The petitioner shall revise the site plan to incorporate greenspace and a shade tree within the parking lot island located at the southwest corner of the Phase II building.
7. Compliance with the Design Commission motion from November 28, 2017, shall be required.
8. The petitioner shall pursue ownership of "Outlot A" located to the northwest of the subject property.
9. Prior to issuance of a building permit, the petitioner shall cause to be recorded an amendment to the stormwater easement over "Outlot A" should any modifications to easement provisions be needed to accommodate for the proposed improvements.
10. The petitioner shall work with the Weber Packaging Solutions property owner to ensure that the easements governing the shared access drive are suitable to accommodate the proposed development on the subject property.
11. The Petitioner shall comply with all applicable Federal, State, and Village codes, regulations, and policies.

ATTACHMENTS:

Description

Staff Report
Public Notice
Aerial
Plat & Sub Minutes - 3/22/17
DC Staff Report
DC Minutes 11-28-17

Type

Board or Commission Report
Exhibits
Exhibits
Minutes
Board or Commission Report
Minutes

Project Narrative	Correspondence
IDOT Comments	Correspondence
Rolling Meadows - Preliminary Review Letter	Correspondence
Petitioner response to Rolling Meadows	Correspondence
Architectural Plans	Exhibits
Construction Staging Plan & Schedule	Exhibits
Engineering Plans	Exhibits
EOPC	Exhibits
Landscape EOPC	Exhibits
Fire Truck Turn Exhibit	Exhibits
Light Fixtures Spec Sheets	Exhibits
Landscape & Tree Preservation Plan	Exhibits
Material List	Exhibits
Photometric Plan	Exhibits
Plat of Survey	Exhibits
Preliminary Plat of Consolidation	Exhibits
Stormwater Report	Exhibits
Department Comments - Round 1	Exhibits
Petitioner Response to Department Comments - Round 1	Exhibits
Department Comments - Round 2	Exhibits
Petitioner Response to Department Comments - Round 2	Exhibits
Traffic Study	Exhibits



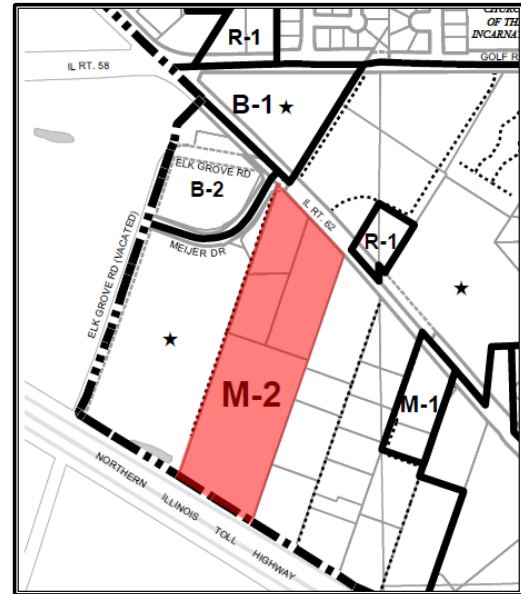
VILLAGE OF ARLINGTON HEIGHTS **STAFF DEVELOPMENT** **COMMITTEE REPORT**

Project Number: PC 17-013
Project Title: 703-723 W. Algonquin Rd. PUD
Address: 703-723 W. Algonquin Rd.
PIN: Multiple PIN's

To: Plan Commission
Prepared By: Sam Hubbard, Development Planner
Meeting Date: January 24, 2018
Date Prepared: January 19, 2018

Petitioner: Joshua Spinks
Address: Morgan/Harbor Construction, LLC
 7510 S. Madison Street
 Willowbrook, IL 60527

Existing Zoning: M-2, Limited Heavy Manufacturing District



SURROUNDING LAND USES

Direction	Existing Zoning	Existing Use	Comprehensive Plan
North	M-2	Multi-tenant office/light industrial building	R&D, Mfg, Warehousing
South	Elk Grove Village – Forest Preserve		
East	M-2	Self-Storage facility, 2 light industrial/office buildings	R&D, Mfg, Warehousing
West	M-2	Light industrial/office building (Weber Packaging Solutions)	R&D, Mfg, Warehousing

Requested Action:

1. Planned Unit Development.
2. Preliminary Plat of Subdivision to consolidate all lots into one lot.

Variations Identified:

1. None.

Project Background:

The subject property is composed of multiple lots of record totaling 15.4 acres in size. The site is occupied by two light industrial/office buildings, one on the northern half of the site and one on the southern half of the site. There are two driveway entrances along Meijer Drive and one full access driveway along W. Algonquin Rd. The intersection of Meijer Drive and W. Algonquin Road is a full access lighted intersection. To the south, the property abuts the I-90 Toll Road and the property is within the M-2, Limited Heavy Manufacturing zoning district.

Hamilton Partners has proposed the site and is proposing a two phase development on the subject property. Phase I would involve the demolition of the north building, which is currently vacant, and the construction of an approximately 138,469 square foot distribution facility with 26 loading spaces and 151 parking spaces. Phase II would involve the demolition of the southern building and include a 167,250 square foot addition to the Phase I building, for a total of 331,014 square feet for distribution/warehousing. The total amount of on-site parking provided would increase to 305 surface parking spaces and 4 interior bay parking spaces.

The entire development would include up to 66 exterior truck docking bays, which would line the western elevation of the building. Access to the truck bays would come from an existing shared private drive owned by the subject property and the Weber Packaging Solutions property to the west. The petitioner estimates 130 full time employees working out of the warehouse once both phases are occupied. The site would likely operate around-the-clock.

The subject property would be built on speculation and no anchor tenant has signed on to lease space. The building would be designed to allow the interior to be demised into 40,000 square foot spaces. The petitioner believes that proximity to I-90 and Algonquin Road will make the site attractive to distribution and logistics companies.

Zoning and Comprehensive Plan

Warehousing and distribution facilities are allowed as a permitted use within the M-2 District and therefore no special use permit is required for the proposed development. However, if tenants other than warehouse/distribution businesses are located for the building, a special use permit may be required in the future depending on the proposed use by the tenant. Additionally, all developments on property over 4 acres in size and within the M-2 District are required to obtain Planned Unit Development (PUD) approval. As the property is 15.4 acres in size, PUD approval is needed.

The Comprehensive Plan designates the subject property as appropriate for "Research & Development, Manufacturing, and Warehousing." The proposed use and PUD is consistent with this designation.

Additionally, the petitioner has proposed a Preliminary Plat of Subdivision to consolidate the subject property into one lot to accommodate the singular building that will occupy the site. Final Plat of Subdivision approval will come at a later date when the petitioner has provided the necessary documents for Final Plat of Subdivision review and approval. Since the project will proceed with zoning approvals for both Phase I and Phase II at the same time, approval of the lot consolidation is also required as part of the PUD process.

All developments within the M-2 District are required to conform to the Industrial Performance Standards as identified within Section 5.1-18.2 of Chapter 28, which does mostly with odor, noise, vibrations, and other physical impacts that an industrial development can have on neighboring properties. Although the general classification of use as a distribution and warehouse facility does not have issues relative to compliance with

these standards, all future tenants within the building must adhere to the Industrial Performance Standards as outlined within the M-2 District.

Staff has reviewed the plans and determined that no variations will be required.

Site & Building

Both phases of development conform to all setback and bulk standards within the M-2 District. As identified above, the petitioner will proceed with Phase I and will not begin Phase II until all leases for tenants within the existing building on the southern portion of the site have expired. The building is compatible in both height and architecture to other buildings in the proximity.

The building design has received approval from the Design Commission, which met on November 28, 2017. The Commission required additional greenspace with foundation plantings be added to the northeast corner of the building, and additional landscape planting be added to the foundation of the building at other locations. The attached plans incorporate these required changes.

Easements

The site is encumbered with multiple easements relating to utilities, access agreements, and stormwater detention areas. Some of the proposed improvements fall within these easement areas, and staff has been working with the petitioner to outline whether the provisions of each easement allow for the proposed improvements within. Prior to Final Plat of Subdivision approval, the petitioner shall provide a written analysis of all relative easement documents and cite within these documents that provisions that allow for each proposed encroachment.

Relative to the site, the petitioner shall coordinate with the property owner located to the west (Weber Packaging Solutions) on the shared use of the private access drive that both properties share where they touch along the western edge of the subject property and eastern edge of the Weber property. This private access drive has been established through several easements that have been recorded over the years, and the petitioner must coordinate the proposed improvements with Weber to ensure that the existing easements allow for the proposed used and expected truck traffic on the shared private road. To date, staff has been contacted by an attorney representing Weber who had some concerns regarding the proposed development and its impact on the shared access drive. At the time that this staff report was prepared, it was uncertain if there are any issues regarding the proposed developments impact on this shared private drive.

The petitioner is proposing alterations to the existing off-site detention basin to the northwest of the site ("Outlot A") and a new detention basin will be installed within the southeast corner of the subject property. Because Outlot A is owned by Weber, the petitioner shall verify that the provisions of the easement that governs the detention basin give them the right to make the proposed improvements within the easement area (which includes paving for a portion of their driveway). When Meijer Drive was created in 2002, a condition of approval required Weber to transfer ownership of Outlot A to the subject property. As it appears that this has not been done, the petitioner shall initiate this process and, prior to building permit approval, will be required to alter the language of the easement governing Outlot A if it is determined that alterations to the easement provisions are needed to accommodate for the petitioners' proposed improvements. Finally, the Public Works Dept. has required the installation of a fence on the outside of detention basin "N-2" due to the 2'-3' drop inside of its retaining walls.

Landscaping

The petitioner has submitted a tree preservation plan and landscape plan in conjunction with their application. Per the plan, 129 trees are presently on the subject property. As a result of the development, 108 of these trees will be removed and 21 trees will be saved. 235 new trees will be planted during the proposed development.

At the request of staff, additional landscape plantings have been added to the foundation of the building and code required shade trees were added to parking lot landscape islands. However, there is one landscape island located in the southwest corner of the site that must incorporate greenspace and a shade tree. A condition of approval to accommodate for this has been included.

Intergovernmental Agreement

When Meijer Drive was created in 2002, the Village entered into an Intergovernmental Agreement (IGA) with the City of Rolling Meadows as part of the overall Meijer development. Per the terms of this agreements, the segment of Meijer Drive that is within the Village of Arlington Heights was to be under the jurisdiction of the City of Rolling Meadows, which would pay to maintain this road until such time as the vacant piece of land fronting Algonquin Road within the Village of Arlington Heights was developed. Once the property was developed, jurisdiction and maintenance of the road would be transferred to the Village of Arlington Heights. As this property still remains undeveloped, Meijer Drive is under the jurisdiction of Rolling Meadows.

On January 17, 2017, the City of Rolling Meadows provided a preliminary review of the proposed development (attached). Based on their review, they've asked for additional clarifications on certain items and revisions to the KLOA traffic study. They've also asked the Village to consider accepting the jurisdiction and maintenance responsibilities for Meijer Drive due to the impact of heavy truck traffic generated by the proposed development, which action may require an amendment to the previously approved IGA. The petitioner provided a preliminary response to Rolling Meadows on January 18, but staff has not had the opportunity to respond to Rolling Meadows.

Staff notes that the IGA includes a provision that limits the ability of Rolling Meadows to challenge or protest zoning and/or development plans within Arlington Heights on the subject property, provided that the proposed development was substantially compliant with the IGA. Staff has reviewed the IGA and believes the proposed development to be in substantial compliance, however, staff believes that the issues raised by Rolling Meadows warrant further consideration by both the Village and the petitioner.

Traffic and Parking

The petitioner has provided a traffic and parking study prepared by Kenig, Lindgren, O'Hara, Alboona, Inc. (KLOA). The study has found that the proposed development will result in 32 truck trips during the morning peak (7:30am-8:30am) and 25 trips during the evening peak (4:30pm-5:30pm). 25% of the trucks entering the site will enter from Golf Road to Meijer Drive from the west (located in Rolling Meadows) and 75% will enter from Algonquin Road to Meijer Drive to the east (located in Arlington Heights). All trucks leaving the site will utilize the existing traffic signal at Algonquin Road and Meijer Drive.

In order to ensure that this signal has proper timing to relieve all queued traffic awaiting egress from Meijer Drive onto Algonquin Road, the KLOA study recommended that 3 seconds be added to the signal for exiting traffic. As this intersection and signal are under the jurisdiction of IDOT, their review and approval of this change will be required. IDOT has conducted a preliminary review and requested additional information within the traffic study prior to opining on the proposal.

The site currently has a full access driveway with Algonquin Road located at the northeast of the site. The site plan proposes no change to this existing intersection, which per the traffic study, accommodates 45% of the peak morning passenger vehicle traffic to make a left from Algonquin Road into the site. However, in the preliminary review from IDOT, this driveway entrance will need to be modified so that it is a right-in and right-out only driveway, which will prohibit the 45% of peak inbound passenger vehicles that currently use this driveway. The petitioner should modify their site and traffic study to accommodate for the preliminary review comments from IDOT and submit to staff for further review.

The subject property conforms to allow parking requirements. The table below shows these requirements relative to the proposed development.

PHASE	PARKING CODE USE	NUMBER OF EMPLOYEES	NUMBER OF VEHICLES	SQUARE FEET	PARKING RATIO	PARKING REQUIRED
Phase I	Office	N/A	N/A	5,460	1 space per classroom plus two space per employee	18.2
	Warehouses and Storage	65	26	N/A	1 space per vehicle plus 1 space per every two employees	58.5
Phase II	Office	N/A	N/A	5,460	1 space per classroom plus two space per employee	18.2
	Warehouses and Storage	65	42	N/A	1 space per vehicle plus 1 space per every two employees	74.5
Total Parking Required						169
Total Parking Provided						309
Parking Surplus/(Deficit)						140

Note: Phase I provides 151 parking spaces and two interior bay spaces, Phase II provides 154 spaces and two interior bay spaces.

The parking requirements are based, in part, on the number of employees within each business of the building. Since no tenants have been signed, the petitioner has provided their estimates on the number of employees and acknowledged that additional parking may be required depending upon the ultimate number of employees per tenant. Finally, staff notes that two spaces may be lost as a result of the outstanding easement encroachments, and the petitioner will need to adjust the site plan accordingly. The overall number of parking spaces would still exceed code requirements and staff believes the proposed parking capacity will be sufficient.

RECOMMENDATION

The Staff Development Committee is supportive of the project and believes that the subject property is a suitable location for distribution/warehouse uses. However, there are three primary issues that remain unresolved relative to this petition:

1. There needs to be better coordination between the subject property and the Weber property to the west. These properties share a common private access drive, and the easements that govern this private drive need to be further studied to ensure that the proposed use will not have a negative impact on the shared drive and that the easement documents include the necessary permissions for use of the drive by trucks from the subject property.
2. The required changes from IDOT have not been incorporated within the plan and traffic study. The petitioner should incorporate the IDOT revisions and update the traffic study accordingly to

determine the effect of these changes. If possible, the petitioner should obtain a second preliminary review from IDOT to determine if they are supportive of the timing change for the signal at Meijer Drive and Algonquin Road.

3. The Village of Rolling Meadows has raised some issues about the truck traffic on Meijer Drive and its impact to the street relative to traffic and maintenance.

Due to these issues staff recommends a continuance until the February 28th Plan Commission for application #17-013, a Planned Unit Development and Preliminary Plat of Subdivision to allow the additional time to address the aforementioned issues.

Should the Plan Commission determine that approval of this application is warranted, staff recommends the following conditions:

1. Final Plat of Subdivision approval shall be required.
2. IDOT review and approval shall be required.
3. Prior to Final Plat of Subdivision approval, the petitioner shall provide a written analysis of all relative easement documents, which analysis shall cite the provisions within these documents that allow for any proposed improvement within the easement area.
4. Prior to Final Plat of Subdivision approval, the petitioner shall work with the Village to resolve issues raised by the City of Rolling Meadows.
5. The petitioner shall install a fence around any detention area as requested by the Public Works Department.
6. The petitioner shall revise the site plan to incorporate greenspace and a shade tree within the parking lot island located at the southwest corner of the Phase II building.
7. Compliance with the Design Commission motion from November 28, 2017, shall be required.
8. The petitioner shall pursue ownership of "Outlot A" located to the northwest of the subject property.
9. Prior to issuance of a building permit, the petitioner shall cause to be recorded an amendment to the stormwater easement over "Outlot A" should any modifications to easement provisions be needed to accommodate for the proposed improvements.
10. The petitioner shall work with the Weber Packaging Solutions property owner to ensure that the easements governing the shared access drive are suitable to accommodate the proposed development on the subject property.
11. The Petitioner shall comply with all applicable Federal, State, and Village codes, regulations, and policies

January 19, 2017

Bill Enright, Deputy Director of Planning and Community Development

Cc: Randy Recklaus, Village Manager
All Department Heads

CERTIFICATE OF PUBLICATION

Paddock Publications, Inc.

Northwest Suburbs **Daily Herald**

Corporation organized and existing under and by virtue of the laws of the State of Illinois, DOES HEREBY CERTIFY that it is the publisher of the Northwest Suburbs DAILY HERALD. That said Northwest Suburbs DAILY HERALD is a secular newspaper, published in Arlington Heights and has been circulated daily in the Village(s) of:

Arlington Heights, Barrington, Barrington Hills, Bartlett, Buffalo Grove, Deer Park, Des Plaines, Elk Grove, Hanover Park, Hoffman Estates, Inverness, Mt Prospect, Palatine, Prospect Heights, Rolling Meadows, Schaumburg, South Barrington, Streamwood, Wheeling

County(ies) of Cook

and State of Illinois, continuously for more than one year prior to the date of the first publication of the notice hereinafter referred to and is of general circulation throughout said Village(s), County(ies) and State.

I further certify that the Northwest Suburbs DAILY HERALD is a newspaper as defined in "an Act to revise the law in relation to notices" as amended in 1992 Illinois Compiled Statutes, Chapter 715, Act 5, Section 1 and 5. That a notice of which the annexed printed slip is a true copy, was published January 9, 2018 in said Northwest Suburbs DAILY HERALD.

IN WITNESS WHEREOF, the undersigned, the said PADDOCK PUBLICATIONS, Inc., has caused this certificate to be signed by, this authorized agent, at Arlington Heights, Illinois.

PADDOCK PUBLICATIONS, INC.
DAILY HERALD NEWSPAPERS

BY

Daula Baltz
Designee of the Publisher and Officer of the Daily Herald

Control # 4490488

RECEIVED

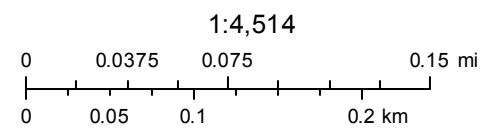
JAN 16 2018

**PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT**

703-723 W. Algonquin Rd - Aerial



March 17, 2017



REPORT OF THE PROCEEDINGS OF
THE PLAT & SUBDIVISION COMMITTEE
OF THE VILLAGE OF ARLINGTON HEIGHTS PLAN COMMISSION
HELD AT VILLAGE HALL ON:

March 22, 2017

Project Title: 703-723 W Algonquin Industrial Development
Address: 703-723 W. Algonquin Rd.
Petitioner: Mike Wauterlek
Hamilton Partners Real Estate
300 Park Blvd. – Suite 201
Itasca, IL 60143

Requested Action:

1. Preliminary Planned Unit Development.
2. Plat of Subdivision to Consolidate the Lots.

Variations Required:

- None Identified at this Time.

Attendees: Mike Wauterlek, Petitioner
Bruce Green, Plan Commissioner
Lynn Jensen, Plan Commissioner
Jay Cherwin, Plan Commissioner
Sam Hubbard, Development Planner

Project Summary:

The subject property is a composed of multiple lots of record comprising a total of 15.4 acres in area. The site is occupied by two light industrial/office building, one on the northern half of the site and one on the southern half of the site. There are two driveway entrances along Meijer Drive and one full access driveway along W. Algonquin Rd. The intersection of Meijer Drive and W. Algonquin Road is a full access lighted intersection. On the southern end, the subject property abuts the I-90 Toll Road.

The applicant has proposed to purchase the site and redevelop the subject property in two phases. Phase I would involve the demolition of the north building and the redevelopment of an approximately 131,750 square foot distribution facility with 28 loading spaces and 187 parking spaces. Phase II would involve the demolition of the southern building and a 167,250 square foot addition to the Phase I building, for a total of 299,000 square feet for distribution/warehousing. The total amount of on-site parking provided would increase to 363 parking spaces.

Meeting Discussion:

Mr. Wauterlek introduced himself and provided a description of who Hamilton Partners is, and their interest in Arlington Heights. He mentioned the Hamilton Partners has not done a development yet in Arlington Heights. He explained that the subject property is two separate parcels of land and owned by separate individuals. One of the properties has multiple tenants, and the other property has a vacant building. Hamilton Partners was interested in developing a 300,000 square foot light distribution facility on the two properties. The development would occur in two phases, the first phase being a 131,000 square foot building on the property with the vacant building, then eventually expanding that building onto the second property in the future to achieve the full 300,000 square feet.

Commissioner Green asked if the southern building would be torn down during phase I or phase II.

Mr. Wauterlek responded that the southern building would not be torn down until phase II was ready to proceed.

Commissioner Jensen asked if the southern building would only come down when the first building was to be expanded?

Mr. Wauterlek confirmed that the south building would not come down until they were ready to expand the first building. He explained that one of the tenants within the southern building had a lease that was set to expire at the end of the year. It was the developer's intention to renew their lease so that it would be "co-terminus" with the lease for the State of Illinois facility and another tenant, so all lease obligations would expire around 2020. At that point, the developer would analyze if the time was right to move forward with phase II. He said if all parties within the southern building were willing to negotiate out of their lease, Hamilton Partners would consider doing the entire development up front, but if this is not possible, being able to start phase I immediately meant that they were in a good position regardless.

Mr. Hubbard explained that the subject property was located within the M-2 Zoning Districts and that light distribution uses were permitted uses within the M-2 Zoning District. The Zoning Code requires that any development within the M-2 District and was located on a property that was greater than 4 acres in size, must obtain PUD approval, and so the subject property, at over 15 acres, was required to develop as a PUD. The Comprehensive Plan classifies the subject property as appropriate for "Research, Development, Manufacturing, and Warehousing", and so the proposed PUD was consistent with the Comprehensive Plan.

Mr. Hubbard said that the fact the property was composed of at least two lots of record, when the building was extended over the lot lines, it would create a non-conforming situation. Therefore, consolidation of the lots would be required during the PUD process and phase I approval. Approval of both phase I and phase II could occur simultaneously. As part of the PUD process, a market analysis would be required, and the applicant had already done some time of market study to determine that there was a demand for light-distribution facilities of this size in this location.

Mr. Hubbard mentioned that the subject property shared a private drive aisle with the property to the west, and staff did not know if a formal reciprocal easement agreement or cross access easement was established for this shared drive aisle. If not, then this must be recorded during the PUD process. It would be important for the applicant to take this into consideration during the design of the site, and information would be required on the functionality of this shared access this during the Plan Commission process

Mr. Hubbard stated that there may be an opportunity for more greenspace in the rear of the development, and all MWRD stormwater and local stormwater requirements must be met. He encouraged additional landscaping at the rear of the site, not only to buffer the building from the tollway, but also to provide an attractive appearance from this heavily travelled corridor.

Mr. Wauterlek said that they often put a lot of money into attractive design of the building exterior, but then also extensively landscape the site, which landscaping sometimes blocks the architecture of the building.

Mr. Hubbard mentioned that landscaping also had air quality and environmental benefits. He explained that the code requires a traffic and parking study for the property, and the Village would want to make sure that the existing road network is capable of handling the increase in truck traffic that would be generated by this development. He mentioned that Algonquin Rd. was under IDOT jurisdiction, so the applicant could be required to obtain certain IDOT reviews and/or approvals. Relative to parking requirements, it would be based off the size of the individual build-outs, the number of employees, and the uses of each future tenant. The number of parking spaces proposed complies with code requirements, however, the actual size and use of each future tenant may mean that there are future parking restrictions or users/tenants. He summarized that staff was supportive of this concept on a preliminary basis.

Commissioner Jensen asked if Weber Packing Solutions was the tenant to the west.

Mr. Hubbard confirmed that it was.

Commissioner Jensen asked where truck traffic would go during phase I.

Mr. Wauterlek replied that trucks would use Meijer Drive, and then access the shared drive aisle between Weber and the subject property. He stated that this is how access to the "phase I" property is currently configured.

Commissioner Jensen asked what volume or measure of truck traffic would be increased by the proposed development.

Mr. Wauterlek replied he did not have a formal traffic analysis, but that generally truck traffic would be increasing. If he were to move to the Plan Commission, he could hire somebody to study traffic.

Commissioner Jensen said the traffic study should assess the ability of the shared drive, Meijer Drive, and the intersection of Algonquin Road and Meijer Drive, to determine their ability to accommodate the traffic that could be generated by this development. He asked if access to the site could come from Algonquin Road.

Mr. Wauterlek replied that Algonquin Road abutted the development, and access was from Meijer Drive.

Commissioner Jensen asked about landscape requirements.

Mr. Hubbard replied that landscaping was required along the southern property line as all parking lots had to be screened from a public Right-of-Way, regardless of if that ROW was a local street, major arterial, or expressway.

Commissioner Cherwin asked about the number of loading bays.

Mr. Wauterlek replied that it would be built to suit, although they had estimated that there would be around 74 loading bays.

Commissioner Cherwin asked about the features of the building.

Mr. Wauterlek responded that access to both I-90 and I-53 would be attractive to any light distribution/logistics company. Given exposure off of I-90 and Algonquin Road, this site could also be viable for a distribution company or wholesaler with a showroom. Also, the property is in close proximity to O'Hare Airport, so logistics companies could also take advantage of that location. He said that ceiling heights would be 32' tall, whereas the average building heights in the area were probably 18' to 24'. The lighting and heat exchange units would be energy efficient. Parking for the building would be higher per floor area than nearby buildings. Finally, the turning radius for the trucks would be 131', which could accommodate larger over-the-road hauling vehicles.

Commissioner Cherwin he said that landscaping along the rear of the building would be nice, but that he was more concerned with landscaping in the front of the building to provide screening along Algonquin Road.

Commissioner Jensen asked if the property had been purchased yet.

Mr. Wauterlek responded that the property was not yet owned by them.

Commissioner Green he said that he thought it was a good use for the property and he supported a two phased development. He said that he was not too concerned with landscaping on the rear of the property by the expressway as he believed that the expressway was elevated in this location and landscaping would not be effective due to the grade.

Commissioner Jensen said he was a little concerned about the number of trucks and the conditions of the roads.

Mr. Hubbard stated that he believed Meijer Drive was a local street under Arlington Heights jurisdiction.

Commissioner Jensen asked the other commissioners if they were concerned about conditions of the roads to support such heavy truck traffic.

Commissioner Green responded that he believe they were built to accommodate heavy truck traffic.

Commissioner Cherwin said he suspected that the road was already successfully handled truck traffic from Meijer.

Commissioner Green encouraged the applicant to move forward.

RECOMMENDATION

The Plat & Subdivision Committee provided their feedback to the petitioner and advised petitioner to proceed forward as they saw fit.

Bruce Green, Chair
PLAT & SUBDIVISION COMMITTEE
Sam Hubbard, Recorder

STAFF DESIGN COMMISSION REPORT

PROJECT INFORMATION:

Project Name: 703-723 W. Algonquin Road
Project Address: 703-723 W. Algonquin Road

Prepared By: Steve Hautzinger

Date Prepared: November 15, 2017

PETITIONER INFORMATION:

DC Number: 17-138
Petitioner Name: Joshua Spinks,
Morgan Harbour Construction
Petitioner Address: 7510 S. Madison Street
Willowbrook, IL 60527
Meeting Date: November 28, 2017

Requested Action(s):

1. Approval of the proposed design for a new warehouse facility.

ANALYSIS

Summary:

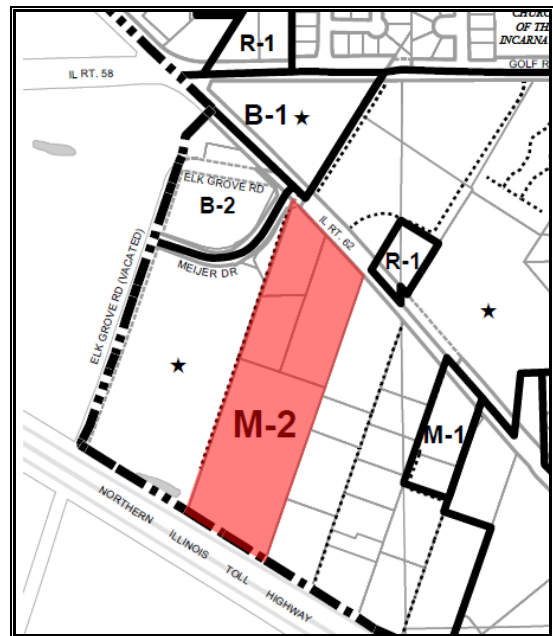
The subject design is being forwarded to the Design Commission for review pursuant to Chapter 6 of the Municipal Code, specifically Section 6-501 (e)(1), which states that the Design Commission "shall review all Plan Commission, Zoning Board of Appeals, Building Permit and Sign Permit applications for new construction and those improvements which affect the architectural design of the building, site improvements or signage to determine whether it meets with the standards, requirements and purposes of the Design Guidelines and Chapter 30, Sign Regulations."

The petitioner is proposing to demolish two existing single-story light industrial/office buildings to build a new 330,720 sf single-story, warehouse facility. The building is proposed to be constructed in two phases. Phase One will be 138,320 sf on the north end of the site, and Phase Two will be 192,400 sf on the south end of the site. The scope of the project includes a complete redevelopment of the site with 308 parking spaces, 68 loading docks, and landscaping. The site area is 15.4 acres. The property is zoned M-2, Limited Heavy Manufacturing District, and this proposal requires review by the Plan Commission and approval by the Village Board as a Planned Unit Development and for Lot Consolidation. There are no zoning variations requested.

Site:



Aerial View of Subject Site



Zoning Map

Surrounding Land Uses:

<i>Direction</i>	<i>Existing Zoning</i>	<i>Existing Use</i>
North	M-2, Limited Heavy Manufacturing District (M-2)	Multi-tenant office/light industrial building
East	M-2, Limited Heavy Manufacturing District (M-2)	Self-Storage facility, two light industrial/office buildings
South	Elk Grove Village	
West	M-2, Limited Heavy Manufacturing District (M-2)	Weber Packaging Solutions (light industrial/office building)

Architectural Design:

The proposed building will be constructed of precast concrete panels with a painted finish. Horizontal reveals and vertical panel joints will create shadow lines to give the building a panelized appearance. White, medium gray, and dark gray paint colors are nicely distributed across the building façade to create interest in the design and break down the scale of the walls. The design includes four office areas that are detailed with clear anodized aluminum storefronts, composite wood siding, and precast panels with tightly spaced formliner horizontal reveals. The combination of colors, materials, and textures at the office areas creates a very nice modern aesthetic and focal points for the design.

Overall, the design is very nicely done. The only comment is to consider adding more architectural detail at the northeast and southeast corners of the building using the composite wood siding and formliner precast panels to enhance the building's appearance where visible from the roadways.

Mechanical Unit Screening:

The building includes multiple rooftop mechanical units, some of which will be visible from the adjacent roads. The Village Design Guidelines require that all mechanical equipment be screened from public view. The rooftop units need to be screened from view by parapet walls, mechanical screens, or moving the units towards the middle of the roof to cut off the sight lines of the units. The petitioner should provide sight line diagram studies, and include mechanical screening where needed.

Landscaping:

As part of the zoning approval process, Staff and the Plan Commission will perform a detailed review of the landscaping and tree preservation plans. The petitioner is required to comply with code requirements for 4" caliper shade trees in all parking islands, a continuous three-foot high parking lot screening along the roadways, and landscaping around the detention basins.

In regards to the landscape design, additional foundation plantings should be provided adjacent to the proposed building, especially along the north and south building walls adjacent to the roadways. The proposed plantings are minimal and should include a layering of understory trees, shrubs, and perennials.

Signage:

The Site Plan indicates a monument sign facing Algonquin Road, but at this point, the design for the sign has not been provided. It is recommended that the sign be a low, code-compliant monument style enhanced with landscaping.

In addition to the ground sign, generic wall signage is indicated above each office entrance as a place holder for the future tenants.

All signs are required to comply with Chapter 30, Sign Code, and separate sign permits will be required for each sign.

RECOMMENDATION:

It is recommended that the Design Commission approve the proposed warehouse design to be located at 703-723 W. Algonquin Road. This recommendation is subject to compliance with the plans received 10/31/17, Design Commission recommendations, compliance with all applicable Federal, State, and Village codes regulations and policies, the issuance of all required permits, and the following:

1. Consider adding more architectural detail at the northeast and southeast corners of the building using the composite

wood siding and formliner precast panels.

2. Provide sight line diagram studies of the rooftop mechanical units from the roads, and include mechanical screening where needed.
3. Provide additional foundation plantings adjacent to the proposed building, especially along the north and south building walls adjacent to the roadways. The plantings should include layering of understory trees, shrubs, and perennials.
4. The ground sign should be a low, monument style sign.
5. All signage must meet code, Chapter 30.
6. This review deals with architectural design only and should not be construed to be an approval of, or to have any other impact on, any other zoning and/or land use issues or decisions that stem from zoning, building, signage or any other reviews. In addition to the normal technical review, permit drawings will be reviewed for consistency with the Design Commission and any other Commission or Board approval conditions. It is the architect/homeowner/builder's responsibility to comply with the Design Commission approval and ensure that building permit plans comply with all zoning code, building permit and signage requirements.

November 15, 2017

Steve Hautzinger AIA, Design Planner
Department of Planning and Community Development

Cc: Charles Witherington Perkins, Director of Planning and Community Development, Bill Enright, Deputy Director of Planning and Community Development, Sam Hubbard, Development Planner, Derek Mach, Landscape Planner, Petitioner, DC File 17-138

APPROVED

MINUTES OF
THE VILLAGE OF ARLINGTON HEIGHTS
DESIGN COMMISSION MEETING
HELD AT THE ARLINGTON HEIGHTS MUNICIPAL BUILDING
33 S. ARLINGTON HEIGHTS RD.
NOVEMBER 28, 2017

Chair Fitzgerald called the meeting to order at 6:30 p.m.

Members Present: John Fitzgerald, Chair
Aaron Coon
Ted Eckhardt

Members Absent: Kirsten Kingsley
Jonathan Kubow

Also Present: Joshua Spinks, Morgan Harbour Construction for 703-723 W. Algonquin Rd.
Mike Wauterlek, Hamilton Partners for 703-723 W. Algonquin Rd.
Grant Brandenburg & Julie Dalga, Ware Malcomb for 703-723 W. Algonquin Rd.
Jay Zumbahlen, Wingren Landscape for 703-723 W. Algonquin Rd.
Joe Favia for *Favia Dental*
Steve Hautzinger, Staff Liaison

REVIEW OF MEETING MINUTES FROM NOVEMBER 14, 2017

A MOTION WAS MADE BY COMMISSIONER ECKHARDT, SECONDED BY COMMISSIONER COON, TO APPROVE THE MEETING MINUTES OF NOVEMBER 14, 2017. ALL WERE IN FAVOR. MOTION CARRIED.

ITEM 1. COMMERCIAL REVIEWDC#17-138 – 703-723 W. Algonquin Rd.

Joshua Spinks, representing *Morgan Harbour Construction*, Mike Wauterlek, representing *Hamilton Partners*, Grant Brandenburg & Julie Dalga, representing *Ware Malcomb*, and Jay Zumbahlen, representing *Wingren Landscape*, were present on behalf of the project.

Mr. Hautzinger presented Staff comments. The petitioner is proposing to demolish two existing single-story light industrial/office buildings to build a new 330,720 sf single-story, warehouse facility. The building is proposed to be constructed in two phases. Phase One will be 138,320 sf on the north end of the site, and Phase Two will be 192,400 sf on the south end of the site. The scope of the project includes a complete redevelopment of the site with 308 parking spaces, 68 loading docks, and landscaping. The site area is 15.4 acres. The property is zoned M-2, Limited Heavy Manufacturing District, and this proposal requires review by the Plan Commission and approval by the Village Board as a Planned Unit Development and for Lot Consolidation. There are no zoning variations requested.

The proposed new building will be constructed of precast concrete panels with a painted finish. Horizontal reveals and vertical panel joints will create shadow lines to give the building a panelized appearance. White, medium gray, and dark gray paint colors are nicely distributed across the building façade to create interest in the design and break down the scale of the walls. The design includes four office areas that are detailed with clear anodized aluminum storefronts, composite wood siding, and precast panels with tightly spaced form liner horizontal reveals. The combination of colors, materials, and textures at the office areas creates a very nice modern aesthetic and focal points for the design.

Overall, Staff felt the design is very nicely done. The only comment is to consider adding more architectural detail at the northeast and southeast corners of the building using the composite wood siding and form liner precast panels to enhance the building's appearance where visible from the roadways.

With regards to the rooftop mechanical units, they should be screened from view by parapet walls or mechanical screens, or the units moved towards the middle of the roof to cut off the sight lines of the units. The petitioner should provide sight line diagram studies, and include mechanical screening where needed.

As part of the zoning approval process, Staff and the Plan Commission will perform a detailed review of the landscaping and tree preservation plans. The petitioner is required to comply with code requirements for 4" caliper shade trees in all parking islands, a continuous three-foot high parking lot screening along the roadways, and landscaping around the detention basins. In regards to the landscape design, additional foundation plantings should be provided adjacent to the proposed building, especially along the north and south building walls adjacent to the roadways. The proposed plantings are minimal and should include a layering of understory trees, shrubs, and perennials.

With regards to signage, the site plan indicates a monument sign facing Algonquin Road, but at this point, the design for the sign has not been provided. It is recommended that the sign be a low, code-compliant monument style enhanced with landscaping. In addition to the ground sign, generic wall signage is indicated above each office entrance as a place holder for the future tenants. All signs are required to comply with Chapter 30, Sign Code, and separate sign permits will be required for each sign.

Staff recommends approval of the proposed warehouse design, with these comments and suggestions summarized in the Staff report.

The petitioner had no comments at this time.

Commissioner Eckhardt reviewed the paint samples and other materials and colors being proposed. He asked if the rooftop equipment will be screened, and Mr. Brandenburg, stated that site line studies were done for the mechanical equipment. Commissioner Eckhardt explained the intent of rooftop screening is to screen the units from the

surrounding areas, not just from the property itself, which is a code requirement, and Mr. Brandenburg replied that any visible rooftop equipment will be screened, and landscaping provided as well. Mr. Hautzinger added that screening requirements are from the street, and because this is a corner site, it should be screened from both Algonquin Road and Meijer Road. Commissioner Eckhardt really liked the composite wood material being proposed at all the office entries, and felt the elevations were nicely articulated with the 3 paint colors. He commented that the loading dock elevation was a bit bland, and Mr. Brandenburg explained that the offices were extended out on the west elevation to help conceal the view of those docks from the rest of the property.

Commissioner Coon pointed out that the composite wood product shown represented in the rendering has more variation than the small sample presented, and Mr. Brandenburg explained that the composite wood product is stained just like wood; however, it is a resin product that will last longer than wood. Commissioner Coon asked if there will be slight variation from panel to panel to make it look less monochromatic, and the petitioner said yes; the product is produced with a raw color, and stain is applied to it on site.

Commissioner Coon was also concerned about how close the north side of the building would be to Algonquin Road, and it does not allow for a lot of landscaping to buffer it from the street; there will be a large wall of stained precast very close to the road. He suggested recessing the northeast corner of the building or creating some kind of a feature there. He liked the integration of the wood product on the office portions of the building, but felt that the northeast corner of the building will be too stark on Algonquin Road. He wanted to see something done with that, other than just stained precast; perhaps find a way to integrate more of the wood siding into it to tie it in with the office elements. He also pointed out the building located east of the site that has a large landscape feature in front of it as a buffer to Algonquin Road. He felt there was an opportunity to create more of a gracious buffer from Algonquin Road to this plain corner of the building.

Commissioner Coon felt the rest of the building looked fine and he was curious to see what the south elevation in Phase 1 would look like, which Mr. Brandenburg said would be the same as the rest of the building. Commissioner Coon also agreed with the comments previously made about the screening of the rooftop equipment; site lines from the expressway and from Algonquin Road should be studied.

Chair Fitzgerald liked the project and he liked the composite wood feature used only at the office areas, because it is nice to know where the entrances to such a large building will be. He also liked the materials, and he agreed with Staff's comments about the landscaping.

Commissioner Eckhardt said that he was considering asking the petitioner to add more detail decoration at the corner of the building that is so close to Algonquin Road because he felt the top right of the northeast elevation was very nice, but the left corner that sits close to the street looks like a warehouse. He agreed with Chair Fitzgerald about the wayfinding aspect of the wood material, in terms of identifying the front entries, and he asked what the end wall will look like as the corner of the building closest to Algonquin Road turns the corner. Mr. Brandenburg replied that as the building turns the corner, the horizontal banding between the two offices will be continued and there will be no clerestories. Commissioner Eckhardt was torn with the comments made by Commissioner Coon about the corner of the building, which he understood; however, he felt it was logical how the corner detailing is wrapped around, and he agreed that the wood composite material should be at the entrances to the offices only.

Commissioner Coon clarified that he was okay with the building in terms of the architecture, but felt the building was just too close to the curb and felt like it is squeezing itself into a tight situation with the curb that close to the building, as well as a lack of landscaping. He was in support of finding a way to slide the building to the south to create more space from the street; there is a lot crammed into that corner. Mr. Wauterlek explained that at the east end of the property, there is a large tree line that extends the length of the property that can be cleaned out; he completely agrees with Commissioner Coon and is willing to invest some money into that corner; however, as it stands now, he felt that most people will see the new building going eastbound on Algonquin Road, whereas the corner being referenced by the commissioners will not be seen until you are right on top of the building, past the tree line, and already to where

the wood siding material is. Their goal is to build a nice looking building, which is why they are investing in the materials being proposed; this is a high profile location that could attract higher end tenants.

Commissioner Coon replied that he believed the answer was not the architecture, but more the landscaping and more space. He felt there was an opportunity to pull one or two bays in, and create a pocket for landscaping to help soften the corner. He was okay with the way the panels are delineated, and he agreed that the wood product should be kept at the office entries; however, he felt that if the building was not pulled back from the curb, it would feel forced in, and feel like the building is driving the site. He suggested bringing the drive aisle closer to Algonquin Road to create more green space between the curb and the building, which the petitioner was not opposed to doing.

Chair Fitzgerald pointed out that a unanimous vote was needed from all 3 commissioners tonight for approval.

A MOTION WAS MADE BY COMMISSIONER COON, SECONDED BY COMMISSIONER ECKHARDT, TO APPROVE THE PROPOSED WAREHOUSE DESIGN TO BE LOCATED AT 703-723 W. ALGONQUIN ROAD. THIS APPROVAL IS SUBJECT TO COMPLIANCE WITH THE PLANS RECEIVED 10/31/17, DESIGN COMMISSION RECOMMENDATIONS, COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE, AND VILLAGE CODES, REGULATIONS, AND POLICIES, THE ISSUANCE OF ALL REQUIRED PERMITS, AND THE FOLLOWING:

1. A REQUIREMENT FOR A MINIMUM OF 8-FEET OF SPACE BETWEEN THE CURB AND THE NEW BUILDING AT THE CORNER CLOSEST TO ALGONQUIN ROAD, TO PROVIDE FOR MORE LANDSCAPE AT THAT CORNER, EVEN IF A FEW PARKING SPACES ARE LOST.
2. THIS REVIEW DEALS WITH ARCHITECTURAL DESIGN ONLY AND SHOULD NOT BE CONSTRUED TO BE AN APPROVAL OF, OR TO HAVE ANY OTHER IMPACT ON, NOR REPRESENT ANY TACIT APPROVAL OR SUPPORT FOR THE PROPOSED LAND USE OR ANY OTHER ZONING AND/OR LAND USE ISSUES OR DECISIONS THAT STEM FROM ZONING, BUILDING, SIGNAGE OR ANY OTHER REVIEWS. IN ADDITION TO THE NORMAL TECHNICAL REVIEW, PERMIT DRAWINGS WILL BE REVIEWED FOR CONSISTENCY WITH THE DESIGN COMMISSION AND ANY OTHER COMMISSION OR BOARD APPROVAL CONDITIONS. IT IS THE PETITIONER'S RESPONSIBILITY TO INCORPORATE ALL REQUIREMENTS LISTED ON THE CERTIFICATE OF APPROPRIATENESS INTO THE PERMIT DRAWINGS, AND TO ENSURE THAT BUILDING PERMIT PLANS AND SIGN PERMIT PLANS COMPLY WITH ALL ZONING CODE, BUILDING CODE AND SIGN CODE REQUIREMENTS.

Chair Fitzgerald questioned whether the commissioners could require 8-feet of space at this corner, and how much space currently exists there. The petitioner said there is approximately 5-feet from the building corner to the edge of the curb.

COON, AYE; ECKHARDT, AYE; FITZGERALD, AYE.
ALL WERE IN FAVOR. MOTION CARRIED.

Mr. Hautzinger clarified that the motion included a requirement to add a minimum of 8-feet between the curb line and the building wall on Algonquin Road, and Commissioner Coon added that it should allow enough room for an ornamental tree and some shrubs. Mr. Hautzinger also pointed out that the motion did not include any of the other recommendations in the Staff report including the comments regarding landscaping.

A MOTION WAS MADE BY COMMISSIONER COON, SECONDED BY COMMISSIONER ECKHARDT, TO AMEND THE MOTION TO ADD THE FOLLOWING:

3. PROVIDE ADDITIONAL FOUNDATION LANDSCAPING ADJACENT TO THE PROPOSED BUILDING, ESPECIALLY ALONG THE NORTH AND SOUTH BUILDING WALLS ADJACENT TO THE ROADWAYS. THE PLANTINGS SHOULD INCLUDE LAYERING OF UNDERSTORY TREES, SHRUBS, AND PERENNIALS.

ECKHARDT, AYE; COON, AYE; FITZGERALD, AYE.
ALL WERE IN FAVOR. MOTION CARRIED.



MORGAN / HARBOUR
CONSTRUCTION

October 31, 2017

Attn: Sam Hubbard

Development Planner
Department of Planning and Community Development
Village of Arlington Heights
33 S. Arlington Heights Road
Arlington Heights, IL 60005

Tel: 847-368-5223

Re: 703-723 W. Algonquin Road Project – Planning Commission – PROJECT DESCRIPTION

Mr. Hubbard,

The existing property located at 703-723 W. Algonquin Road has (2) existing buildings that will be demolished to create (1) light distribution building that will be approximately 330,000 sf in total.

We will utilize standard construction practices to construct this new 1-story precast building. The interior structure will consist of structural steel, joist, and metal decking. The interior clear height of the building will be set at 32'-0" in height. The top of precast wall panels will be at 39'-0" in total height. The precast panels will be 12'-0" – 13'-0" wide insulated load bearing panels with a painted finish. The composite wood siding will be at various entryways. The aluminum storefront framing will be clear anodized finish with 1" insulated, low-e, grey tinted glazing. The Make-Up Air Units will be 80/20 units to take advantage of some efficiencies that are common with these types of units. The gas consumption is much less due to the fact that only 20% of the air will be heated during the normal cycle.

The project is intended to be a phased construction project where Phase 1 (North Half) will be the main building starting construction in Spring of 2018 and with a scheduled completion by the end of the year 2018.

The Phase 2 (South Half) will be constructed as an addition to the Phase 1 (North Building) and at a time to be determined at a later date and should take between 8-10 months to construct assuming normal conditions.

The intent for the new structure is to improve this site with a new light distribution facility that will accommodate 1-5 tenants with 308 new parking spaces.

Sincerely,

Joshua Spinks
Senior Project Manager
Morgan / Harbour Construction, L.L.C.



Illinois Department of Transportation

Office of Highways Project Implementation / Region 1 / District 1
201 West Center Court / Schaumburg, Illinois 60196-1096

PERMITS

Location: IL 62 (Algonquin Road) at Meijer Road (SEC)

Municipality: Village of Arlington Heights, Cook County

Re: Arlington Heights Industrial Redevelopment

Reference No.: 016-78885

December 19, 2017

Mr. Paul Leder, P.E.
RWG Engineering, LLC
975 E. 22nd St.
Suite 400
Wheaton, IL 60189

Dear Mr. Leder:

Our Bureaus of Traffic and Programming have completed their cursory review of your preliminary engineering plans and Traffic Impact Study for the subject location. Our comments are marked in red on the enclosed plan set. This marked set must be returned with your next submittal.

Traffic Permits Comments:

1. Clearly label State right of way lines on all plan sheets.
2. Revise your plans to label roadways as the State-designated route followed by the marked route in parentheses [e.g. IL 62 (Algonquin Road)]
3. Remove the Limitation of Warranty on your Cover Sheet.
4. Revise your plans to include driveway apron removal and replacement, depressed curb and gutter removal and replacement, pavement patching, and sidewalk/ramp removal and replacement. Dimension the SF/LF of all items to be removed and/or replaced in State right of way on your Demolition Plan – Phase 1 sheet.
5. Two of the Department's main goals in granting access to a property include the safety of all pedestrian and vehicular traffic affected by a development and the efficient and effective flow of traffic to serve such development and the surrounding area; as such, modify the existing full access of your site to a right-in/right-out/left-in. The enclosed detail may be used as an example for signing, striping, and barrier island design.
6. The southeast corner of the intersection of IL 62 and Meijer Drive should be brought into ADA/PROWAG compliance.
7. Please provide separate ADA ramp details for roadway crossings along IL 62. Please see attached template for reference.
8. All ADA related items shall be designed and installed in accordance with the "ADA Standard for Accessible Design" guidebook. Provide the information and signature required on the enclosed Municipality Sidewalk and ADA Acceptance Letter form.
9. In order to comply with ADA/PROWAG requirements, continue the sidewalk through all proposed driveways, and provide spot grades where necessary.
10. Include at least 24" of pavement patching adjacent to all areas of curb & gutter removal and replacement per the enclosed Pavement Patching at Curb and Gutter Removal detail; additionally, include this detail in your plans.
11. It appears the driveway access along IL 62 encroaches upon the neighboring property to the southeast; as such, either redesign the driveway with a minimum of 3' between the end of flare and the property or complete and return a signed and executed copy of the enclosed Lot Line Agreement for all parties involved.

12. Show the emergency overflow route on your Grading Plan; note that per the IDOT Drainage Connection Checklist Section 2-f-2, "The access drive(s) must not be used as an overland flow flood path."
 13. Provide local approval from all applicable agencies in acceptance of the drainage improvements for your site.
 14. Complete the enclosed IDOT Drainage Connection Checklist.
 15. Include all applicable IDOT Highway Standards including: 424001, 424026, 606001, 701101, 701602, 701701, 701801, and 701901.
 16. Revise your Plat of Subdivision to label roadways as the State-designated route followed by the marked route in parentheses [e.g. IL 62 (Algonquin Road)]
 17. Add the following to your Plat of Subdivision:
This plat has been approved by the Illinois Department of Transportation with respect To roadway access pursuant of Paragraph 2 of "An Act to revise the law in relation to plats," as amended. A plan that meets the requirements contained in the Department's "Policy on Permits for Access Driveways to State Highways" will be required by the Department.
- Anthony J. Quigley, P.E.
Region One Engineer
18. Add the following to your Plat of Subdivision:
Vehicular Access Notes:
 1. There shall be, at most, one restricted vehicular access to IL Route 62 (Algonquin Road) from Lot 1 as shown hereon.
 2. All other access shall be via internal circulation.

Programming – Geometric Comments:

1. Please analyze both phases of the development together, not just the final phase.
2. The report does not state when this improvement is to be built. Please state the year of completion in the report. Also, label the proposed and existing years of analysis throughout the report. The proposed year of analysis should be 5 years after the completion of the development.
3. On Page 8 of the Traffic Impact Study, it is stated that IL 62 is not an SRA; however, IL 62 is classified as an SRA at the north leg of the intersection with IL 58. IL 58 is also an SRA at the east leg of the intersection with IL 62. Please clarify these classifications in the report.
4. Please provide Red-Time-Queue calculations for all movements of each intersection in the next submittal. Follow the formatting in the attached template.
5. The full access drive on Algonquin Road, east of Meijer Drive should have a minimum width of 24' edge to edge. The 26.6' back-to-back with C&G shown for this driveway is below this minimum. Please provide a redesigned driveway extending to Algonquin Road with a width of 24'-35' and a maximum longitudinal slope of 6%. Also, ensure the cross slope of the sidewalk through the drive is a maximum of 1.5% and provide detectable warnings and ADA grading details at the junction of the sidewalk and driveway.
6. For yellow times, please use 3.5 seconds for all left-turn movements (see markups in the appendix for specific locations).
7. The total lost time should be 6 seconds for through movements. Several locations show 6.5 seconds. When the all red time is 2 seconds, change yellow time should be 4 seconds (see markups in the appendix for specific locations).
8. For the intersection of Meijer and Algonquin, the northeast left shows 0' storage length and 1 storage lane. The existing condition has dual lefts with approximately 190' of storage per lane. Please revise the capacity analysis per the existing conditions.

Traffic Programs – Studies Comments:

1. Include an exhibit in the Traffic Impact Study depicting the relative distance along IL Route 62 between Meijer Drive and the proposed full access.
2. What is the relative distance of the proposed full access along Meijer Drive from IL Route 62? Include this distance on an exhibit.
3. Access along IL Route 62 should be managed as part of this redevelopment. The proposed full access along IL Route 62 should be restricted to full ingress with right-out only egress (right-in/right-out/northwest bound left-in only).
4. The outbound left-turn movement volume is very small from this driveway and can easily be accommodated as a left-turn from Meijer Drive at IL Route 62. Place a raised barrier channelizing island (i.e. ½ pork chop) to physically restrict outbound left-turns at the proposed access driveway along IL Route 62. Reassign outbound left-turns from the full access to Meijer Drive accordingly in the Traffic Impact Study.
5. The capacity analyses for IL Route 62 at Arlington Heights Road, AM and PM plus existing and future conditions is incorrect. With the recent improvements at the Interstate 90 and Arlington Heights Road interchange, a southbound auxiliary lane (4th southbound lane) was developed from IL Route 62 to the eastbound Interstate 90 On-Ramp. With the completion of this lane, the southbound approach of Arlington Heights Road at IL Route 62 now operates with a dual left-turn lane and 4 southbound through lanes. The former southbound right-turn lane operates as a shared through and right-turn lane today. Revise capacity analyses for IL Route 62 and Arlington Heights Road accordingly.
6. Submit a revised Traffic Impact Study accordingly to continued review.
7. Submit concept roadway plans for a restricted access along IL Route 62 east of Meijer Drive.

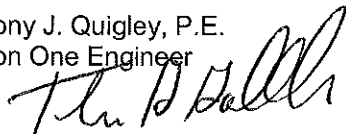
Please revise your plans in accordance with the above comments and resubmit three (3) revised Traffic Impact Studies and three (3) sets of revised 11"x17" engineering plans and one (1) Drainage Connection Checklist along with a written disposition to all comments to continue the review process.

If you have any questions regarding this matter, please contact Abigail Robinson at (847) 705-4541.

Very truly yours,

Anthony J. Quigley, P.E.
Region One Engineer

By:



Thomas G. Gallenbach, P.E.
Traffic Permit Engineer

cc: Jim Masarelli - Village of Arlington Heights



"PROGRESS THRU PARTICIPATION"

Community Development Department

3600 Kirchoff Road • Rolling Meadows, Illinois 60008 • 847-506-6030 • Fax: 847-483-0365 • www.cityrm.org/rmcd

January 17, 2018

Mr. Bill Enright, Deputy Director of Planning and Community Development
Village of Arlington Heights
33 S. Arlington Heights Rd.
Arlington Heights, IL 60005

Dear Mr. Enright:

RE: Proposed Redevelopment, 703-723 Algonquin Rd.

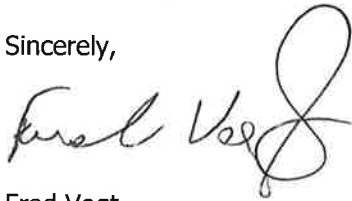
Based upon the receipt of a Traffic Impact Study, prepared by KLOA and dated October 25, 2017, and received by the City of Rolling Meadows January 11, 2018, for a proposed "Arlington Heights Industrial" redevelopment located at 703-723 West Algonquin Road (a.k.a. "Oak Pointe"), the following staff questions and comments are provided.

- 1) The City of Rolling Meadows Engineer is being requested to review the Traffic Impact Study, and received this report yesterday. Additional questions and comments may be forthcoming.
- 2) Verify that no realignment of existing intersections is planned (Weber Road, on the east side of Weber Marking Systems, and the driveway serving Oak Pointe approximately 300 feet south of Algonquin Road).
- 3) Page 8 of the Traffic Impact Study states that Meijer Drive is the jurisdiction of the Village of Arlington Heights. Please clarify what this means, versus maintenance responsibility (as in the 2001 Intergovernmental Agreement).
- 4) Why is the existing Weber Marking Systems traffic never mentioned in the Traffic Impact Study? It is as if that facility is not even there.
- 5) Is there any data available on pre-existing traffic counts, when the Oak Pointe buildings were all occupied? We would like to be able to compare that traffic impact on Meijer Drive (primarily passenger vehicles) as opposed to re-development.
- 6) Why are only "Phase 2" traffic counts provided in the Traffic Impact Study? Where are "Phase 1" traffic counts, or are they included with "Phase 2" data?
- 7) Page 10 of the Traffic Impact Study discusses the PACE facility on Algonquin Road, and references that police officers control afternoon peak hour traffic there, creating "additional gaps". What would be the effect on traffic at the p.m. rush hour in the event that the police traffic control activity were to cease?
- 8) Please confirm, per figure 4 and 5 on pages 11 and 12 in the Traffic Impact Study, that there is currently no heavy truck traffic servicing the existing Oak Pointe property.
- 9) On page 16, the schematic shows a 25% amount of traffic approaching the subject site from the west, presumably utilizing Meijer Drive from Golf Road. This is not desirable. Efforts should be made to eliminate all heavy truck traffic accessing this proposed redevelopment from the west as possible, as such traffic was not anticipated on the section of Meijer Drive in the corporate limits of Rolling Meadows. We have concerns for maintenance and future accelerated repair needs.
- 10) The same schematic, on page 16, shows 100% amount of traffic exiting the site to the north. How will this be controlled and enforced? No reference to signage control (i.e. right-turn only) was seen in the Traffic Impact Study for this driveway.

- 11) Figure 9 on page 20 shows "estimated development-generated traffic volumes of 31 vehicles entering the proposed development site, but only 26 vehicles exiting the site. Please explain.
- 12) Will any changes to stormwater management, detention, and release rates be made? Information should be provided for review (i.e. impacts to Meijer Drive drainage, existing detention plans, etc.).
- 13) The Intergovernmental Development Agreement between the City of Rolling Meadows and the Village of Arlington Heights, dated December 18, 2001, makes reference to the development on the four acres of vacant land as the trigger for conveyance of the maintenance of Meijer Drive (that portion within the corporate limits of the Village of Arlington Heights) from Rolling Meadows to Arlington Heights. The agreement was silent as to any other development or redevelopment in the area as to having an effect on Meijer Drive use and condition. This proposed redevelopment will have an effect on Meijer Drive. The City of Rolling Meadows requests that discussions take place with the Village of Arlington Heights on this matter, as this type of land use change was not previously anticipated and in consideration of 15 years having passed since the construction and opening of Meijer Drive. The City does not believe that it should, upon this proposed redevelopment, any longer be solely responsible for the maintenance of Meijer Drive within the corporate boundaries of the Village of Arlington Heights.
- 14) Discussions should also include the existing pavement condition of Meijer Drive, between Algonquin Road and the Weber Marking Systems driveway. It appears that pavement resurfacing may need to be considered in the next five years. Would it be appropriate to consider having this developer participate in said pavement resurfacing costs, given the proposed impact to Meijer Drive?

We are willing to meet to discuss these comments and questions at your convenience.

Sincerely,

A handwritten signature in dark ink, appearing to read "Fred Vogt", with a large, stylized loop at the end.

Fred Vogt
Director of Public Works and Community Development

Cc: B. Krumstok, City Manager
R. Horne, Assistant Director of Public Works and Community Development
G. Rozwadowski, City Engineer



MORGAN / HARBOUR
CONSTRUCTION

January 18, 2018

Attn: Sam Hubbard

Development Planner
Department of Planning and Community Development
Village of Arlington Heights
33 S. Arlington Heights Road
Arlington Heights, IL 60005

Tel: 847-368-5223

Re: 703-723 W. Algonquin Road Project – Response Letter – (ROLLING MEADOWS)

Mr. Hubbard,

The following is our Response Letter addressing the comments as outlined in the ROLLING MEADOWS Review Letter dated January 17, 2018 regarding the aforementioned project:

ROLLING MEADOWS - COMMUNITY DEVELOPMENT DEPT. From Fred Vogt, dated Jan 17, 2018

1. Noted.
2. No realignment of existing access drives to Meijer Drive are proposed.
3. **Village of Arlington Heights**
4. It's Included.
5. We do not have pre-existing traffic counts. The traffic study uses existing peak hour traffic volumes as a base to project traffic volumes that includes the full buildout of the proposed warehouse development (Phase II), as well as regional growth in traffic unattributed to a particular planned development in the area.
6. Only Phase 2 was studied since this represents the planned maximum buildout of the development, thereby providing a conservative analysis.
7. As a result of IDOT comments, the proposed access drive on Algonquin Road is being modified to prohibit left-turns out. As such, any influence in traffic gaps coming from the PACE facility traffic officers is no longer relevant.
8. The existing traffic counts reflect heavy vehicles utilizing Meijer Drive.
9. **Village of Arlington Heights**
10. **Village of Arlington Heights**



11. Figure 9 (page 20 of the report) shows the development traffic assignment for heavy vehicles, which comes from Table 1 on page 17. The figure shows 25 and 6 heavy vehicles entering the site during the weekday morning and evening peak hours, respectively, as well as 7 and 19 heavy vehicles exiting the development during the respective peak hours.
12. Existing site drains to Northeast and will be maintained by the proposed development with no impact to Rolling Meadows.
- 13. Village of Arlington Heights**
- 14. Village of Arlington Heights**

Please contact me directly if any of these responses are insufficient or if any further clarification is required in order to obtain jurisdictional approval.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joshua Spinks", is written over a horizontal line.

Joshua Spinks
Senior Project Manager
Morgan / Harbour Construction, L.L.C.



"PROGRESS THRU PARTICIPATION"

Community Development Department

3600 Kirchoff Road • Rolling Meadows, Illinois 60008 • 847-506-6030 • Fax: 847-483-0365 • www.cityrm.org/rmcd

January 17, 2018

Mr. Bill Enright, Deputy Director of Planning and Community Development
Village of Arlington Heights
33 S. Arlington Heights Rd.
Arlington Heights, IL 60005

Dear Mr. Enright:

RE: Proposed Redevelopment, 703-723 Algonquin Rd.

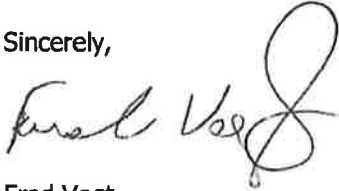
Based upon the receipt of a Traffic Impact Study, prepared by KLOA and dated October 25, 2017, and received by the City of Rolling Meadows January 11, 2018, for a proposed "Arlington Heights Industrial" redevelopment located at 703-723 West Algonquin Road (a.k.a. "Oak Pointe"), the following staff questions and comments are provided.

- 1) The City of Rolling Meadows Engineer is being requested to review the Traffic Impact Study, and received this report yesterday. Additional questions and comments may be forthcoming.
- 2) Verify that no realignment of existing intersections is planned (Weber Road, on the east side of Weber Marking Systems, and the driveway serving Oak Pointe approximately 300 feet south of Algonquin Road).
- 3) Page 8 of the Traffic Impact Study states that Meijer Drive is the jurisdiction of the Village of Arlington Heights. Please clarify what this means, versus maintenance responsibility (as in the 2001 Intergovernmental Agreement).
- 4) Why is the existing Weber Marking Systems traffic never mentioned in the Traffic Impact Study? It is as if that facility is not even there.
- 5) Is there any data available on pre-existing traffic counts, when the Oak Pointe buildings were all occupied? We would like to be able to compare that traffic impact on Meijer Drive (primarily passenger vehicles) as opposed to re-development.
- 6) Why are only "Phase 2" traffic counts provided in the Traffic Impact Study? Where are "Phase 1" traffic counts, or are they included with "Phase 2" data?
- 7) Page 10 of the Traffic Impact Study discusses the PACE facility on Algonquin Road, and references that police officers control afternoon peak hour traffic there, creating "additional gaps". What would be the effect on traffic at the p.m. rush hour in the event that the police traffic control activity were to cease?
- 8) Please confirm, per figure 4 and 5 on pages 11 and 12 in the Traffic Impact Study, that there is currently no heavy truck traffic servicing the existing Oak Pointe property.
- 9) On page 16, the schematic shows a 25% amount of traffic approaching the subject site from the west, presumably utilizing Meijer Drive from Golf Road. This is not desirable. Efforts should be made to eliminate all heavy truck traffic accessing this proposed redevelopment from the west as possible, as such traffic was not anticipated on the section of Meijer Drive in the corporate limits of Rolling Meadows. We have concerns for maintenance and future accelerated repair needs.
- 10) The same schematic, on page 16, shows 100% amount of traffic exiting the site to the north. How will this be controlled and enforced? No reference to signage control (i.e. right-turn only) was seen in the Traffic Impact Study for this driveway.

- 11) Figure 9 on page 20 shows "estimated development-generated traffic volumes of 31 vehicles entering the proposed development site, but only 26 vehicles exiting the site. Please explain.
- 12) Will any changes to stormwater management, detention, and release rates be made? Information should be provided for review (i.e. impacts to Meijer Drive drainage, existing detention plans, etc.).
- 13) The Intergovernmental Development Agreement between the City of Rolling Meadows and the Village of Arlington Heights, dated December 18, 2001, makes reference to the development on the four acres of vacant land as the trigger for conveyance of the maintenance of Meijer Drive (that portion within the corporate limits of the Village of Arlington Heights) from Rolling Meadows to Arlington Heights. The agreement was silent as to any other development or redevelopment in the area as to having an effect on Meijer Drive use and condition. This proposed redevelopment will have an effect on Meijer Drive. The City of Rolling Meadows requests that discussions take place with the Village of Arlington Heights on this matter, as this type of land use change was not previously anticipated and in consideration of 15 years having passed since the construction and opening of Meijer Drive. The City does not believe that it should, upon this proposed redevelopment, any longer be solely responsible for the maintenance of Meijer Drive within the corporate boundaries of the Village of Arlington Heights.
- 14) Discussions should also include the existing pavement condition of Meijer Drive, between Algonquin Road and the Weber Marking Systems driveway. It appears that pavement resurfacing may need to be considered in the next five years. Would it be appropriate to consider having this developer participate in said pavement resurfacing costs, given the proposed impact to Meijer Drive?

We are willing to meet to discuss these comments and questions at your convenience.

Sincerely,



Fred Vogt
Director of Public Works and Community Development

Cc: B. Krumstok, City Manager
R. Horne, Assistant Director of Public Works and Community Development
G. Rozwadowski, City Engineer

HAMILTON
PARTNERS

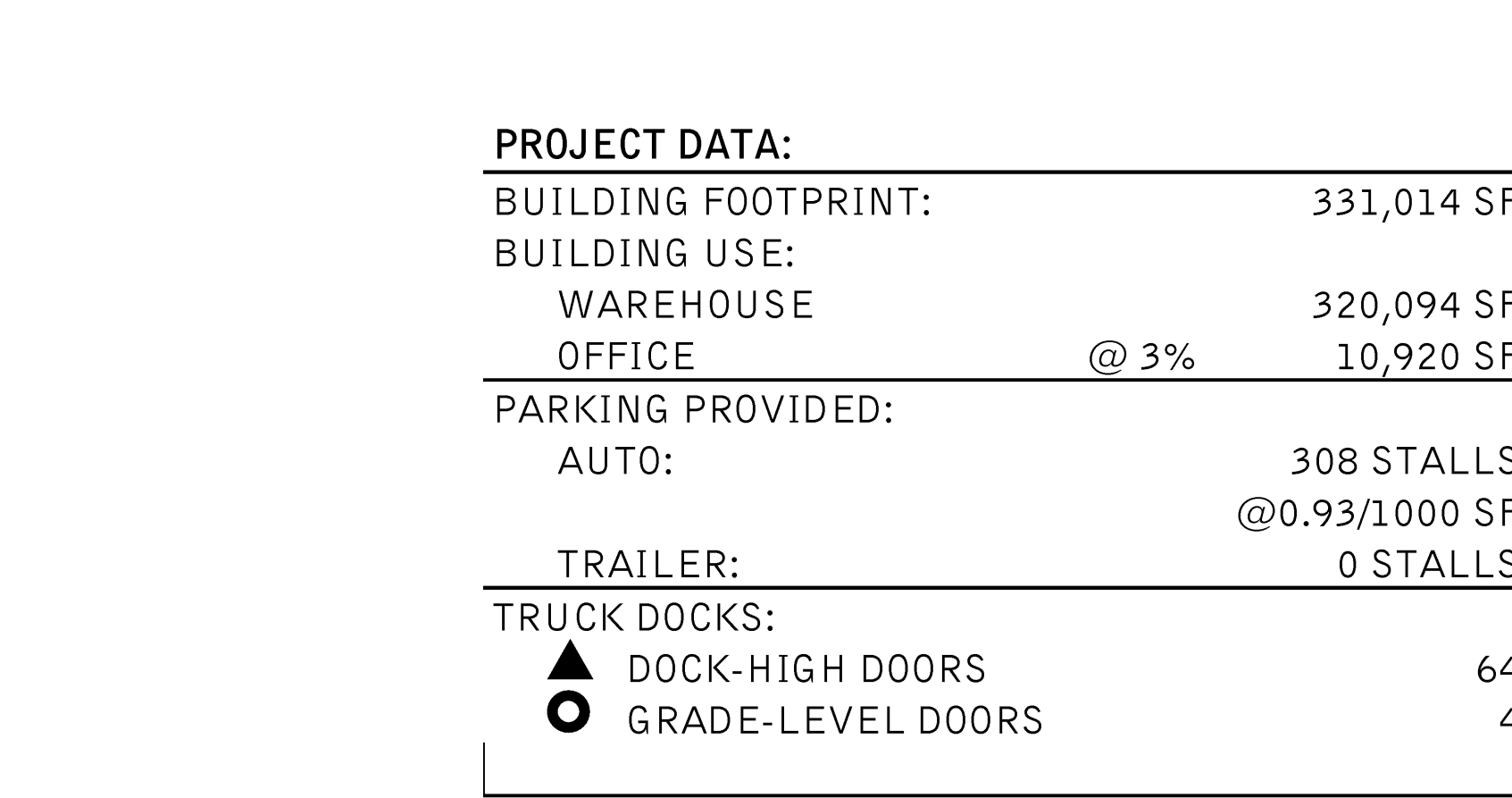
W Algonquin Road

ARLINGTON HEIGHTS, IL

CHI16-0313-00
SCHEMATIC DESIGN
01.09.2018

WARE MALCOMB

architecture | planning | interiors | branding | civil



	Phase 1 and 2	Proposed
Lot Size	N/A	671,453 SF (15.41 AC)
Lot Width	N/A	441.74'
Setbacks		
North (front)	15'	54.88'
South (rear)	15'	84.18'
East (side)	10' or 10% of lot width (whichever is less)	60'
West (side)	10' or 10% of lot width (whichever is less)	56.94'
South (rear-parking areas)	15'	15.45'
F.A.R.	2.50 maximum	.49
Building Lot Coverage	No zoning requirement, refer to building code for additional requirements	49.30%
Impervious Surface Coverage	No zoning requirement, refer to building code for additional requirements	88.55%
Building Height	No zoning requirement, refer to building code for additional requirements	39'-0"
Off-street Parking Spaces	169	308



KEY NOTES

- 1

PRECAST CONCRETE PANELS WITH REVEALS AND PAINT, TYP.
- 2

CONCRETE PRECAST WITH FORMLINER REVEALS
- 3

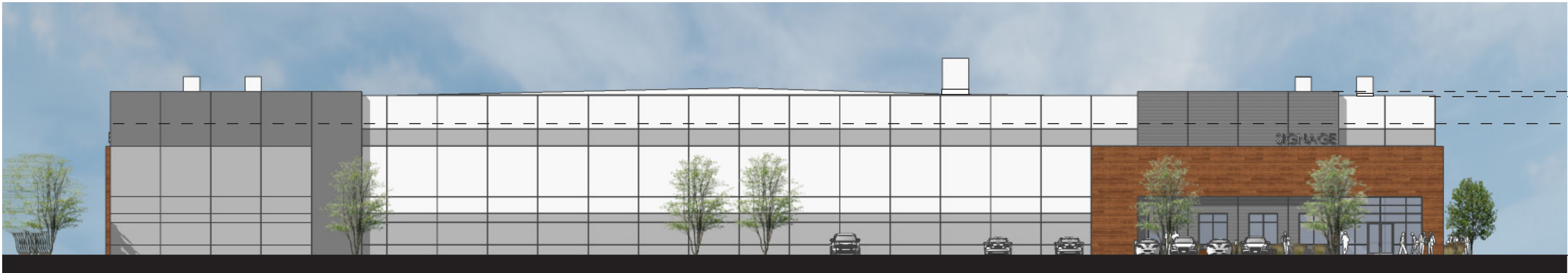
STOREFRONT WITH HIGH PERFORMANCE GLAZING SYSTEM
- 4

TRUGRAIN COMPOSITE WOOD SIDING
- 5

POTENTIAL LOCATION FOR TENANT BRANDING
- 6

CLERESTORY WINDOW FOR WAREHOUSE

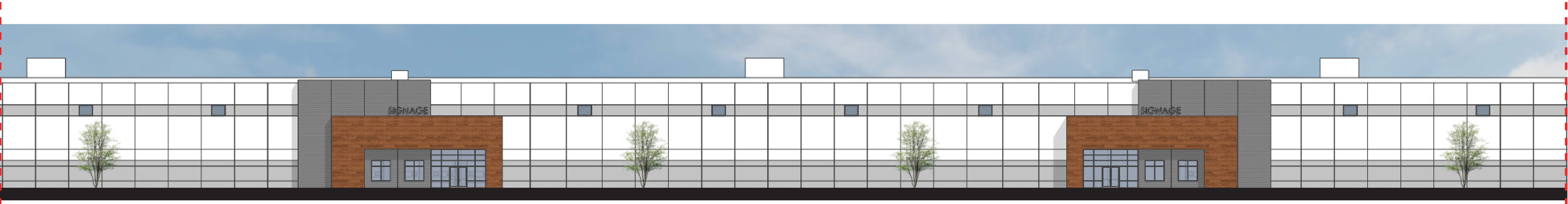
This conceptual design is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information, and is intended merely to assist in exploring how the project might be developed.



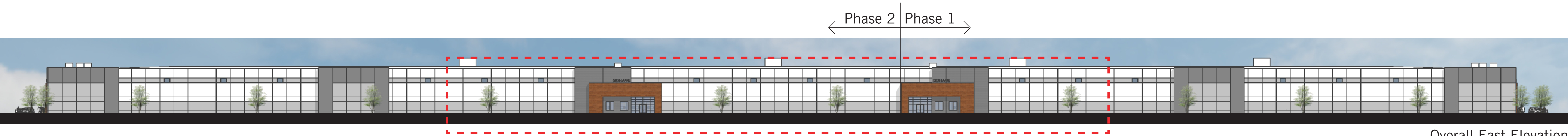
North Elevation



South Elevation



Partial East Elevation

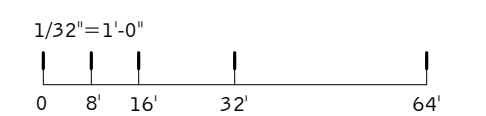
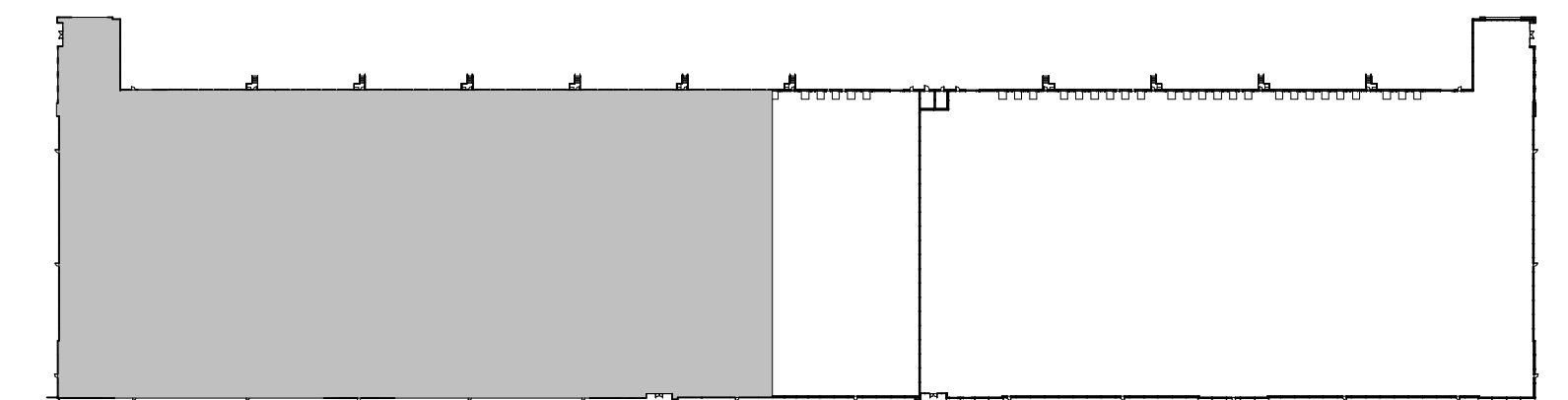
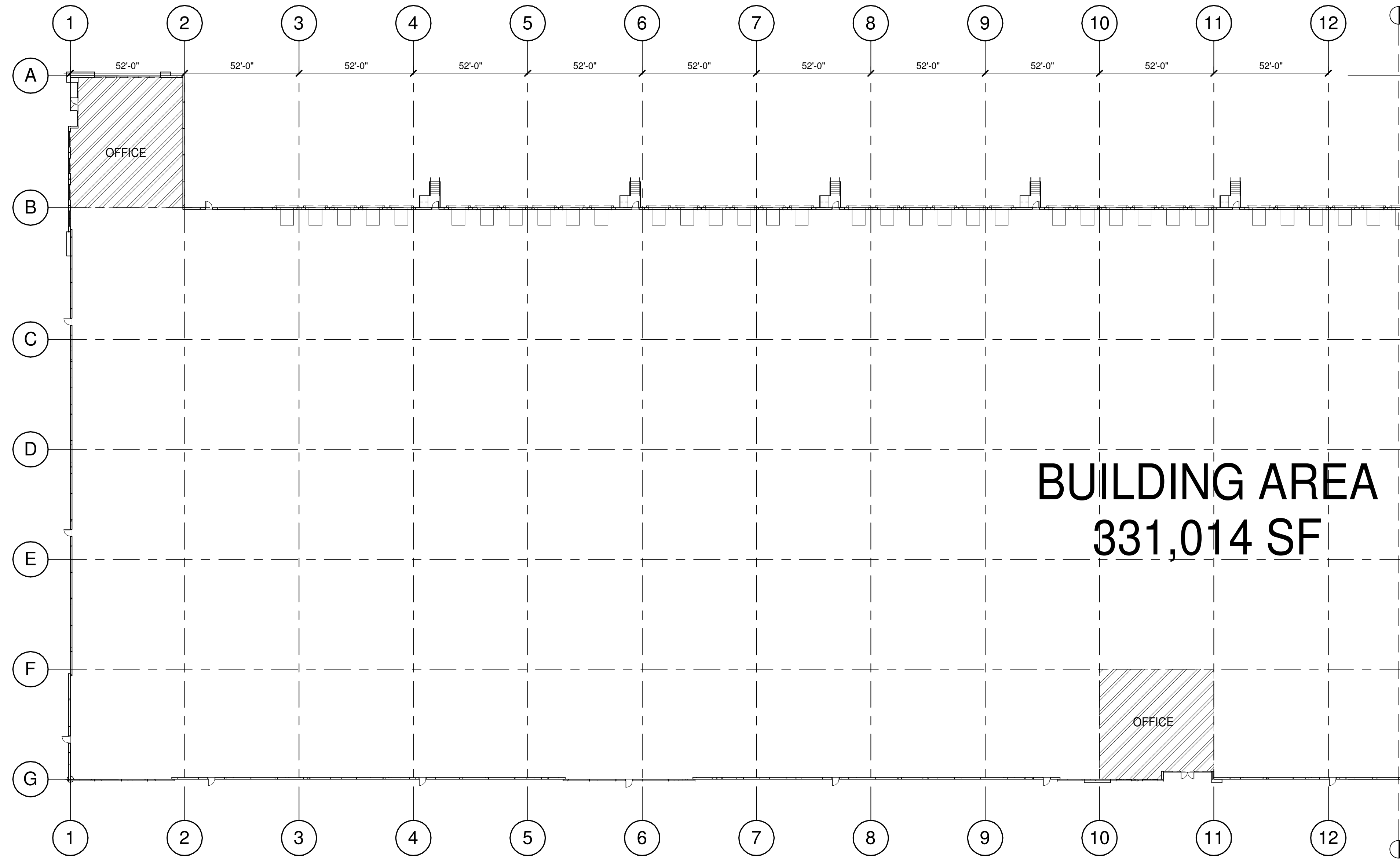


Overall East Elevation



West Elevation

This conceptual design is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information, and is intended merely to assist in exploring how the project might be developed.



HAMILTON
PARTNERS

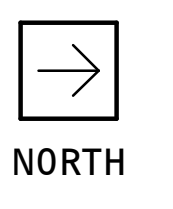
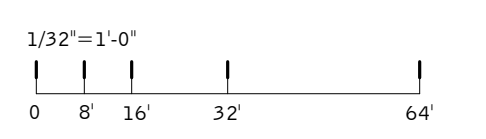
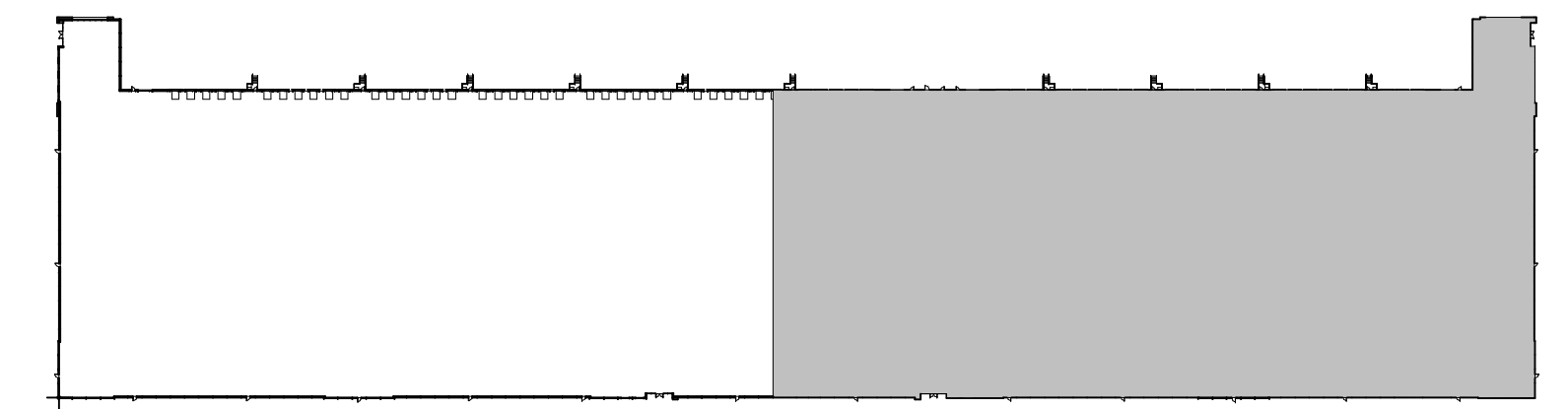
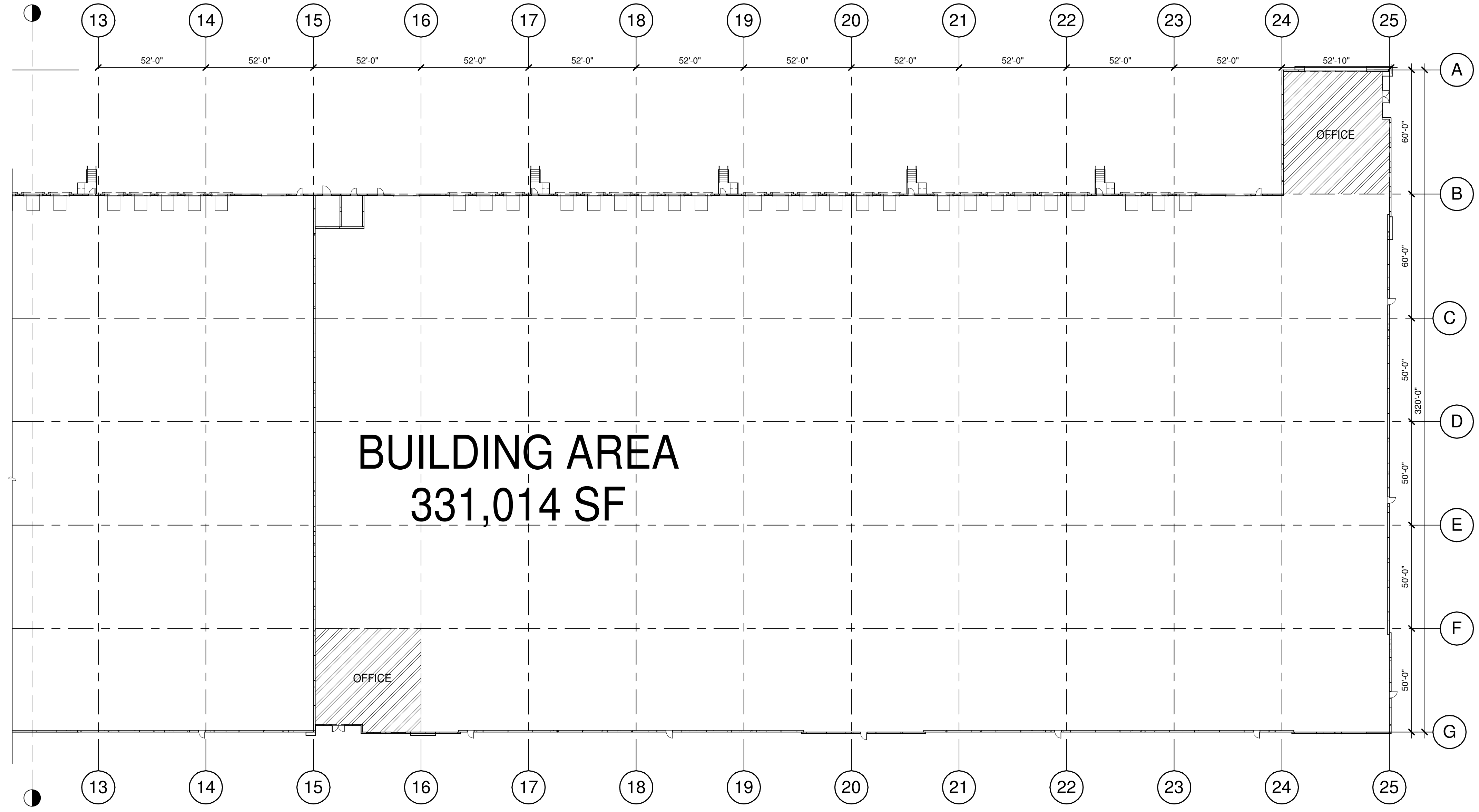
PROPOSED PARTIAL FLOOR PLAN

W ALGONQUIN ROAD
703-723 W. ALGONQUIN RD.
ARLINGTON HEIGHTS, IL

WARE MALCOMB

CHI16-0313-00
12/06/17

SHEET
1a



HAMILTON
PARTNERS

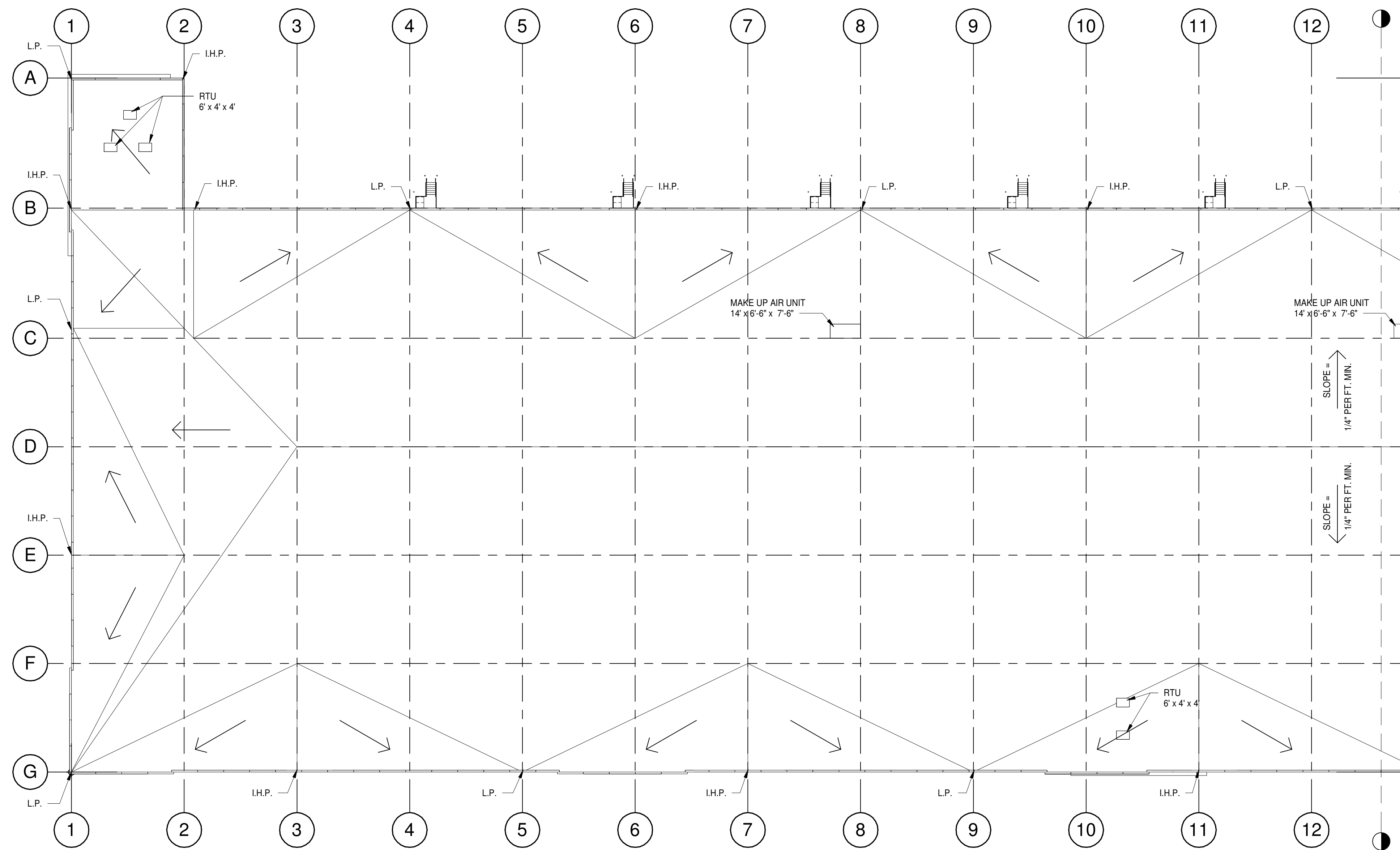
PROPOSED PARTIAL FLOOR PLAN

W ALGONQUIN ROAD
703-723 W. ALGONQUIN RD.
ARLINGTON HEIGHTS, IL

WARE MALCOMB

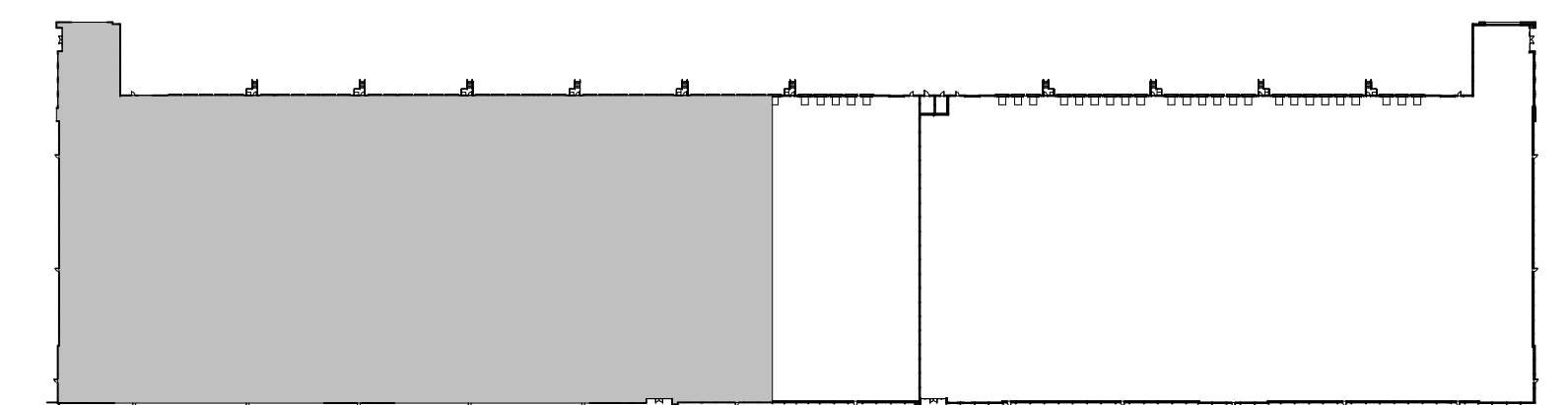
CHI16-0313-00
12/06/17

SHEET
1b



ROOF ELEVATION KEY

RIDGE/HIGH POINT: 39'-10"
 INTERMEDIATE HIGH POINT: 37'-8"
 LOW POINT: 36'-8"



HAMILTON
PARTNERS

PROPOSED PARTIAL ROOF PLAN

W ALGONQUIN ROAD
 703-723 W. ALGONQUIN RD.
 ARLINGTON HEIGHTS, IL

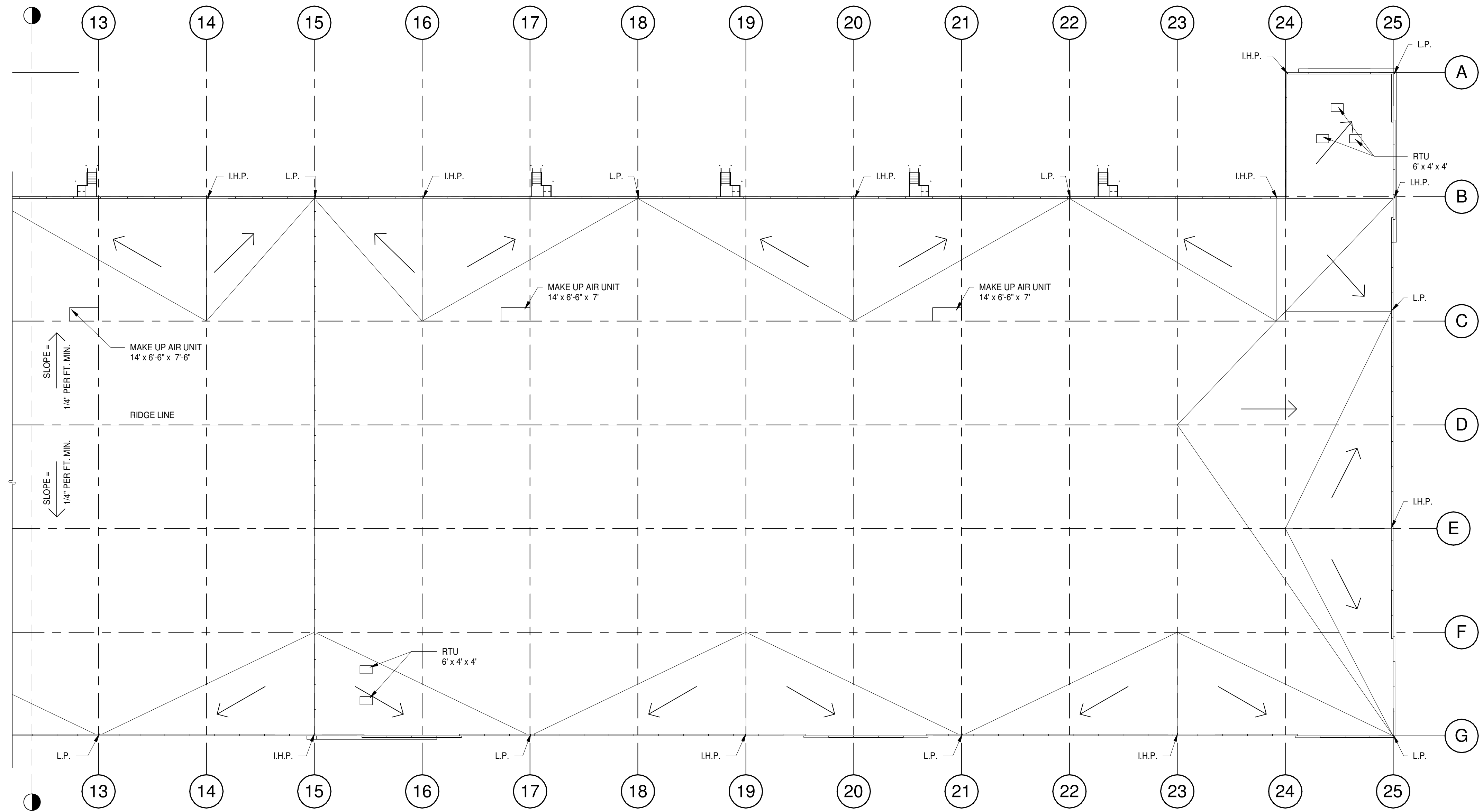
1/32"=1'-0"
 0 8' 16' 32' 64'



WARE MALCOMB

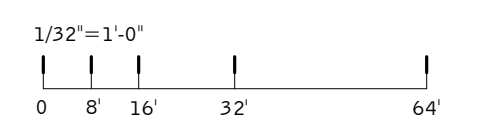
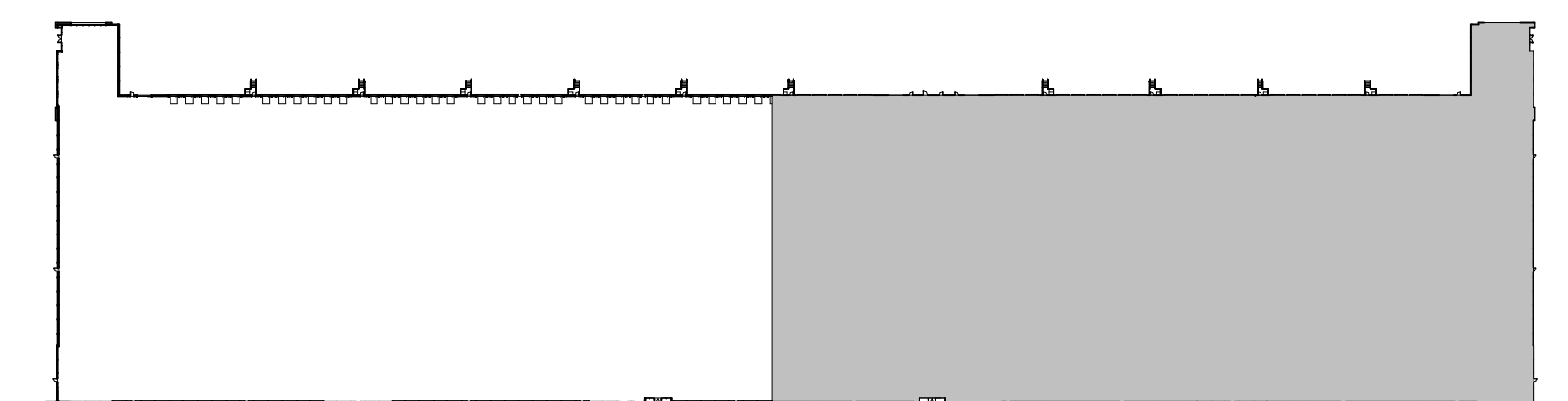
CHI16-0313-00
 12/06/17

SHEET
2a



ROOF ELEVATION KEY

RIDGE/HIGH POINT: 39'-10"
 INTERMEDIATE HIGH POINT: 37'-8"
 LOW POINT: 36'-8"



HAMILTON
PARTNERS

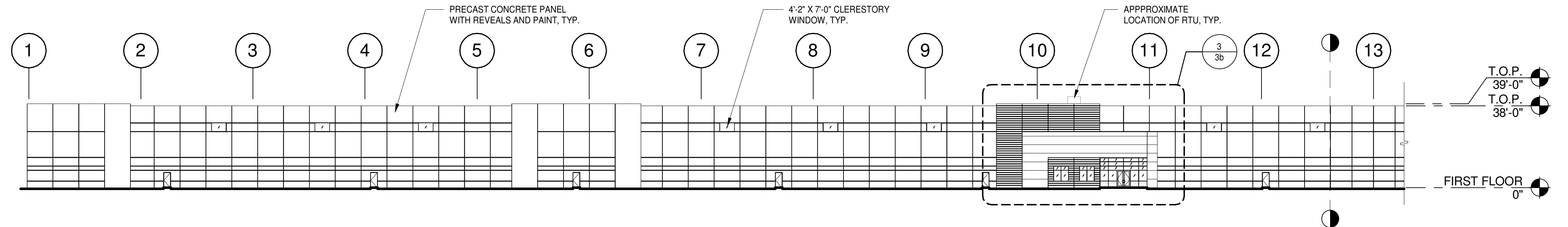
PROPOSED PARTIAL ROOF PLAN

W ALGONQUIN ROAD
 703-723 W. ALGONQUIN RD.
 ARLINGTON HEIGHTS, IL

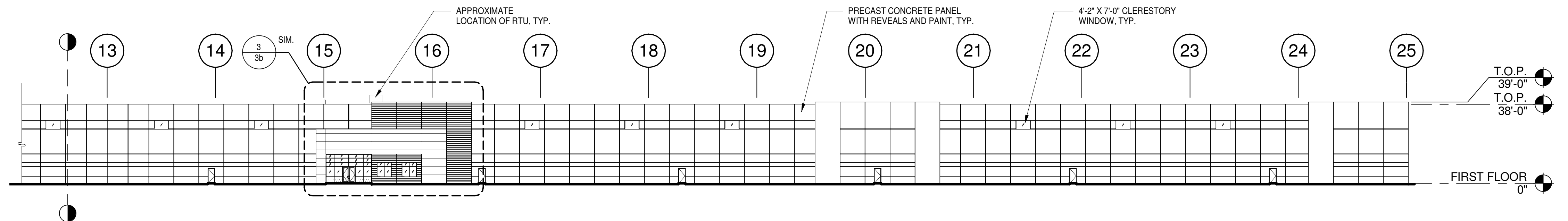
WARE MALCOMB

CHI16-0313-00
 12/06/17

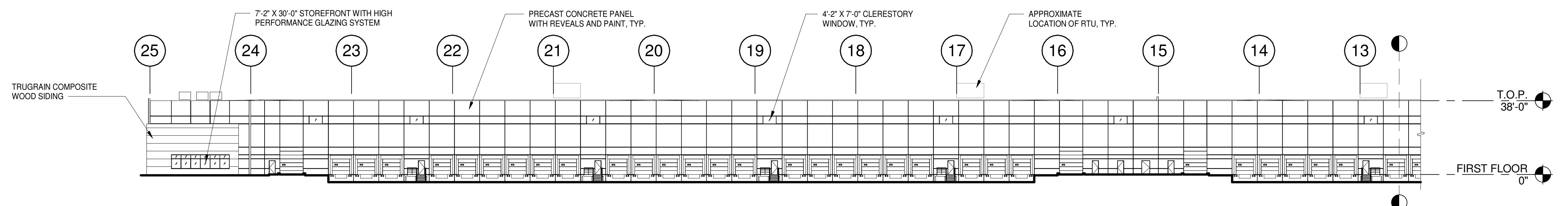
SHEET
2b



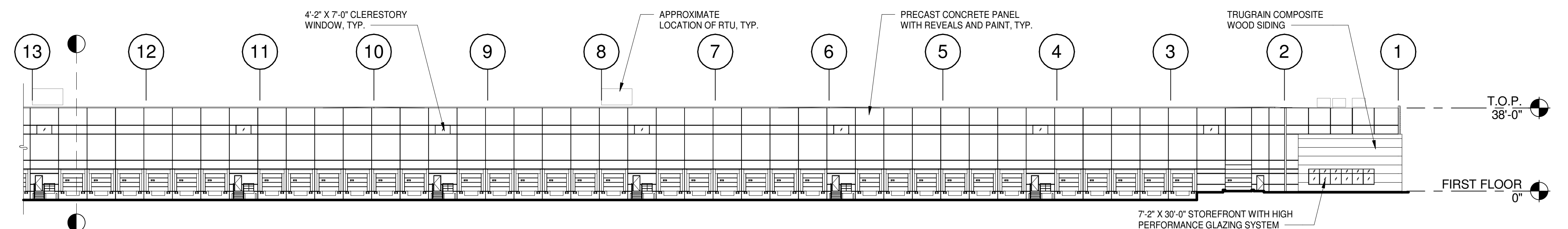
PARTIAL EAST EXTERIOR ELEVATION 1
SCALE: 1/32" = 1'-0"



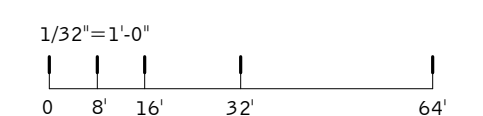
PARTIAL EAST EXTERIOR ELEVATION 2
SCALE: 1/32" = 1'-0"

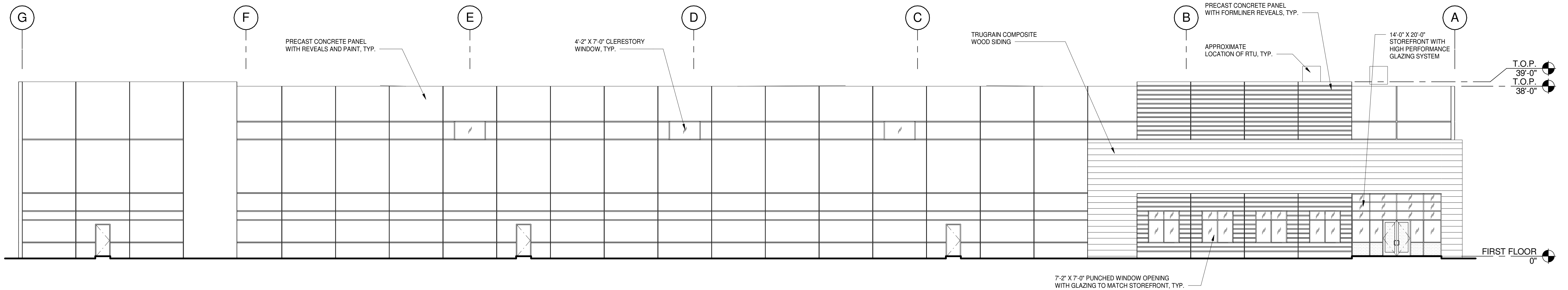


PARTIAL WEST EXTERIOR ELEVATION 3
SCALE: 1/32" = 1'-0"



PARTIAL WEST EXTERIOR ELEVATION 4
SCALE: 1/32" = 1'-0"

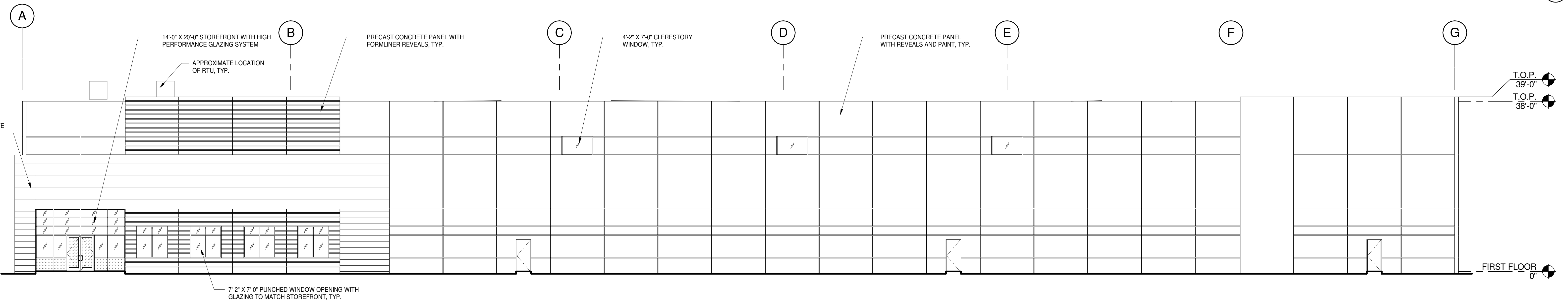




NORTH EXTERIOR ELEVATION

1

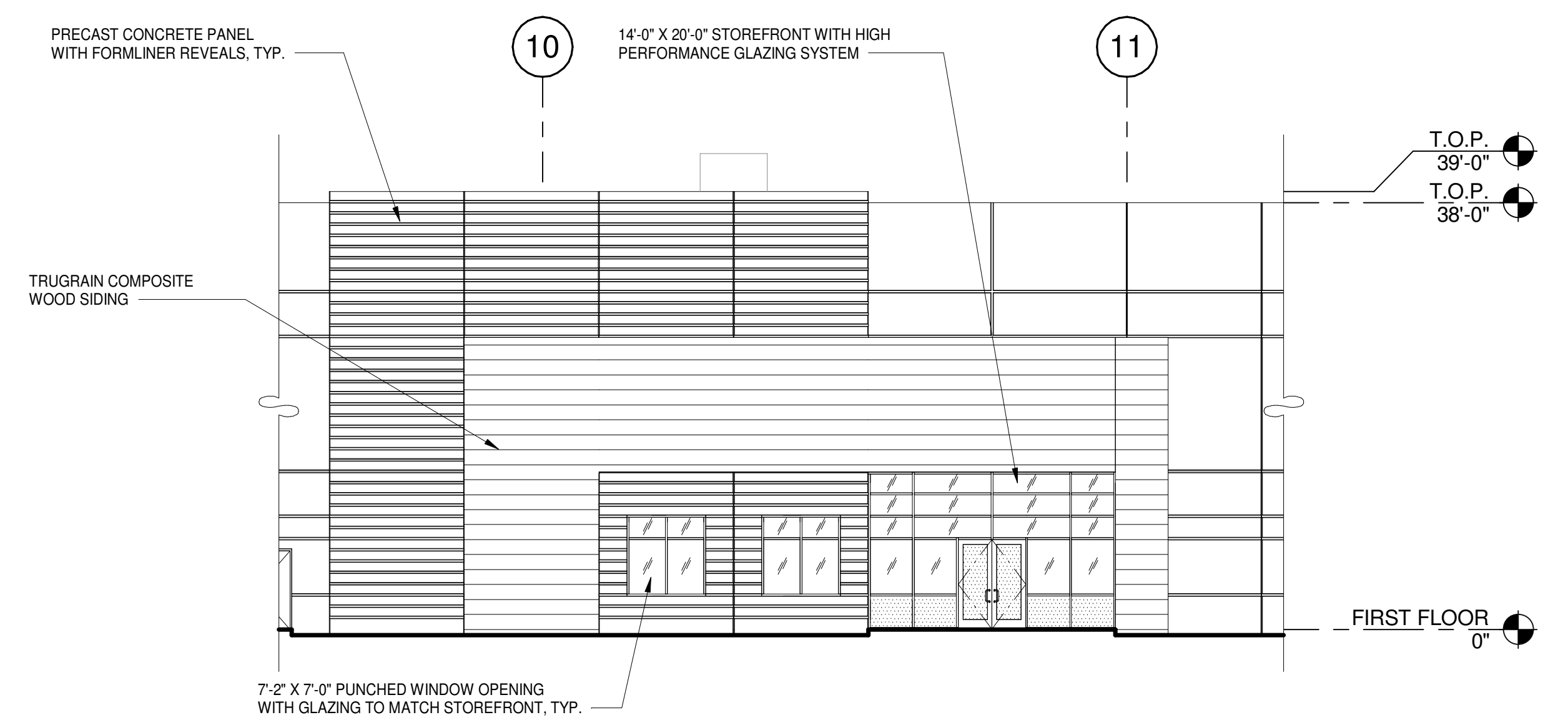
SCALE: 3/32" = 1'-0"



SOUTH EXTERIOR ELEVATION

2

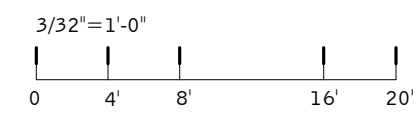
SCALE: 3/32" = 1'-0"

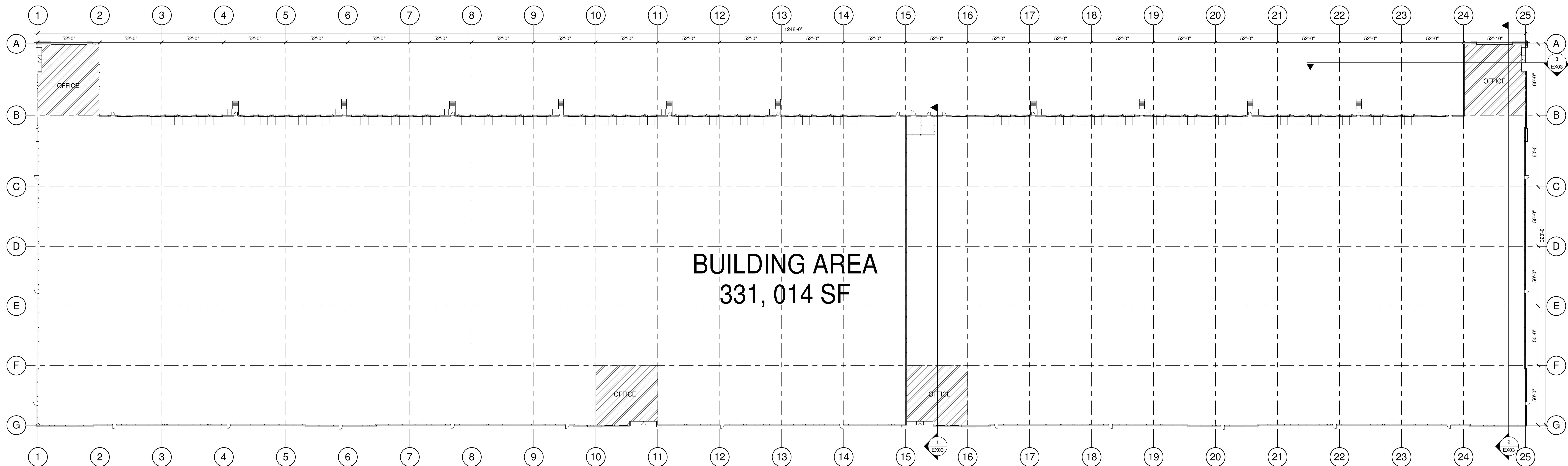


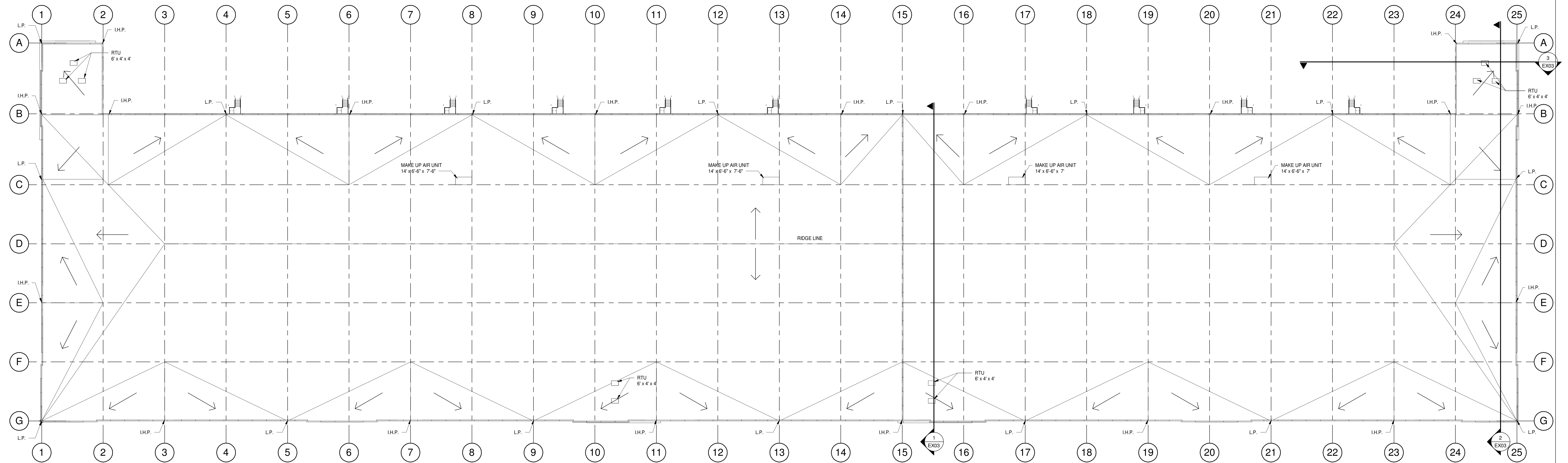
EAST ENLARGED ENTRY ELEVATION

3

SCALE: 3/32" = 1'-0"



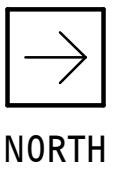




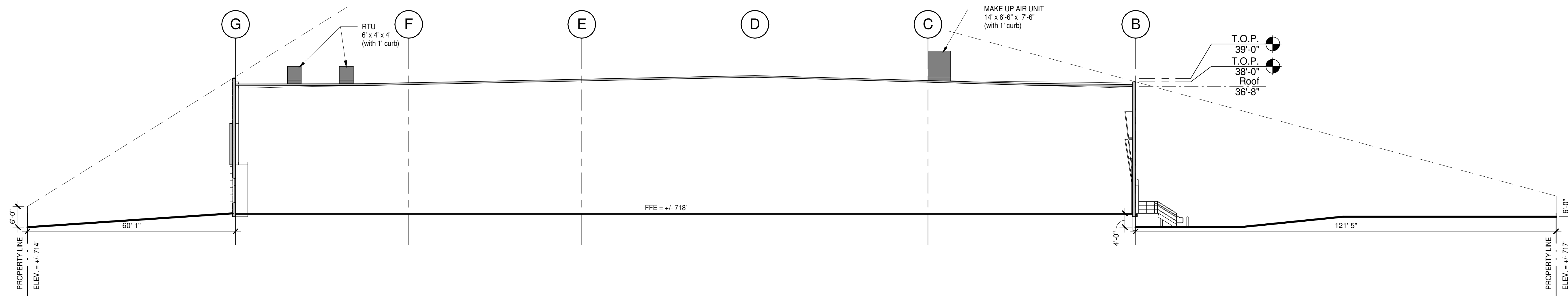
HAMILTON
PARTNERS

ROOF PLAN
W ALGONQUIN ROAD
703-723 W. ALGONQUIN RD.
ARLINGTON HEIGHTS, IL

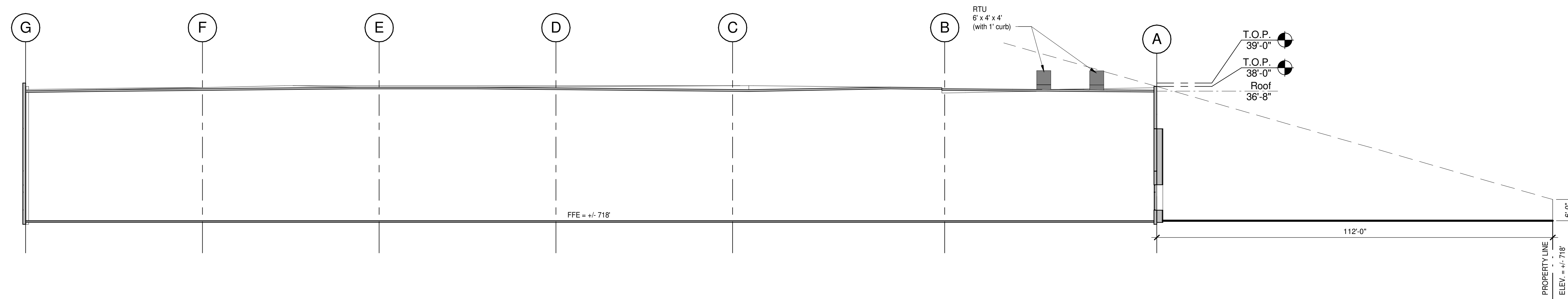
1/32"=1'-0"
0 8' 16' 32' 64'



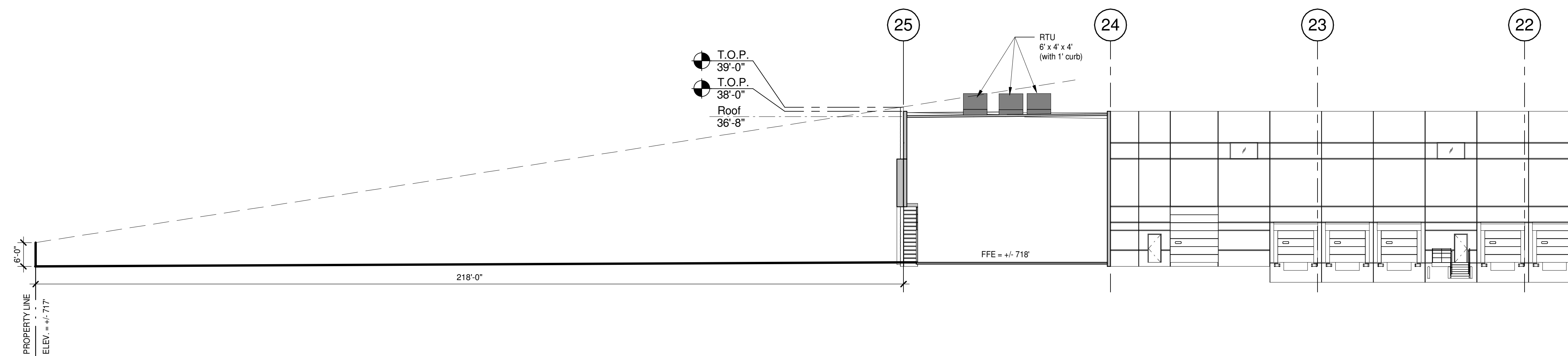
WARE MALCOMB
CHI16-0313-00
12/06/17
SHEET
EX02



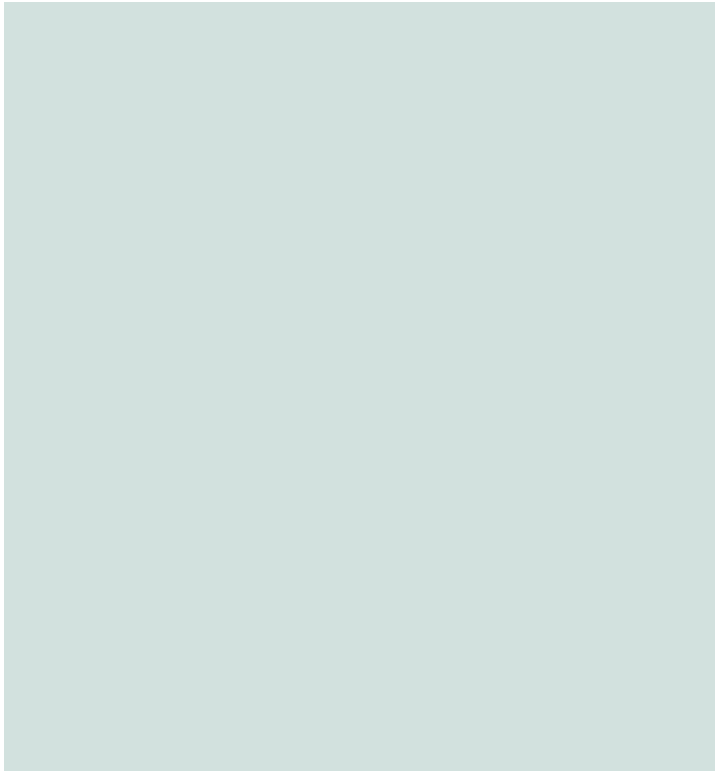
SECTION 1
SCALE: 1/16" = 1'-0"



SECTION 2
SCALE: 1/16" = 1'-0"



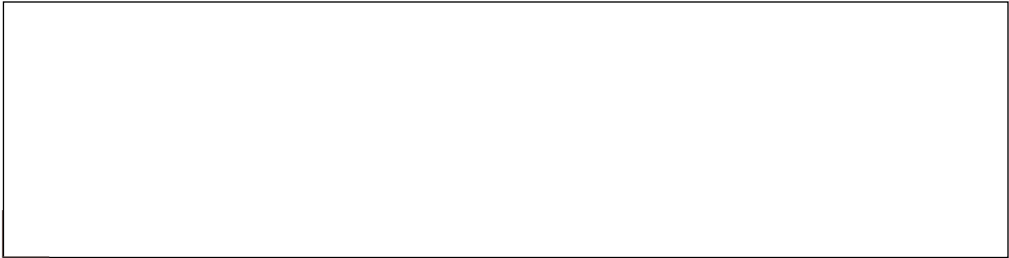
SECTION 3
SCALE: 1/16" = 1'-0"



C Glazing



B Composite Wood Siding



A1 Paint for Precast Panel - White



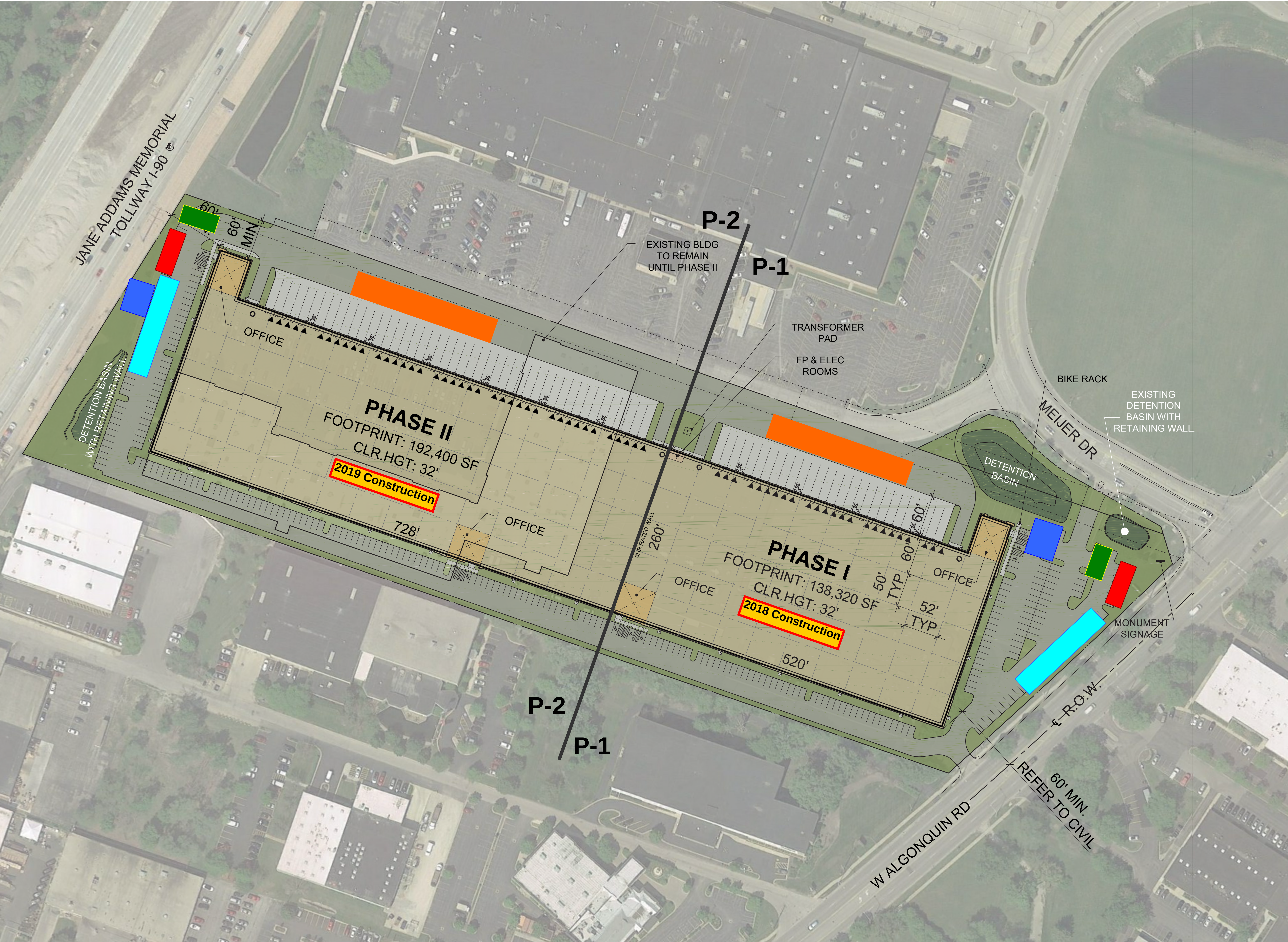
A2 Paint for Precast Panel - Medium Grey



A3 Paint for Precast Panel - Dark Grey



D Aluminum Storefront Framing



PROJECT DATA:			
BUILDING FOOTPRINT:		330,720 SF	
BUILDING USE:			
WAREHOUSE		319,800 SF	
OFFICE	@ 3%	10,920 SF	
PARKING PROVIDED:			
AUTO:		305 STALLS	
		@0.92/1000 SF	
TRAILER:		0 STALLS	
TRUCK DOCKS:			
▲ DOCK-HIGH DOORS		64	
● GRADE-LEVEL DOORS		4	
FAR:		.49	

Dumpster Area

Material Storage

Construction Trailer

Construction Worker's Parking + / - 30

Construction Vehicle Staging + / - 10

- Crane – Precast
- Trucking – Precast
- Concrete Trucks
- Dump Trucks
- Excavation Equipment
- Material Trucks
- Lifts
- Lulls
- Light Duty Trucks
- Trenchers

This conceptual design is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information, and is intended merely to assist in exploring how the project might be developed.

HAMILTON PARTNERS

SCHEME 12

Conceptual Site Plan

W ALGONQUIN ROAD
ARLINGTON HEIGHTS, IL

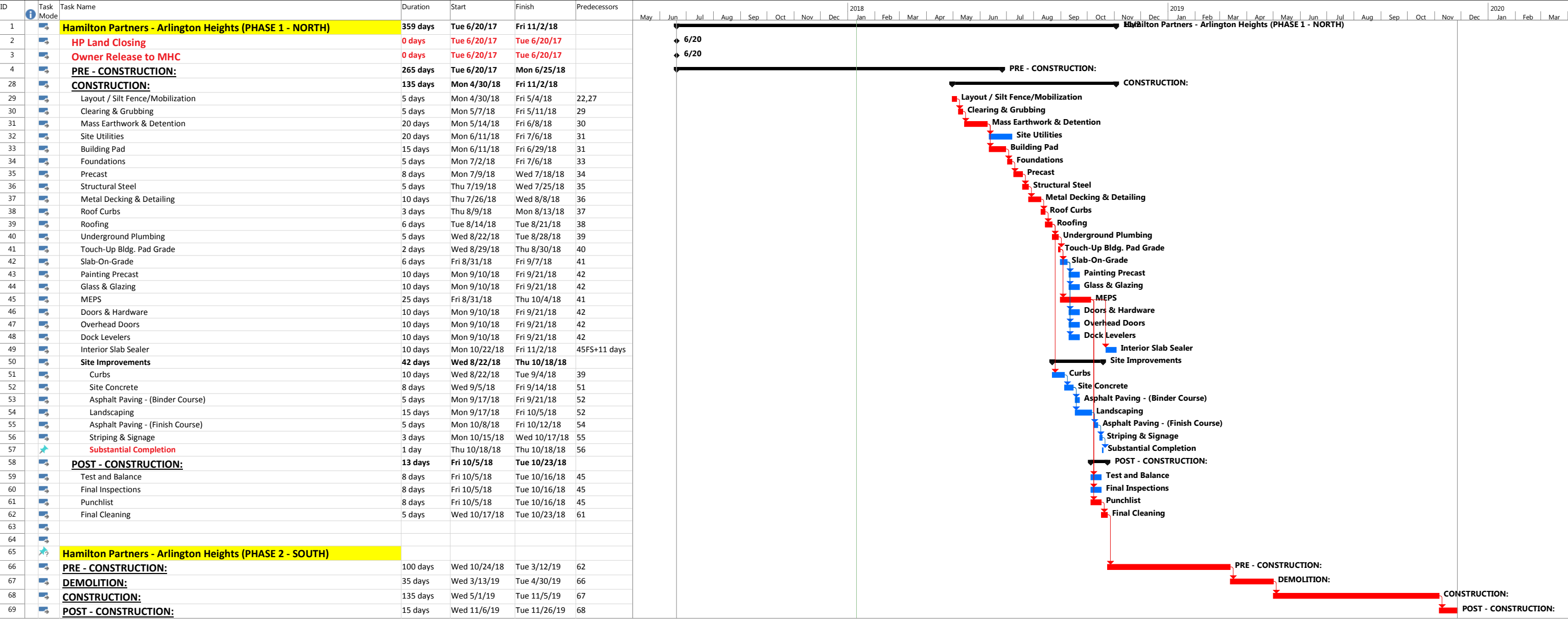
This conceptual design is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information, and is intended merely to assist in exploring how the project might be developed.



WARE MALCOMB

CHI16-0313-00
12.06.2017

SHEET
1



RWG ENGINEERING, LLC
CIVIL ENGINEERING — REAL ESTATE CONSULTING — PROJECT MANAGEMENT
ILLINOIS PROFESSIONAL DESIGN FIRM #184-006370
LIMITATION OF WARRANTY OF ENGINEER'S
INSTRUMENTS OF SERVICE

THE ENGINEER AND HIS CONSULTANTS DO NOT WARRANT OR GUARANTEE THE ACCURACY AND COMPLETENESS OF THE DELIVERABLES HEREIN BEYOND A REASONABLE DILIGENCE. IF ANY MISTAKES, OMISSIONS, OR DISCREPANCIES ARE FOUND TO EXIST WITHIN THE DELIVERABLES, THE ENGINEER SHALL BE PROMPTLY NOTIFIED SO THAT HE MAY HAVE THE OPPORTUNITY TO TAKE WHATEVER STEPS NECESSARY TO RESOLVE THEM. FAILURE TO PROMPTLY NOTIFY THE ENGINEER OF SUCH CONDITIONS SHALL ABSOLVE THE ENGINEER FROM ANY RESPONSIBILITY FOR THE CONSEQUENCES OF SUCH FAILURE. ACTIONS TAKEN WITHOUT THE KNOWLEDGE AND CONSENT TO THE ENGINEER OR IN CONTRADICTION TO THE ENGINEER'S DELIVERABLES OR RECOMMENDATIONS, SHALL BECOME THE RESPONSIBILITY NOT OF THE ENGINEER BUT OF THE PARTIES RESPONSIBLE FOR TAKING SUCH ACTION.

LEGEND		
	EXISTING	PROPOSED
SANITARY MANHOLE	⊙	⊙
STORM MANHOLE	⊙	⊙
CATCH BASIN	○	●
INLET	□	■
PRECAST FLARED END SECTION	▷	▷
CONCRETE HEADWALL	⌋	⌋
VALVE VAULT	⊗	⊗
VALVE BOX	⊞	⊞
FIRE HYDRANT	⌋	⌋
BUFFALO BOX	⊙	⊙
CLEANOUT	⊞	⊞
SANITARY SEWER	—	—
FORCE MAIN	—	—
STORM SEWER	—	—
WATER MAIN	—	—
CONSTRUCT WATER MAIN UNDER SEWER	—	—
GRANULAR TRENCH BACKFILL	—	—
STREET LIGHT	—	—
ELECTRICAL CABLE	—	—
2" CONDUIT ENCASEMENT	—	—
ELECTRICAL TRANSFORMER OR PEDESTAL	—	—
POWER POLE	—	—
STREET SIGN	—	—
GAS MAIN	—	—
TELEPHONE LINE	—	—
CONTOUR	—	—
SPOT ELEVATION	—	—
WETLANDS	—	—
FLOODWAY	—	—
FLOODPLAIN	—	—
HIGH WATER LEVEL (HWL)	—	—
NORMAL WATER LEVEL (NWL)	—	—
DIRECTION OF SURFACE FLOW	—	—
DITCH OR SWALE	—	—
OVERFLOW RELIEF ROUTING	—	—
SLOPE BANK	—	—
TREE WITH TRUNK SIZE	—	—
SOIL BORING	—	—
TOPSOIL PROBE	—	—
FENCE LINE, WIRE OR SILT	—	—
FENCE LINE, CHAIN LINK OR IRON	—	—
FENCE LINE, WOOD OR PLASTIC	—	—
CONCRETE SIDEWALK	—	—
CURB AND GUTTER	—	—
DEPRESSED CURB	—	—
REVERSE PITCH CURB & GUTTER	—	—
EASEMENT LINE	—	—

ABBREVIATIONS			
BL	BASE LINE	NWL	NORMAL WATER LEVEL
C	LONG CHORD OF CURVE	PC	POINT OF CURVATURE
C & G	CURB AND GUTTER	PT	POINT OF TANGENCY
CB	CATCH BASIN	PVI	POINT OF VERTICAL INTERSECTION
CL	CENTERLINE	R	RADIUS
D	DEGREE OF CURVE	ROW	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT	SAN	SANITARY SEWER
FF	FINISHED FLOOR	ST	STORM SEWER
FG	FINISHED GRADE	T	TANGENCY OF CURVE
FL	FLOW LINE	TB	TOP OF BANK
FP	FLOODPLAIN	TC	TOP OF CURB
FR	FRAME	TF	TOP OF FOUNDATION
FW	FLOODWAY	TP	TOP OF PIPE
HWL	HIGH WATER LEVEL	TS	TOP OF SIDEWALK
INV	INVERT	TW	TOP OF WALK
L	LENGTH OF CURVE	WM	WATER MAIN
MH	MANHOLE	Δ	INTERSECTION ANGLE



Formerly JULIE 1-800-892-0123

FINAL ENGINEERING PLANS

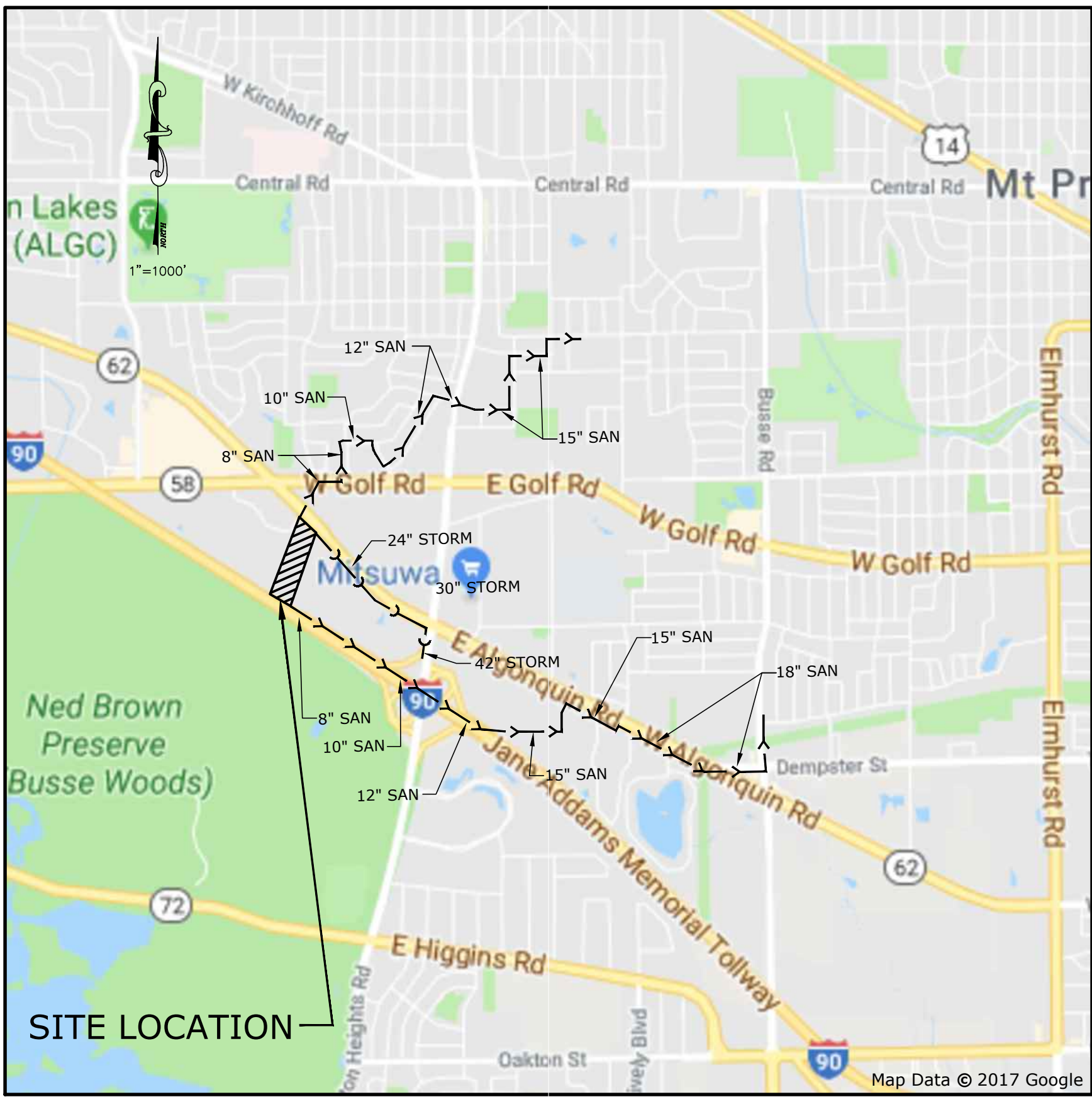
FOR

ARLINGTON HEIGHTS INDUSTRIAL

703-723 W. ALGONQUIN ROAD

ARLINGTON HEIGHTS, IL

LOCATION MAP



SITE LOCATION

GENERAL NOTES

- The contractor shall notify the following governmental agencies at least two working days prior to commencement of construction:
 - Village of Arlington Heights Public Works Department (847-368-5800)
 - MWRD local sewer systems Field Office (708-588-4055)
- The contractor shall notify all utility companies and arrange for their facilities to be located prior to work in any easement, right-of-way, or suspected utility location. Repair of any damage to existing facilities shall be the responsibility of the contractor. Utility locations shown herein are for graphic illustration only and are not to be relied upon.
- Elevations shown herein reflect NAVD 1988 datum.
- The boundary and topographic survey data for this project is based on a field survey prepared by Gentile and Associates, dated August 9, 2017. The contractor shall verify existing conditions prior to commencing construction and shall immediately notify the engineer in writing of any differing conditions.
- RWG Engineering, LLC, its employees and agents are not responsible for the safety of any party at or on the construction site. Safety is the sole responsibility of the contractor, and any other entity performing work at the site. Neither the owner nor the engineer assumes any responsibility for job site safety or for the means, methods or sequences of construction.
- Prior to commencement of any offsite construction, the contractor shall secure written authorization that all offsite easements have been secured, and that permission has been granted to enter onto private property.
- Except where modified by the contract documents, all work proposed hereon shall be in accordance with the following specifications, which are hereby made a part hereof:
 - "Standard Specifications for Road and Bridge Construction in Illinois," as prepared by I.D.O.T. latest edition.
 - "Standard Specifications for Water and Sewer Main Construction in Illinois," latest edition.
 - "Illinois Recommended Standards for Sewage Works," as published by the I.E.P.A., latest edition.
 - The subdivision and development codes and standards of the Village of Arlington Heights, as published by the Municipality.
 - "Illinois Accessibility Code" as published by the State of Illinois Capital Development Board, effective April 24, 1997.
 - The National Electric Code.
 - "Illinois Urban Manual" as prepared by the U.S. Dept. of Agriculture latest edition.
 - Standards and specifications of the Metropolitan Water Reclamation District (MWRD) — Local sewer systems section.
- The Village of Arlington Heights "A Manual of Practice for the Design of Public & Private Improvements" and Development Ordinance and the MWRD requirements shall take precedence if a conflict in project specifications occurs.

PLANS PREPARED FOR
MORGAN HARBOUR CONSTRUCTION LLC
7510 SOUTH MADISON STREET
WILLOWBROOK, ILLINOIS 60527
(630)734-7737

INDEX OF SHEETS

- TITLE SHEET
- EXISTING CONDITIONS PLAN — PHASE 1
- EXISTING CONDITIONS PLAN — PHASE 2
- DEMOLITION PLAN — PHASE 1
- DEMOLITION PLAN — PHASE 2
- MASTER DEVELOPMENT PLAN — PHASE 1 & 2
- SITE GEOMETRIC AND PAVING PLAN — PHASE 1
- SITE GEOMETRIC AND PAVING PLAN — PHASE 2
- SOIL EROSION & SEDIMENT CONTROL (SESC) PLAN — PHASE 1
- SOIL EROSION & SEDIMENT CONTROL (SESC) PLAN — PHASE 2
- SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS
- GRADING PLAN — PHASE 1
- GRADING PLAN — PHASE 2
- GRADING DETAILS — PHASE 1 & 2
- UTILITY PLAN — PHASE 1
- UTILITY PLAN — PHASE 2
- PLAN AND PROFILE — PHASE 1 & 2
- PROJECT NOTES AND SPECIFICATIONS
- CONSTRUCTION DETAILS AND STANDARDS
- CONSTRUCTION DETAILS AND STANDARDS

ATTACHMENTS

- UNDERGROUND DETENTION SYSTEM NOTES AND DETAILS

BENCHMARKS

BASIS OF BEARING:
ILLINOIS STATE PLANE COORDINATE SYSTEM EAST ZONE.
BENCHMARK: NGS PID DM3900
SURVEY DISK SET ON THE TOP OF THE SOUTH END OF THE EAST ABUTMENT OF THE GOLF ROAD BRIDGE NO 016-0349 OVER SALT CREEK, APPROXIMATELY 0.3 MI (0.5 KM) WEST OF THE INTERSECTION OF GOLF ROAD WITH NEW WILKE ROAD, 3 FT (0.9 M) SOUTH OF A CHAIN LINK FENCE.
THE STATION IS LOCATED ABOUT 7.4 MI (11.9 KM) SOUTHWEST OF WHEELING, 4.3 MI (6.9 KM) SOUTH-SOUTHEAST OF PALATINE AND 3.0 MI (4.8 KM) SOUTH-SOUTHWEST OF ARLINGTON HEIGHTS. OWNERSHIP—ROAD RIGHT-OF-WAY.
ELEV. =695.85 (NAVD 88 DATUM)
SITE BENCHMARK:
CROSS CUT IN WALK ON THE SOUTH SIDE OF ALGONQUIN ROAD IN FRONT OF SUBJECT PROPERTY.
ELEV. = 616.17

PRELIMINARY FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REVISIONS		DATE	BY
1	12/06/17	VILLAGE ROUND ONE COMMENTS	TLW
2	07/09/18	VILLAGE ROUND TWO COMMENTS	TLW

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
TITLE SHEET

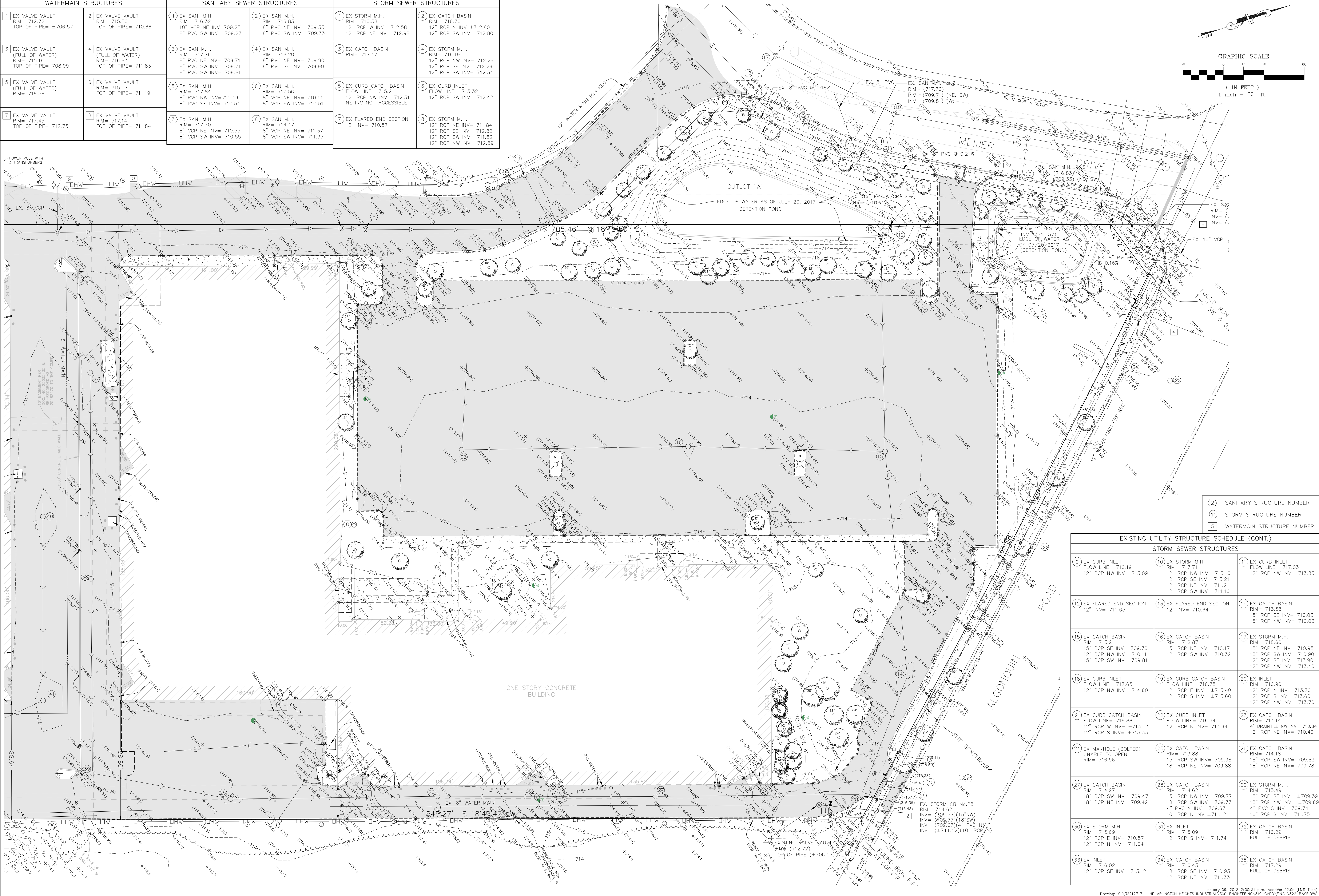
975 E. 22nd St, Suite 400
Wheaton, IL 60189
630-480-7889
www.rwg-engineering.com

RWG
Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management

PROJECT NO. 32212717
DATE 10/17/17
SCALE NONE
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLW

SHEET
1 OF 20

EXISTING UTILITY STRUCTURE SCHEDULE		EXISTING UTILITY STRUCTURE SCHEDULE (CONT.)		EXISTING UTILITY STRUCTURE SCHEDULE (CONT.)	
WATERMAIN STRUCTURES		SANITARY SEWER STRUCTURES		STORM SEWER STRUCTURES	
1 EX VALVE VAULT RIM= 712.72 TOP OF PIPE= ±706.57	2 EX VALVE VAULT RIM= 715.56 TOP OF PIPE= 710.66	1 EX SAN. M.H. RIM= 716.32 10" VCP NE INV= 709.25 8" PVC SW INV= 709.27	2 EX SAN M.H. RIM= 716.83 8" PVC NE INV= 709.33 8" PVC SW INV= 709.33	1 EX STORM M.H. RIM= 716.58 12" RCP W INV= 712.58 12" RCP NE INV= 712.98	2 EX CATCH BASIN RIM= 716.70 12" RCP N INV= ±712.80 12" RCP SW INV= 712.80
3 EX VALVE VAULT (FULL OF WATER) RIM= 715.19 TOP OF PIPE= 708.99	4 EX VALVE VAULT (FULL OF WATER) RIM= 716.93 TOP OF PIPE= 711.83	3 EX SAN. M.H. RIM= 717.76 8" PVC NE INV= 709.71 8" PVC SW INV= 709.71 8" PVC SW INV= 709.81	4 EX SAN M.H. RIM= 718.20 8" PVC NE INV= 709.90 8" PVC SE INV= 709.90	3 EX CATCH BASIN RIM= 717.47	4 EX STORM M.H. RIM= 716.19 12" RCP NW INV= 712.26 12" RCP SE INV= 712.29 12" RCP SW INV= 712.34
5 EX VALVE VAULT (FULL OF WATER) RIM= 716.58	6 EX VALVE VAULT RIM= 715.57 TOP OF PIPE= 711.19	5 EX SAN. M.H. RIM= 717.84 8" PVC NW INV= 710.49 8" PVC SE INV= 710.54	6 EX SAN M.H. RIM= 717.56 8" PVC NE INV= 710.51 8" VCP SW INV= 710.51	5 EX CURB CATCH BASIN FLOW LINE= 715.21 12" RCP NW INV= 712.31 NE INV NOT ACCESSIBLE	6 EX CURB INLET FLOW LINE= 715.32 12" RCP SW INV= 712.42
7 EX VALVE VAULT RIM= 717.45 TOP OF PIPE= 712.75	8 EX VALVE VAULT RIM= 717.14 TOP OF PIPE= 711.84	7 EX SAN. M.H. RIM= 717.70 8" VCP NE INV= 710.55 8" VCP SW INV= 710.55	8 EX SAN M.H. RIM= 714.47 8" VCP NE INV= 711.37 8" VCP SW INV= 711.37	7 EX FLARED END SECTION 12" INV= 710.57	8 EX STORM M.H. RIM= 711.84 12" RCP NE INV= 711.84 12" RCP SE INV= 712.82 12" RCP SW INV= 711.82 12" RCP NW INV= 712.89

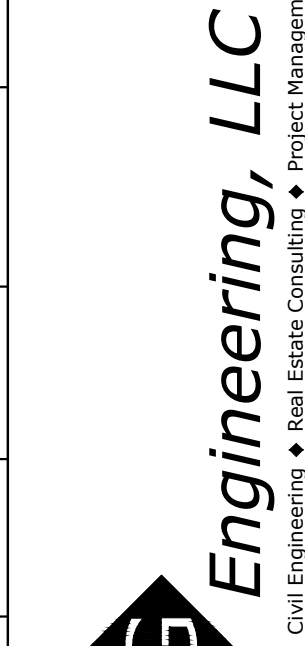


EXISTING UTILITY STRUCTURE SCHEDULE (CONT.)				
STORM SEWER STRUCTURES				
9 EX CURB INLET FLOW LINE= 716.19 12" RCP NW INV= 713.09	10 EX STORM M.H. RIM= 717.71 12" RCP NW INV= 713.16 12" RCP SE INV= 713.21 12" RCP NE INV= 711.21 12" RCP SW INV= 711.16	11 EX CURB INLET FLOW LINE= 717.03 12" RCP NW INV= 713.83		
12 EX FLARED END SECTION 12" INV= 710.65	13 EX FLARED END SECTION 12" INV= 710.64	14 EX CATCH BASIN RIM= 713.58 15" RCP SE INV= 710.03 15" RCP NW INV= 710.03		
15 EX CATCH BASIN RIM= 713.21 15" RCP SE INV= 709.70 12" RCP NW INV= 710.11 15" RCP SW INV= 709.81	16 EX CATCH BASIN RIM= 712.87 15" RCP NE INV= 710.17 12" RCP SW INV= 710.32	17 EX STORM M.H. RIM= 718.60 18" RCP NE INV= 710.95 18" RCP SW INV= 710.90 12" RCP SE INV= 713.90 12" RCP NW INV= 713.40		
18 EX CURB INLET FLOW LINE= 716.65 12" RCP NW INV= 714.60	19 EX CURB CATCH BASIN FLOW LINE= 716.75 12" RCP E INV= ±713.40 12" RCP S INV= ±713.60	20 EX INLET RIM= 716.90 12" RCP N INV= 713.70 12" RCP S INV= 713.60 12" RCP NW INV= 713.70		
21 EX CURB CATCH BASIN FLOW LINE= 716.88 12" RCP W INV= ±713.53 12" RCP S INV= ±713.33	22 EX CURB INLET FLOW LINE= 716.94 12" RCP N INV= 713.94	23 EX CATCH BASIN RIM= 713.14 4" DRAINILE NW INV= 710.84 12" RCP NE INV= 710.49		
24 EX MANHOLE (BOLTED) UNABLE TO OPEN RIM= 716.96	25 EX CATCH BASIN RIM= 714.62 15" RCP SW INV= 709.98 18" RCP NE INV= 709.88	26 EX CATCH BASIN RIM= 713.58 18" RCP SW INV= 709.83 18" RCP NE INV= 709.78		
27 EX CATCH BASIN RIM= 714.62 18" RCP SW INV= 709.47 18" RCP NE INV= 709.42	28 EX CATCH BASIN RIM= 714.62 15" RCP NW INV= 709.77 18" RCP NW INV= 709.77 4" PVC N INV= 709.67 10" RCP N INV= ±711.12 (10" RCP N)	29 EX STORM M.H. RIM= 715.49 18" RCP SE INV= ±709.39 18" RCP NW INV= ±709.69 4" PVC S INV= 709.74 10" RCP S INV= 711.75		
30 EX STORM M.H. RIM= 715.69 12" RCP E INV= 710.57 12" RCP N INV= 711.64	31 EX INLET RIM= 715.09 12" RCP S INV= 711.74	32 EX CATCH BASIN RIM= 716.29 FULL OF DEBRIS		
33 EX INLET RIM= 716.02 12" RCP SE INV= 713.12	34 EX CATCH BASIN RIM= 716.43 18" RCP SE INV= 710.93 12" RCP NE INV= 711.33	35 EX CATCH BASIN RIM= 717.29 FULL OF DEBRIS		

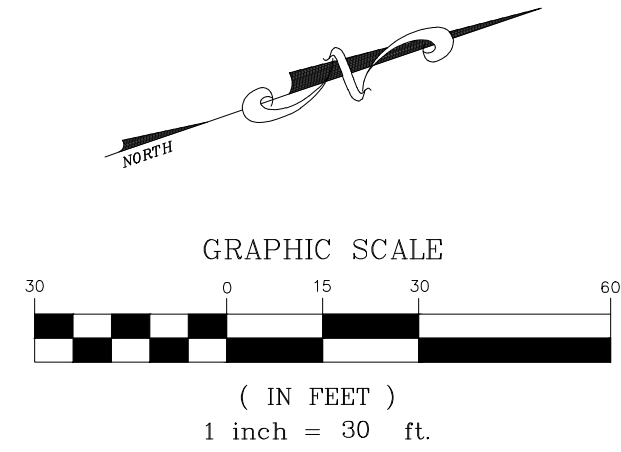
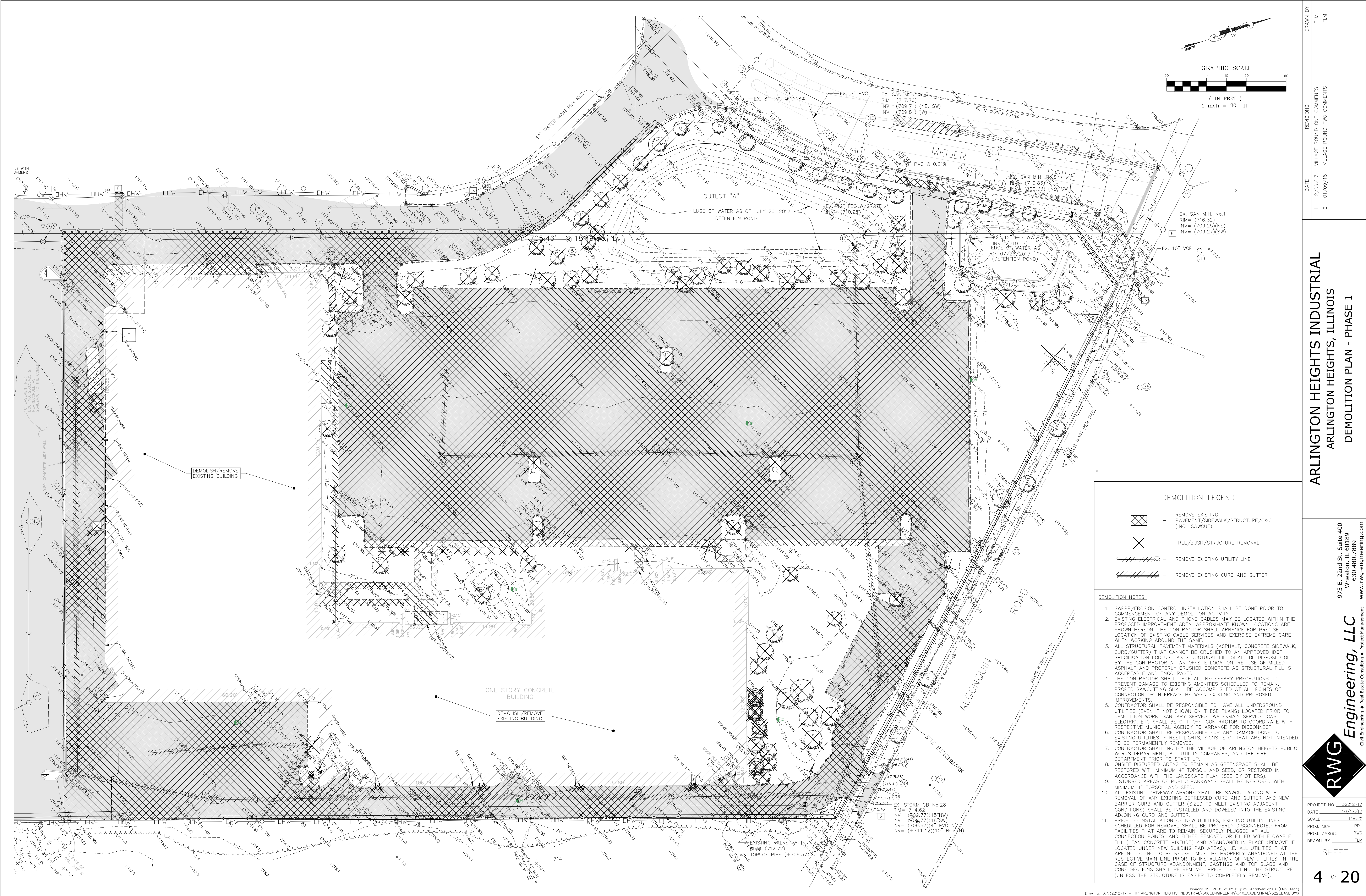
DRAWN BY		REVISIONS	
DATE	12/06/17	1	VILLAGE ROUND ONE COMMENTS
	01/09/18	2	VILLAGE ROUND TWO COMMENTS

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
EXISTING CONDITIONS PLAN - PHASE 1

975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7899
www.rwg-engineering.com



PROJECT NO. 32212717
DATE 10/17/17
SCALE 1"=30'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM



DEMOLITION LEGEND

- REMOVE EXISTING PAVEMENT/SIDEWALK/STRUCTURE/C&G (INCL SAWCUT)
- TREE/BUSH/STRUCTURE REMOVAL
- REMOVE EXISTING UTILITY LINE
- REMOVE EXISTING CURB AND GUTTER

DEMOLITION NOTES:

- SWPPP/EROSION CONTROL INSTALLATION SHALL BE DONE PRIOR TO COMMENCEMENT OF ANY DEMOLITION ACTIVITY.
- EXISTING ELECTRICAL AND PHONE CABLES MAY BE LOCATED WITHIN THE PROPOSED IMPROVEMENT AREA. APPROXIMATE KNOWN LOCATIONS ARE SHOWN HEREON. THE CONTRACTOR SHALL ARRANGE FOR PRECISE LOCATION OF EXISTING CABLE SERVICES AND EXERCISE EXTREME CARE WHEN WORKING AROUND THE SAME.
- ALL STRUCTURAL PAVEMENT MATERIALS (ASPHALT, CONCRETE SIDEWALK, CURB/GUTTER) THAT CANNOT BE CRUSHED TO AN APPROVED IDOT SPECIFICATION FOR USE AS STRUCTURAL FILL SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN OFFSITE LOCATION. RE-USE OF MILLED ASPHALT AND PROPERLY CRUSHED CONCRETE AS STRUCTURAL FILL IS ACCEPTABLE AND ENCOURAGED.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO EXISTING AMENITIES SCHEDULED TO REMAIN. PROPER SAWCUTTING SHALL BE ACCOMPLISHED AT ALL POINTS OF CONNECTION OR INTERFACE BETWEEN EXISTING AND PROPOSED IMPROVEMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL UNDERGROUND UTILITIES (EVEN IF NOT SHOWN ON THESE PLANS) LOCATED PRIOR TO DEMOLITION WORK. SANITARY SERVICE, WATERMAIN SERVICE, GAS, ELECTRIC, ETC SHALL BE CUT-OFF. CONTRACTOR TO COORDINATE WITH RESPECTIVE MUNICIPAL AGENCY TO ARRANGE FOR DISCONNECT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO EXISTING UTILITIES, STREET LIGHTS, SIGNS, ETC. THAT ARE NOT INTENDED TO BE PERMANENTLY REMOVED.
- CONTRACTOR SHALL NOTIFY THE VILLAGE OF ARLINGTON HEIGHTS PUBLIC WORKS DEPARTMENT, ALL UTILITY COMPANIES, AND THE FIRE DEPARTMENT PRIOR TO START UP.
- ON-SITE DISTURBED AREAS TO REMAIN AS GREENSPACE SHALL BE RESTORED WITH MINIMUM 4" TOPSOIL AND SEED, OR RESTORED IN ACCORDANCE WITH THE LANDSCAPE PLAN (SEE BY OTHERS).
- DISTURBED AREAS OF PUBLIC PARKWAYS SHALL BE RESTORED WITH MINIMUM 4" TOPSOIL AND SEED.
- ALL EXISTING DRIVEWAY APRONS SHALL BE SAWCUT ALONG WITH REMOVAL OF ANY EXISTING DEPRESSED CURBS AND GUTTER, AND NEW BARRIER CURB AND GUTTER (SIZED TO MEET EXISTING ADJACENT CONDITIONS) SHALL BE INSTALLED AND DOWELED INTO THE EXISTING ADJOINING CURB AND GUTTER.
- PRIOR TO INSTALLATION OF NEW UTILITIES, EXISTING UTILITY LINES SCHEDULED FOR REMOVAL SHALL BE PROPERLY DISCONNECTED FROM FACILITIES THAT ARE TO REMAIN, SECURELY PLUGGED AT ALL CONNECTION POINTS, AND EITHER REMOVED OR FILLED WITH FLOWABLE FILL (LEAN CONCRETE MIXTURE) AND ABANDONED IN PLACE (REMOVE IF LOCATED UNDER NEW BUILDING PAD AREAS), I.E. ALL UTILITIES THAT ARE NOT GOING TO BE REUSED MUST BE PROPERLY ABANDONED AT THE RESPECTIVE MAIN LINE PRIOR TO INSTALLATION OF NEW UTILITIES. IN THE CASE OF STRUCTURE ABANDONMENT, CASTINGS AND TOP SLABS AND CONE SECTIONS SHALL BE REMOVED PRIOR TO FILLING THE STRUCTURE (UNLESS THE STRUCTURE IS EASIER TO COMPLETELY REMOVE).

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
DEMOLITION PLAN - PHASE 1

975 E. 22nd St, Suite 400
Winneton, IL 60189
630-480-7889
www.rwg-engineering.com

Engineering, LLC

Civil Engineering • Real Estate Consulting • Project Management

PROJECT NO. 32212717
DATE 10/12/17
SCALE 1"=30'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET
4 OF 20

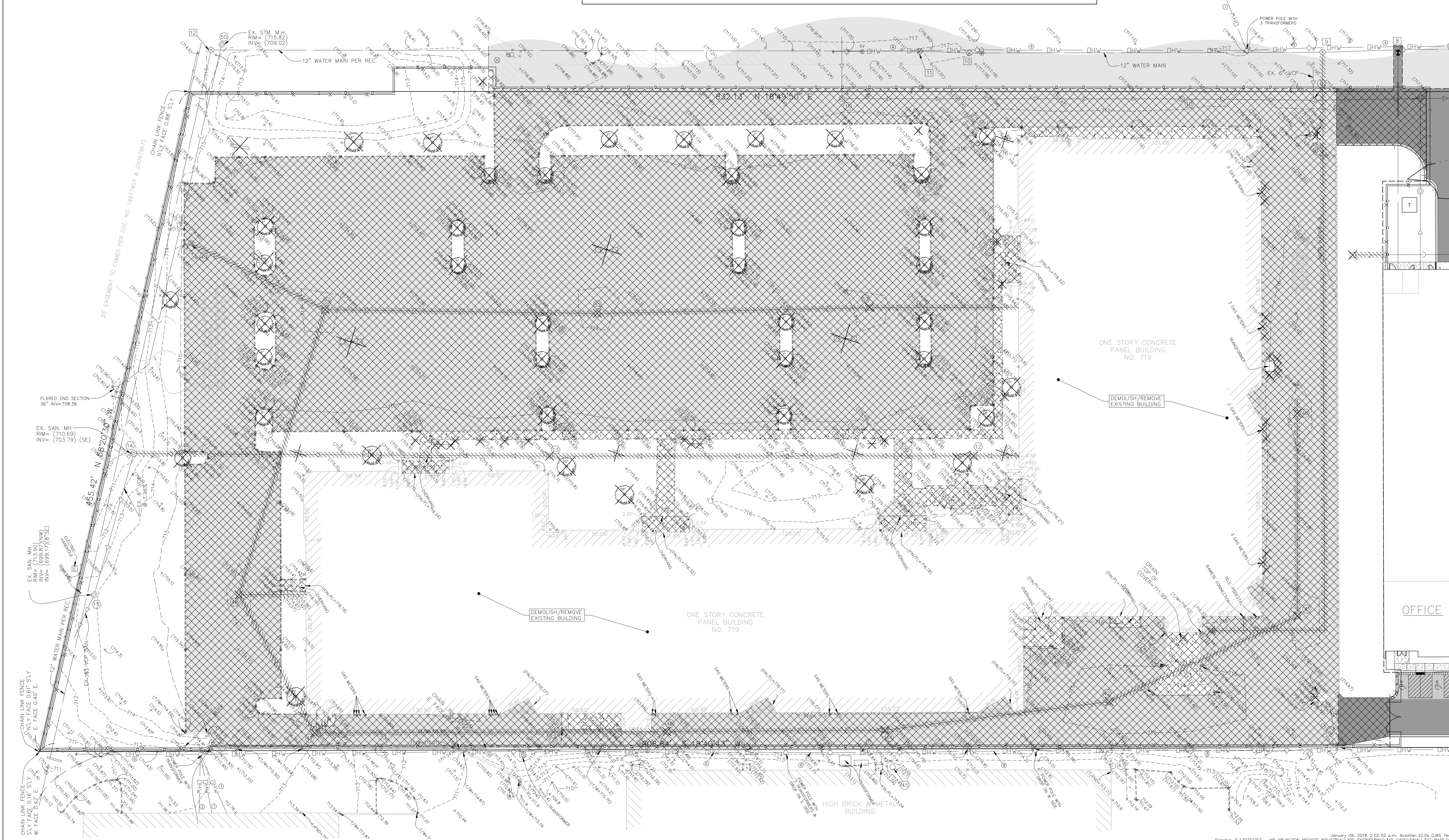
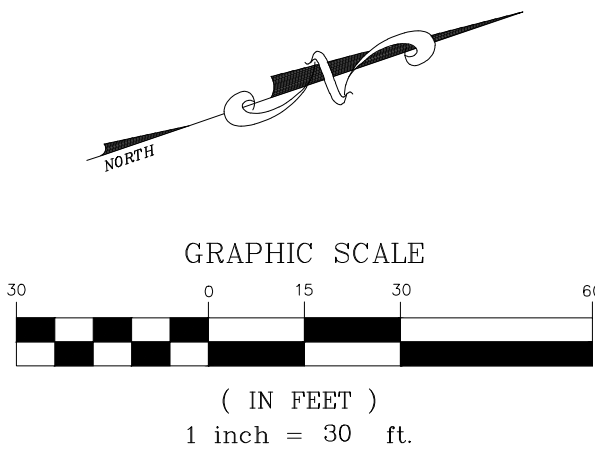
DATE	REVISIONS	DRAWN BY
12/05/17	VILLAGE ROUND ONE COMMENTS	TLM
07/09/18	VILLAGE ROUND TWO COMMENTS	TLM

DEMOLITION NOTES:

- SWPPP/EROSION CONTROL INSTALLATION SHALL BE DONE PRIOR TO COMMENCEMENT OF ANY DEMOLITION ACTIVITY.
- EXISTING ELECTRICAL AND PHONE CABLES MAY BE LOCATED WITHIN THE PROPOSED IMPROVEMENT AREA. APPROXIMATE KNOWN LOCATIONS ARE SHOWN HEREON. THE CONTRACTOR SHALL ARRANGE FOR PRECISE LOCATION OF EXISTING CABLE SERVICES AND EXERCISE EXTREME CARE WHEN WORKING AROUND THE SAME.
- ALL STRUCTURAL PAVEMENT MATERIALS (ASPHALT, CONCRETE SIDEWALK, CURB/GUTTER) THAT CANNOT BE CRUSHED TO AN APPROVED IDOT SPECIFICATION FOR USE AS STRUCTURAL FILL SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN OFFSITE LOCATION. RE-USE OF MILLED ASPHALT AND PROPERLY CRUSHED CONCRETE AS STRUCTURAL FILL IS ACCEPTABLE AND ENCOURAGED.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO EXISTING AMENITIES SCHEDULED TO REMAIN. PROPER SAWCUTTING SHALL BE ACCOMPLISHED AT ALL POINTS OF CONNECTION OR INTERFACE BETWEEN EXISTING AND PROPOSED IMPROVEMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL UNDERGROUND UTILITIES (EVEN IF NOT SHOWN ON THESE PLANS) LOCATED PRIOR TO DEMOLITION WORK. SANITARY SERVICE, WATERMAIN SERVICE, GAS, ELECTRIC, ETC SHALL BE CUT-OFF. CONTRACTOR TO COORDINATE WITH RESPECTIVE MUNICIPAL AGENCY TO ARRANGE FOR DISCONNECT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO EXISTING UTILITIES, STREET LIGHTS, SIGNS, ETC. THAT ARE NOT INTENDED TO BE PERMANENTLY REMOVED.
- CONTRACTOR SHALL NOTIFY THE VILLAGE OF ARLINGTON HEIGHTS PUBLIC WORKS DEPARTMENT, ALL UTILITY COMPANIES, AND THE FIRE DEPARTMENT PRIOR TO START UP.
- ONSITE DISTURBED AREAS TO REMAIN AS GREENSPACE SHALL BE RESTORED WITH MINIMUM 4" TOPSOIL AND SEED, OR RESTORED IN ACCORDANCE WITH THE LANDSCAPE PLAN (SEE BY OTHERS).
- DISTURBED AREAS OF PUBLIC PARKWAYS SHALL BE RESTORED WITH MINIMUM 4" TOPSOIL AND SEED.
- ALL EXISTING DRIVEWAY APRONS SHALL BE SAWCUT ALONG WITH REMOVAL OF ANY EXISTING DEPRESSED CURB AND GUTTER, AND NEW BARRIER CURB AND GUTTER (SIZED TO MEET EXISTING ADJACENT CONDITIONS) SHALL BE INSTALLED AND DOWELED INTO THE EXISTING ADJOINING CURB AND GUTTER.
- PRIOR TO INSTALLATION OF UTILITIES, EXISTING UTILITY LINES SCHEDULED FOR REMOVAL SHALL BE PROPERLY DISCONNECTED FROM FACILITIES THAT ARE TO REMAIN, SECURELY PLUGGED AT ALL CONNECTION POINTS, AND EITHER REMOVED OR FILLED WITH FLOWABLE FILL (LEAN CONCRETE MIXTURE) AND ABANDONED IN PLACE (REMOVE IF LOCATED UNDER NEW BUILDING PAD AREAS), I.E. ALL UTILITIES THAT ARE NOT GOING TO BE REUSED MUST BE PROPERLY ABANDONED AT THE RESPECTIVE MAIN LINE PRIOR TO INSTALLATION OF NEW UTILITIES. IN THE CASE OF STRUCTURE ABANDONMENT, CASTINGS AND TOP SLABS AND CONE SECTIONS SHALL BE REMOVED PRIOR TO FILLING THE STRUCTURE (UNLESS THE STRUCTURE IS EASIER TO COMPLETELY REMOVE).

DEMOLITION LEGEND

- REMOVE EXISTING PAVEMENT/SIDEWALK/STRUCTURE/C&G (INCL SAWCUT)
- TREE/BUSH/STRUCTURE REMOVAL
- REMOVE EXISTING UTILITY LINE
- REMOVE EXISTING CURB AND GUTTER



ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
DEMOLITION PLAN - PHASE 2

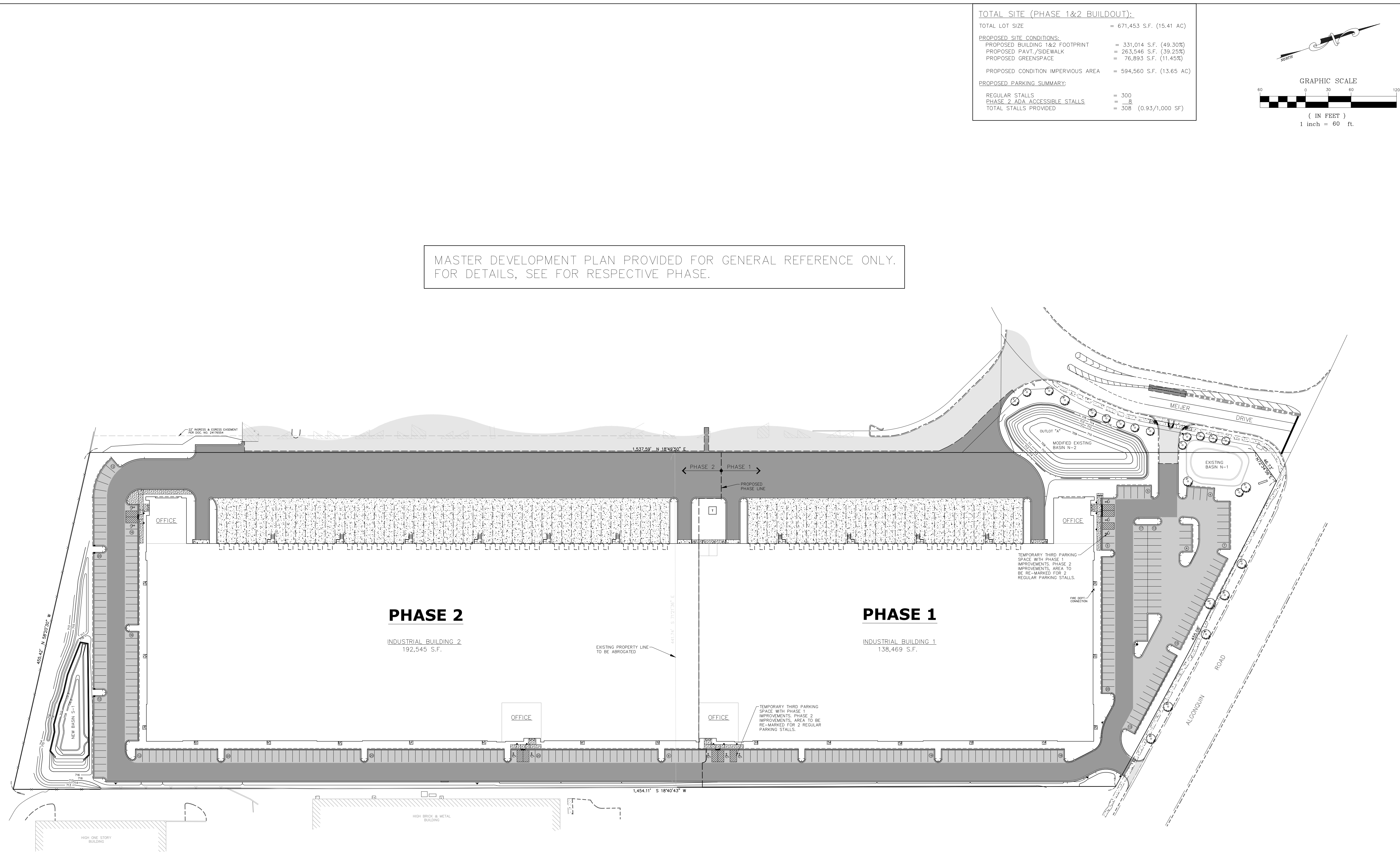
975 E. 22nd St. Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

RWG
Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management

PROJECT NO. 32212717
DATE 10/17/17
SCALE 1"=30'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

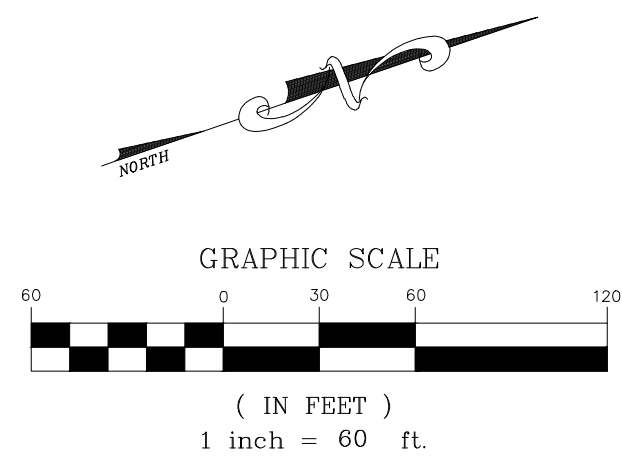
SHEET

5 OF 20



MASTER DEVELOPMENT PLAN PROVIDED FOR GENERAL REFERENCE ONLY.
FOR DETAILS, SEE FOR RESPECTIVE PHASE.

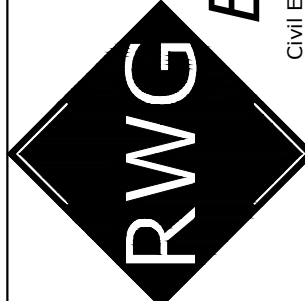
TOTAL SITE (PHASE 1&2 BUILDOUT):	
TOTAL LOT SIZE	= 671,453 S.F. (15.41 AC)
PROPOSED SITE CONDITIONS:	
PROPOSED BUILDING 1&2 FOOTPRINT	= 331,014 S.F. (49.30%)
PROPOSED PAVT./SIDEWALK	= 263,546 S.F. (39.25%)
PROPOSED GREENSPACE	= 76,893 S.F. (11.45%)
PROPOSED CONDITION IMPERVIOUS AREA	= 594,560 S.F. (13.65 AC)
PROPOSED PARKING SUMMARY:	
REGULAR STALLS	= 300
PHASE 2 ADA ACCESSIBLE STALLS	= 8
TOTAL STALLS PROVIDED	= 308 (0.93/1,000 SF)



ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
MASTER DEVELOPMENT PLAN - PHASE 1 & 2

975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management

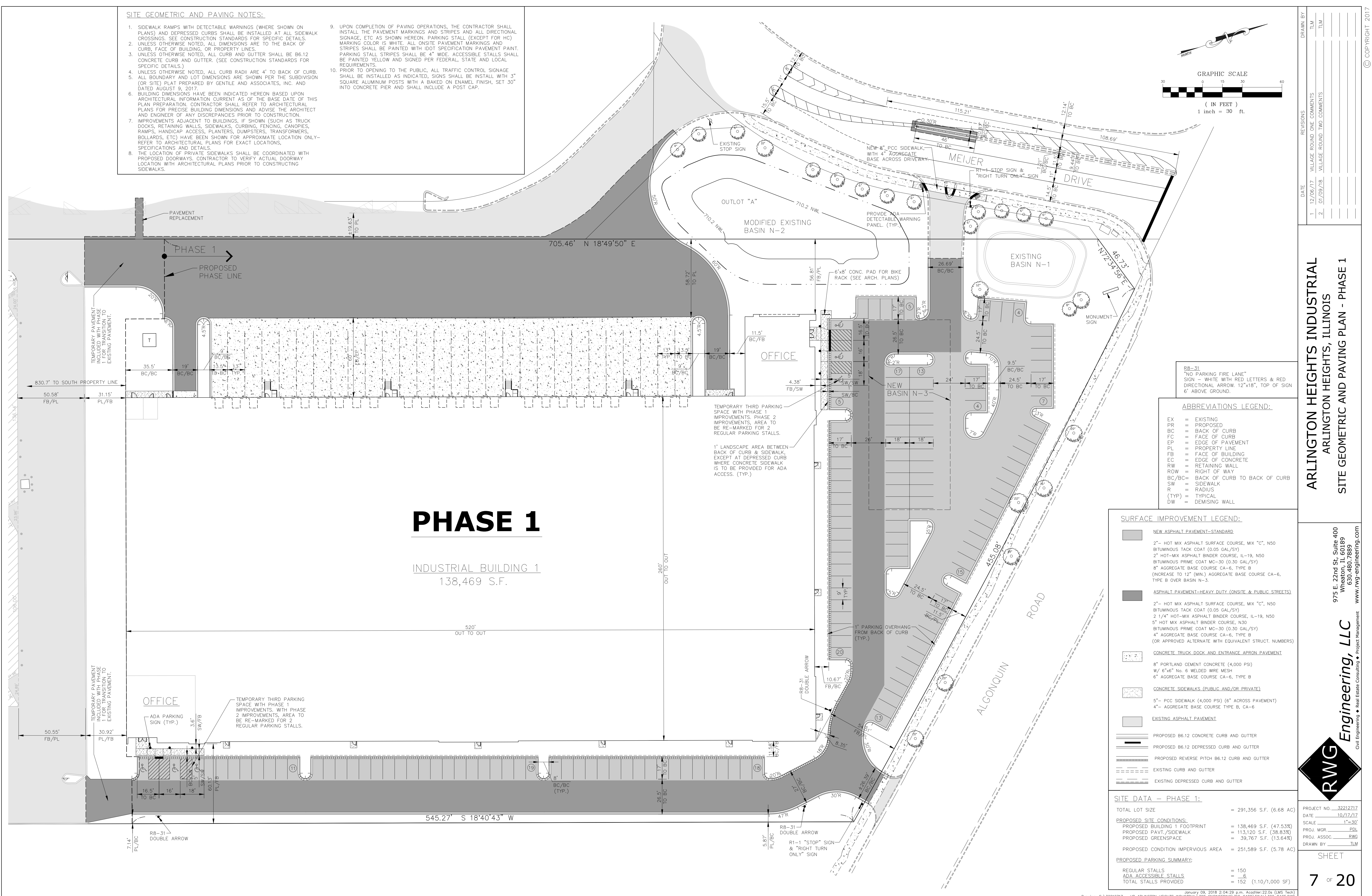
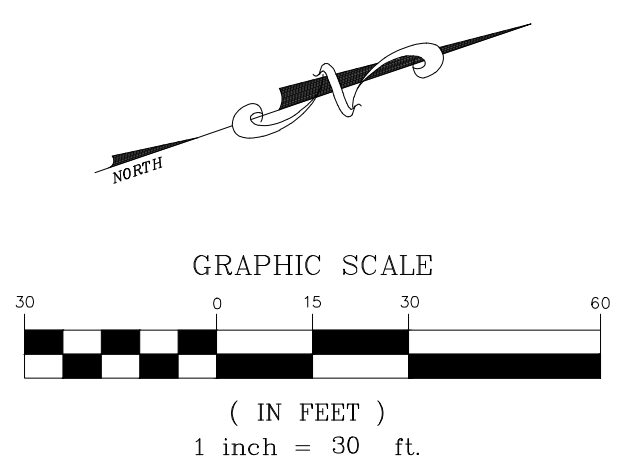


PROJECT NO. 32212717
DATE 10/17/17
SCALE 1"=60'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET

SITE GEOMETRIC AND PAVING NOTES:

1. SIDEWALK RAMPS WITH DETECTABLE WARNINGS (WHERE SHOWN ON PLANS) AND DEPRESSED CURBS SHALL BE INSTALLED AT ALL SIDEWALK CROSSINGS. SEE CONSTRUCTION STANDARDS FOR SPECIFIC DETAILS.
2. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TO THE BACK OF CURB, FACE OF BUILDING, OR PROPERTY LINES.
3. UNLESS OTHERWISE NOTED, ALL CURB AND GUTTER SHALL BE B6.12 CONCRETE CURB AND GUTTER. (SEE CONSTRUCTION STANDARDS FOR SPECIFIC DETAILS.)
4. UNLESS OTHERWISE NOTED, ALL CURB RADII ARE 4' TO BACK OF CURB.
5. ALL BOUNDARY AND LOT DIMENSIONS ARE SHOWN PER THE SUBDIVISION (OR SITE) PLAT PREPARED BY GENTILE AND ASSOCIATES, INC. AND DATED AUGUST 9, 2017.
6. BUILDING DIMENSIONS HAVE BEEN INDICATED HEREON BASED UPON ARCHITECTURAL INFORMATION CURRENT AS OF THE BASE DATE OF THIS PLAN PREPARATION. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND ADVISE THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
7. IMPROVEMENTS ADJACENT TO BUILDINGS, IF SHOWN (SUCH AS TRUCK DOCKS, RETAINING WALLS, SIDEWALKS, CURBING, FENCING, CANOPIES, RAMPS, HANDICAP ACCESS, PLANTERS, DUMPSTERS, TRANSFORMERS, BOLLARDS, ETC) HAVE BEEN SHOWN FOR APPROXIMATE LOCATION ONLY. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS, SPECIFICATIONS AND DETAILS.
8. THE LOCATION OF PRIVATE SIDEWALKS SHALL BE COORDINATED WITH PROPOSED DOORWAYS. CONTRACTOR TO VERIFY ACTUAL DOORWAY LOCATION WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTING SIDEWALKS.
9. UPON COMPLETION OF PAVING OPERATIONS, THE CONTRACTOR SHALL INSTALL THE PAVEMENT MARKINGS AND STRIPES AND ALL DIRECTIONAL SIGNAGE, ETC AS SHOWN HEREON. PARKING STALL (EXCEPT FOR HC) MARKING COLOR IS WHITE. ALL ONSITE PAVEMENT MARKINGS AND STRIPES SHALL BE PAINTED WITH IDOT SPECIFICATION PAVEMENT PAINT. PARKING STALL STRIPES SHALL BE 4" WIDE. ACCESSIBLE STALLS SHALL BE PAINTED YELLOW AND SIGNED PER FEDERAL, STATE AND LOCAL REQUIREMENTS.
10. PRIOR TO OPENING TO THE PUBLIC, ALL TRAFFIC CONTROL SIGNAGE SHALL BE INSTALLED AS INDICATED. SIGNS SHALL BE INSTALL WITH 3" SQUARE ALUMINUM POSTS WITH A BAKED ON ENAMEL FINISH, SET 30" INTO CONCRETE PIER AND SHALL INCLUDE A POST CAP.



PHASE 1

INDUSTRIAL BUILDING 1
138,469 S.F.

- ABBREVIATIONS LEGEND:
- EX = EXISTING
 - PR = PROPOSED
 - BC = BACK OF CURB
 - FC = FACE OF CURB
 - EP = EDGE OF PAVEMENT
 - PL = PROPERTY LINE
 - FB = FACE OF BUILDING
 - EC = EDGE OF CONCRETE
 - RW = RETAINING WALL
 - ROW = RIGHT OF WAY
 - BC/BC = BACK OF CURB TO BACK OF CURB
 - SW = SIDEWALK
 - R = RADIUS
 - (TYP) = TYPICAL
 - DW = DEMISING WALL

- SURFACE IMPROVEMENT LEGEND:
- NEW ASPHALT PAVEMENT-STANDARD
 - 2"- HOT MIX ASPHALT SURFACE COURSE, MIX "C", N50 BITUMINOUS TACK COAT (0.05 GAL/SY)
 - 2" HOT-MIX ASPHALT BINDER COURSE, IL-19, N50 BITUMINOUS PRIME COAT MC-30 (0.30 GAL/SY)
 - 8" AGGREGATE BASE COURSE CA-6, TYPE B (INCREASE TO 12" (MIN.) AGGREGATE BASE COURSE CA-6, TYPE B OVER BASIN N-3.
 - ASPHALT PAVEMENT-HEAVY DUTY (ONSITE & PUBLIC STREETS)
 - 2"- HOT MIX ASPHALT SURFACE COURSE, MIX "C", N50 BITUMINOUS TACK COAT (0.05 GAL/SY)
 - 2 1/4" HOT-MIX ASPHALT BINDER COURSE, IL-19, N50 5" HOT MIX ASPHALT BINDER COURSE, N30 BITUMINOUS PRIME COAT MC-30 (0.30 GAL/SY)
 - 4" AGGREGATE BASE COURSE CA-6, TYPE B (OR APPROVED ALTERNATE WITH EQUIVALENT STRUCT. NUMBERS)
 - CONCRETE TRUCK DOCK AND ENTRANCE APRON PAVEMENT
 - 6" PORTLAND CEMENT CONCRETE (4,000 PSI) W/ 6"x6" No. 6 WELDED WIRE MESH
 - 6" AGGREGATE BASE COURSE CA-6, TYPE B
 - CONCRETE SIDEWALKS (PUBLIC AND/OR PRIVATE)
 - 5"- PCC SIDEWALK (4,000 PSI) (6" ACROSS PAVEMENT)
 - 4"- AGGREGATE BASE COURSE TYPE B, CA-6
 - EXISTING ASPHALT PAVEMENT
 - PROPOSED B6.12 CONCRETE CURB AND GUTTER
 - PROPOSED B6.12 DEPRESSED CURB AND GUTTER
 - PROPOSED REVERSE PITCH B6.12 CURB AND GUTTER
 - EXISTING CURB AND GUTTER
 - EXISTING DEPRESSED CURB AND GUTTER

SITE DATA - PHASE 1:

TOTAL LOT SIZE	= 291,356 S.F. (6.68 AC)
PROPOSED SITE CONDITIONS:	
PROPOSED BUILDING 1 FOOTPRINT	= 138,469 S.F. (47.53%)
PROPOSED PAVT./SIDEWALK	= 113,120 S.F. (38.83%)
PROPOSED GREENSPACE	= 39,767 S.F. (13.64%)
PROPOSED CONDITION IMPERVIOUS AREA	= 251,589 S.F. (5.78 AC)
PROPOSED PARKING SUMMARY:	
REGULAR STALLS	= 150
ADA ACCESSIBLE STALLS	= 6
TOTAL STALLS PROVIDED	= 152 (1.10/1,000 SF)

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
SITE GEOMETRIC AND PAVING PLAN - PHASE 1

975 E. 22nd St., Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management



PROJECT NO. 32212717
DATE 10/17/17
SCALE 1"=30'
PROJ. MGR. PDL
PROJ. ASSOC. TLM
DRAWN BY TLM

SHEET
7 OF 20

1. SIDEWALK RAMPS WITH DETECTABLE WARNINGS (WHERE SHOWN ON PLAN) AND DERESSED CURBS SHALL BE INSTALLED AT ALL SIDEWALK CROSSINGS. SEE STANDARD SPECIFICATIONS FOR DETECTABLE RAILS.
2. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TO THE BACK OF CURB, FACE OF BUILDING, OR PROPERTY LINES.
3. UNLESS OTHERWISE NOTED, ALL CURB AND GUTTER SHALL BE B612 CONCRETE CURB AND GUTTER. (SEE CONSTRUCTION STANDARDS FOR SPECIFIC DETAILS).
4. UNLESS OTHERWISE NOTED, ALL CURB RADII ARE 4' TO BACK OF CURB. ALL BOUNDARY AND LOT DIMENSIONS ARE SHOWN PER THE SUBDIVISION PLAT PREPARED BY GENTILE AND ASSOCIATES, INC. AND DATED AUGUST 9, 2017.
5. BUILDING DIMENSIONS HAVE BEEN INDICATED HEREON BASED UPON ARCHITECTURAL INFORMATION CURRENT AS OF THE BASE DATE OF THIS CONSTRUCTION. PREPARATION OF ARCHITECTURAL INFORMATION AND ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND ADVISE THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
6. IMPROVEMENTS ADJACENT TO BUILDINGS (E.G. SIDEWALKS, DRIVEWAYS, FENCING, WALLS, SIDEWALKS, CURBING, FENCING, CANOPIES, RAMPS, HANDICAP ACCESS, PLANTERS, DUMPSTERS, TRANSFORMERS, BOLLARDS, ETC) HAVE BEEN SHOWN FOR APPROXIMATE LOCATION ONLY. THE ARCHITECT AND ENGINEER ARE RESPONSIBLE FOR EXACT LOCATIONS, SPECIFICATIONS AND DETAILS.
7. THE LOCATION OF PRIVATE SIDEWALKS SHALL BE COORDINATED WITH PROPOSED DRIVEWAYS. CONTRACTOR TO VERIFY ACTUAL LOCATION OF SIDEWALK WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTING SIDEWALKS.

1. SIDEWALK RAMPS WITH DETECTABLE WARNINGS (WHERE SHOWN ON PLAN) AND DERESSED CURBS SHALL BE INSTALLED AT ALL SIDEWALK CROSSINGS, SEE CONSTRUCTION SPECIFICATIONS FOR DETAILS.
2. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TO THE BACK OF CURB, FACE OF BUILDING, OR PROPERTY LINES.
3. UNLESS OTHERWISE NOTED, ALL CURB AND GUTTER SHALL BE B612 CURB AND GUTTER. (SEE CONSTRUCTION STANDARDS FOR SPECIFIC DETAILS.)
4. UNLESS OTHERWISE NOTED, ALL CURB RADII ARE 4' TO BACK OF CURB. ALL BOUNDARY AND LOT DIMENSIONS ARE SHOWN PER THE SUBDIVISION OF THIS PLAT PREPARED BY GENTILE AND ASSOCIATES, INC. AND DATED AUGUST 9, 2017.
5. BUILDING DIMENSIONS HAVE BEEN INDICATED HEREON BASED UPON ARCHITECTURAL INFORMATION CURRENT AS OF THE BASE DATE OF THIS PLAN PREPARATION. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND ADVISE THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
6. IMPROVEMENTS ADJACENT TO BUILDINGS ARE SHOWN (SUCH AS TRUCK DOCKS, RETAINING WALLS, SIDEWALKS, CURBING, FENCING, CANOPIES, RAMPS, HANDICAP ACCESS, PLANTERS, DUMPSTERS, TRANSFORMERS, BOLLARDS, ETC) HAVE BEEN SHOWN FOR APPROXIMATE LOCATION ONLY—REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS, SPECIFICATIONS AND DETAILS.
7. THE LOCATION OF PRIVATE SIDEWALKS SHALL BE COORDINATED WITH PROPOSED DOORWAYS. CONTRACTOR TO VERIFY ACTUAL DOORWAY LOCATION WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTING SIDEWALKS.
8. UPON COMPLETION OF PAVING OPERATIONS, THE CONTRACTOR SHALL INSTALL THE PAVEMENT MARKINGS AND STRIPES AND ALL DIRECTIONAL SIGNAGE, ETC AS SHOWN HEREON. PARKING STALL (EXCEPT FOR HC) MARKING COLOR IS WHITE. ALL ONSITE PAVEMENT MARKINGS AND STRIPES SHALL BE PAINTED WITH DOT SPECIFICATION PAVEMENT PAINT. PARKING STALL STRIPES SHALL BE 4" WIDE. ACCESSIBLE STALLS SHALL BE PAINTED YELLOW AND SIGNED PER FEDERAL, STATE AND LOCAL REQUIREMENTS.
9. PRIOR TO OPENING TO THE PUBLIC, ALL TRAFFIC CONTROL SIGNAGE SHALL BE INSTALLED AS INDICATED. SIGNS SHALL BE INSTALL WITH 3" SQUARE ALUMINUM POSTS WITH A BAKED ON ENAMEL FINISH, SET 30" INTO CONCRETE PIER AND SHALL INCLUDE A POST CAP.

NEW ASPHALT PAVEMENT—STANDARD

2"— HOT MIX ASPHALT SURFACE COURSE, MIX "C", N50
BITUMINOUS TACK COAT (0.05 GAL/SY)
2"— HOT-MIX ASPHALT BINDER COURSE, IL-19, N50
BITUMINOUS PRIME COAT MC-30 (0.30 GAL/SY)
8" AGGREGATE BASE COURSE CA-6, TYPE B
(INCREASE TO 12" (MIN.) AGGREGATE BASE COURSE CA-6,
TYPE B OVER BASINS 3-2, S-3, AND S-4.

ASPHALT PAVEMENT—HEAVY DUTY (ONSITE & PUBLIC STREETS)

2"— HOT MIX ASPHALT SURFACE COURSE, MIX "C", N50
BITUMINOUS TACK COAT (0.05 GAL/SY)
2.4"— HOT-MIX ASPHALT BINDER COURSE, IL-19, N50
5" HOT MIX ASPHALT BINDER COURSE, N30
BITUMINOUS PRIME COAT MC-30 (0.30 GAL/SY)
4" AGGREGATE BASE COURSE CA-6, TYPE B
(OR APPROPRIATE ALTERNATE WITH EQUIVALENT STRUCT. NUMBER)

NEW ASPHALT PAVEMENT—STANDARD

2"— HOT MIX ASPHALT SURFACE COURSE, MIX "C", N50
BITUMINOUS TACK COAT (0.05 GAL/SY)
2"— HOT-MIX ASPHALT BINDER COURSE, IL-19, N50
BITUMINOUS PRIME COAT MC-30 (0.30 GAL/SY)
8" AGGREGATE BASE COURSE CA-6, TYPE B
(INCREASE TO 12" (MIN.) AGGREGATE BASE COURSE CA-6,
TYPE B OVER BASINS 3-2, S-3, AND S-4.

ASPHALT PAVEMENT—HEAVY DUTY (ONSITE & PUBLIC STREETS)

2"— HOT MIX ASPHALT SURFACE COURSE, MIX "C", N50
BITUMINOUS TACK COAT (0.05 GAL/SY)
2.4"— HOT-MIX ASPHALT BINDER COURSE, IL-19, N50
5" HOT MIX ASPHALT BINDER COURSE, N30
BITUMINOUS PRIME COAT MC-30 (0.30 GAL/SY)
4" AGGREGATE BASE COURSE CA-6, TYPE B
(OR APPROPRIATE ALTERNATE WITH EQUIVALENT STRUCT. NUMBER)

8" PORTLAND CEMENT CONCRETE (4000 PSI)
W/ 6"x6" No. 6 WELDED MESH
6" AGGREGATE BASE COURSE CA-6, TYPE B

CONCRETE SIDEWALKS (PUBLIC AND/OR PRIVATE)

8" - PCC SIDEWALK (4000 PSI) (6" ACROSS PAVEMENT)
4" - AGGREGATE BASE COURSE TYPE B, CA-6

EXISTING ASPHALT PAVEMENT

PROPOSED B6.12 CONCRETE CURB AND GUTTER

PROPOSED B6.12 DEPRESSIONED CURB AND GUTTER

PROPOSED REVERSE PITCH B6.12 CURB AND GUTTER

EXISTING CURB AND GUTTER

EXISTING DEPRESSIONED CURB AND GUTTER

8" PORTLAND CEMENT CONCRETE (4000 PSI)
W/ 6"x6" No. 6 WELDED MESH
6" AGGREGATE BASE COURSE CA-6, TYPE B

CONCRETE SIDEWALKS (PUBLIC AND/OR PRIVATE)

8" - PCC SIDEWALK (4000 PSI) (6" ACROSS PAVEMENT)
4" - AGGREGATE BASE COURSE TYPE B, CA-6

EXISTING ASPHALT PAVEMENT

PROPOSED B6.12 CONCRETE CURB AND GUTTER

PROPOSED B6.12 DEPRESSIONED CURB AND GUTTER

PROPOSED REVERSE PITCH B6.12 CURB AND GUTTER

EXISTING CURB AND GUTTER

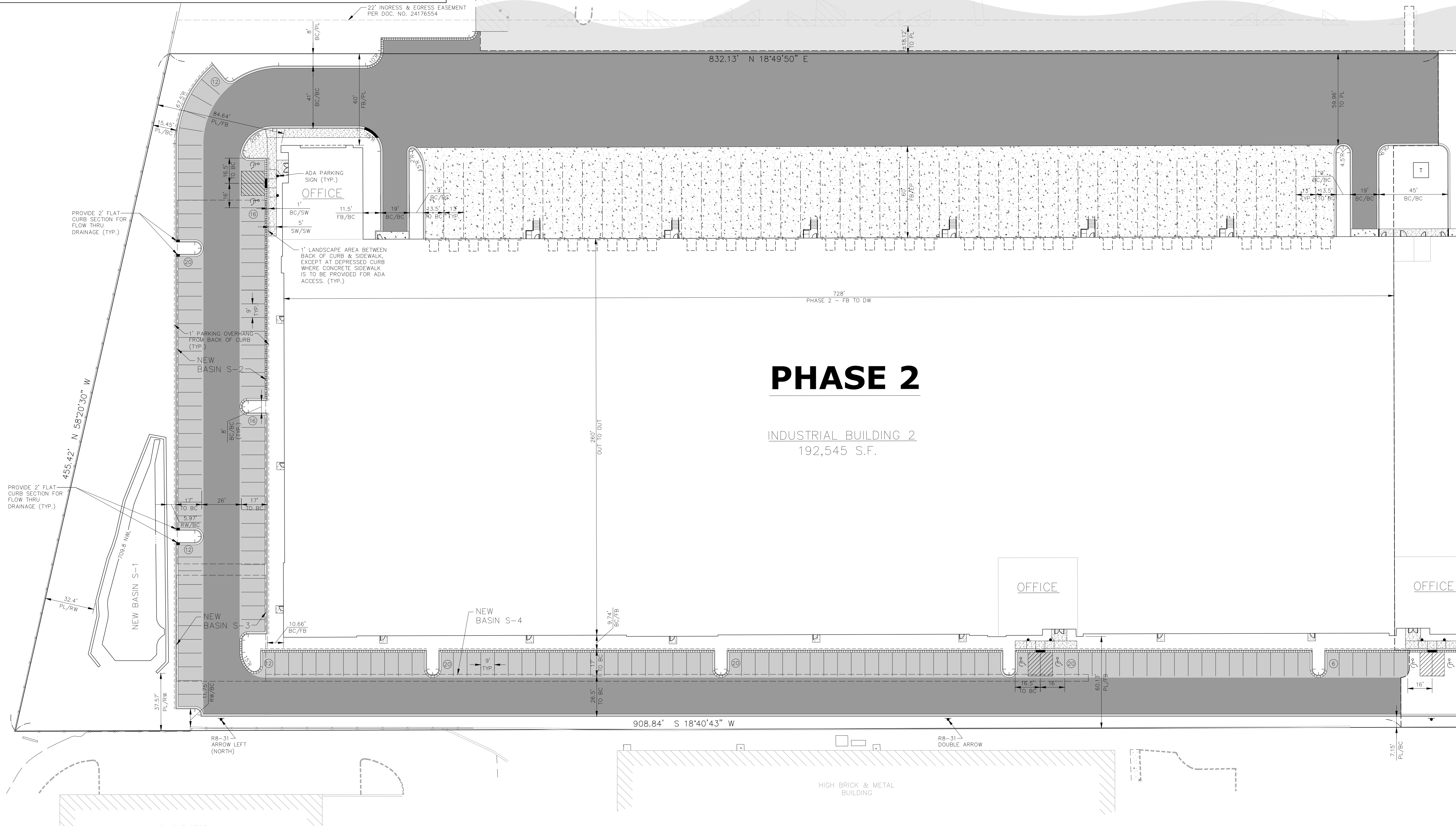
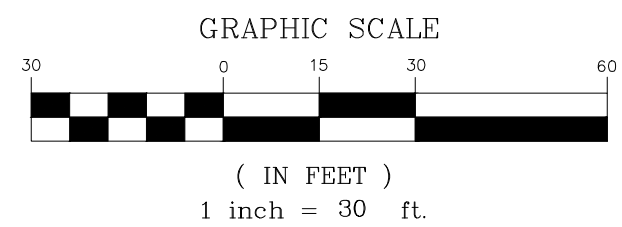
EXISTING DEPRESSIONED CURB AND GUTTER

EX	=	EXISTING
PR	=	PROPOSED
BC	=	BACK OF CURB
FC	=	FACE OF CURB
EP	=	EDGE OF PAVEMENT
PL	=	PROPERTY LINE
FB	=	FACE OF BUILDING
EC	=	EDGE OF CONCRETE
RW	=	RETAINING WALL
ROW	=	RIGHT OF WAY
BC/BC	=	BACK OF CURB TO BACK OF CURB
SW	=	SIDEWALK
R	=	RADIUS
(Typ)	=	TYPICAL
DW	=	DEMISING WALL

EX	=	EXISTING
PR	=	PROPOSED
BC	=	BACK OF CURB
FC	=	FACE OF CURB
EP	=	EDGE OF PAVEMENT
PL	=	PROPERTY LINE
FB	=	FACE OF BUILDING
EC	=	EDGE OF CONCRETE
RW	=	RETAINING WALL
ROW	=	RIGHT OF WAY
BC/BC	=	BACK OF CURB TO BACK OF CURB
SW	=	SIDEWALK
R	=	RADIUS
(Typ)	=	TYPICAL
DW	=	DEMISING WALL

TOTAL LOT SIZE	=	380,097 S.F. (8.73 AC)
<u>PROPOSED SITE CONDITIONS:</u>		
PROPOSED BUILDING 2 FOOTPRINT	=	192,545 S.F. (50.66%)
PROPOSED PAVT./SIDEWALK	=	141,957 S.F. (37.34%)
PROPOSED GREENSPACE	=	45,595 S.F. (12.00%)
PROPOSED CONDITION IMPERVIOUS AREA	=	334,502 S.F. (7.68 AC)
<u>PROPOSED PARKING SUMMARY:</u>		
REGULAR STALLS	=	150
PHASE 2 ADA ACCESSIBLE STALLS	=	4
TOTAL STALLS PROVIDED	=	154 (0.80/1,000 SF)

TOTAL LOT SIZE	=	380,097 S.F. (8.73 AC)
<u>PROPOSED SITE CONDITIONS:</u>		
PROPOSED BUILDING 2' FOOTPRINT	=	192,545 S.F. (50.66%)
PROPOSED PAVT./SIDEWALK	=	141,957 S.F. (37.34%)
PROPOSED GREENSPACE	=	45,595 S.F. (12.00%)
PROPOSED CONDITION IMPERVIOUS AREA	=	334,502 S.F. (7.68 AC)
<u>PROPOSED PARKING SUMMARY:</u>		
REGULAR STALLS	=	150
PHASE 2 ADA ACCESSIBLE STALLS	=	4
TOTAL STALLS PROVIDED	=	154 (0.80/1,000 SF)



	DATE	REVISIONS	DRAWN BY
1	12/06/17	VILLAGE ROUND ONE COMMENTS	TLM
2	01/09/18	VILLAGE ROUND TWO COMMENTS	TLM

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
SITE GEOMETRIC AND PAVING PLAN - PHASE 2

975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

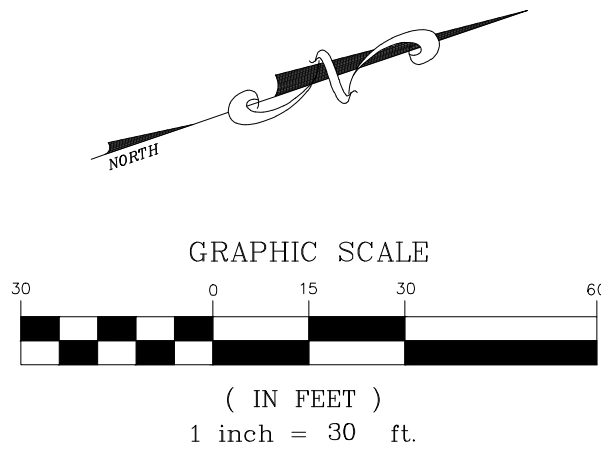
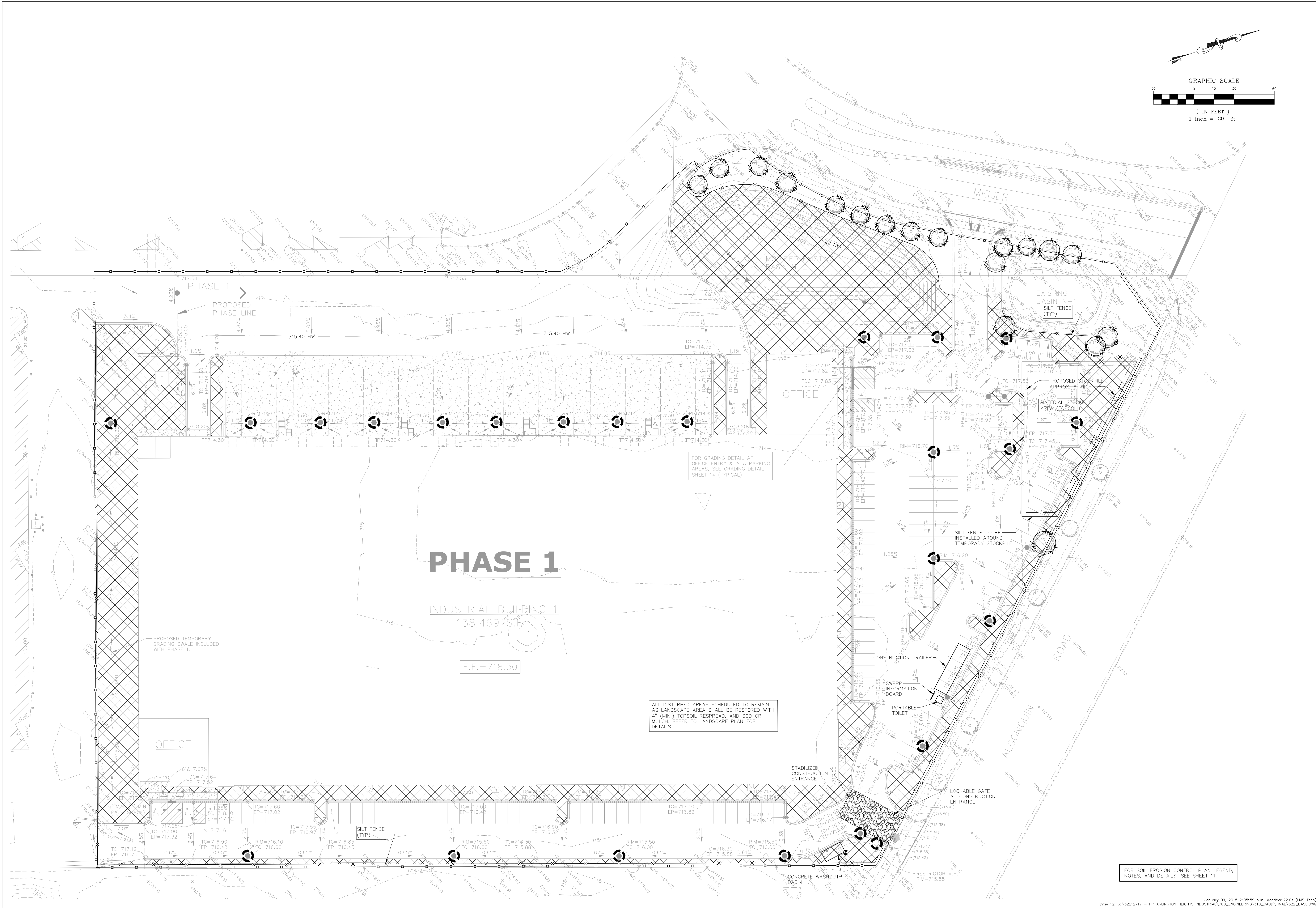


Engineering, LLC
Civil Engineering ♦ Real Estate Consulting ♦ Project Management

PROJECT NO. 32212717
DATE 10/17/17
SCALE 1"=30'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET

8 OF 20



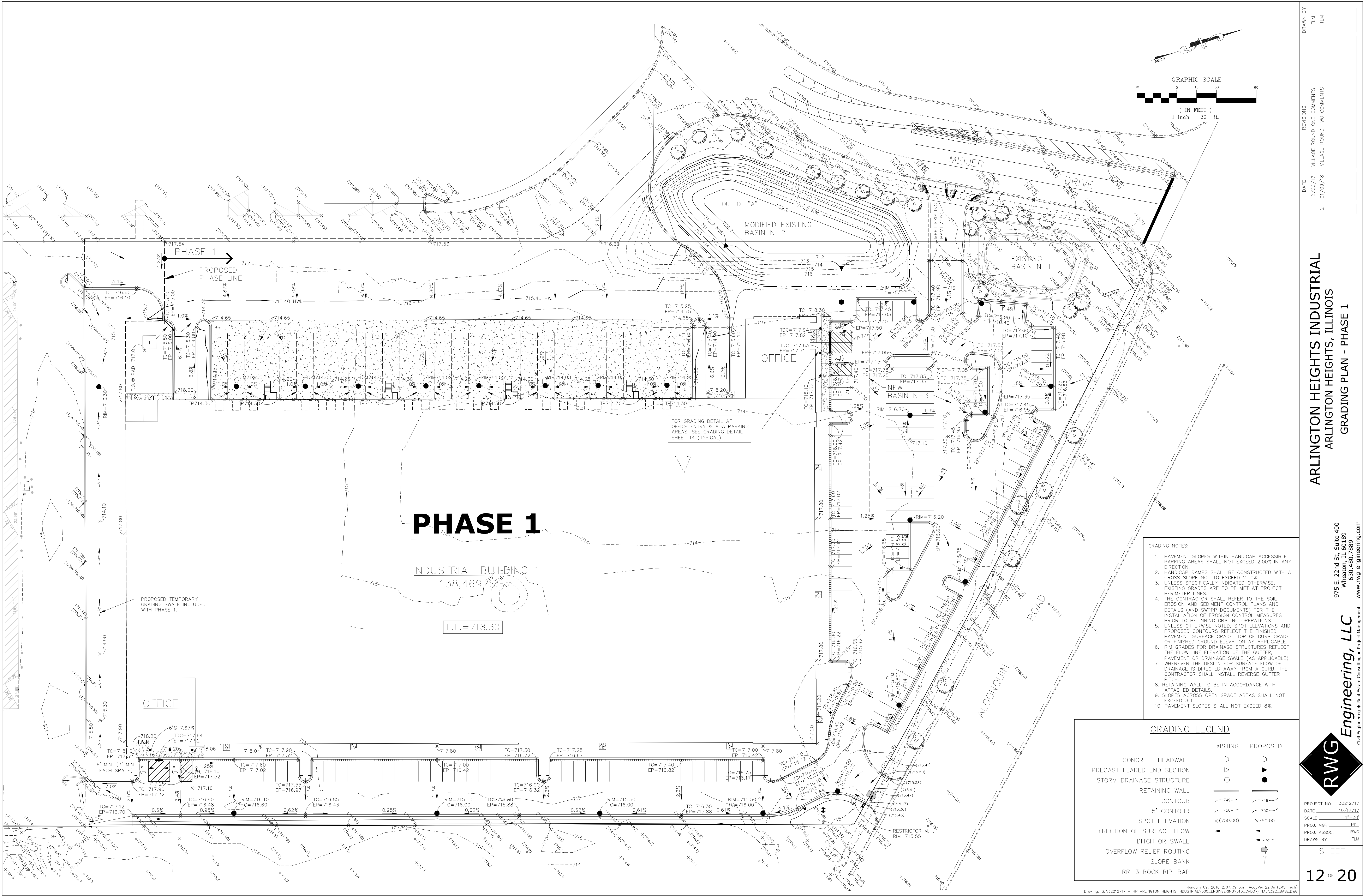
DATE	REVISIONS	DRAWN BY
12/06/17	VILLAGE ROUND ONE COMMENTS	TLM
01/09/18	VILLAGE ROUND TWO COMMENTS	TLM

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
SOIL EROSION & SEDIMENT CONTROL (SESC) PLAN - PHASE 1

975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

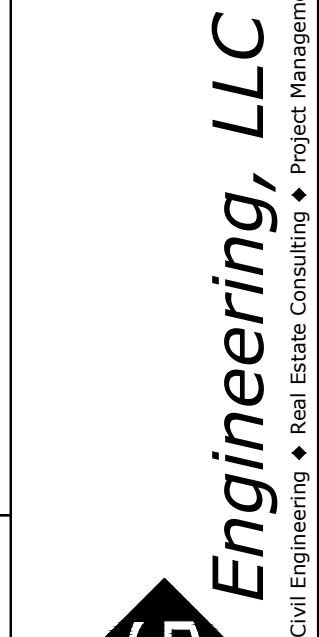
PROJECT NO. 132212717
DATE 10/17/17
SCALE 1"=30'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET
9 OF 20



ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
GRADING PLAN - PHASE 1

975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com



PROJECT NO. 32212717
DATE 10/12/17
SCALE 1"=30'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

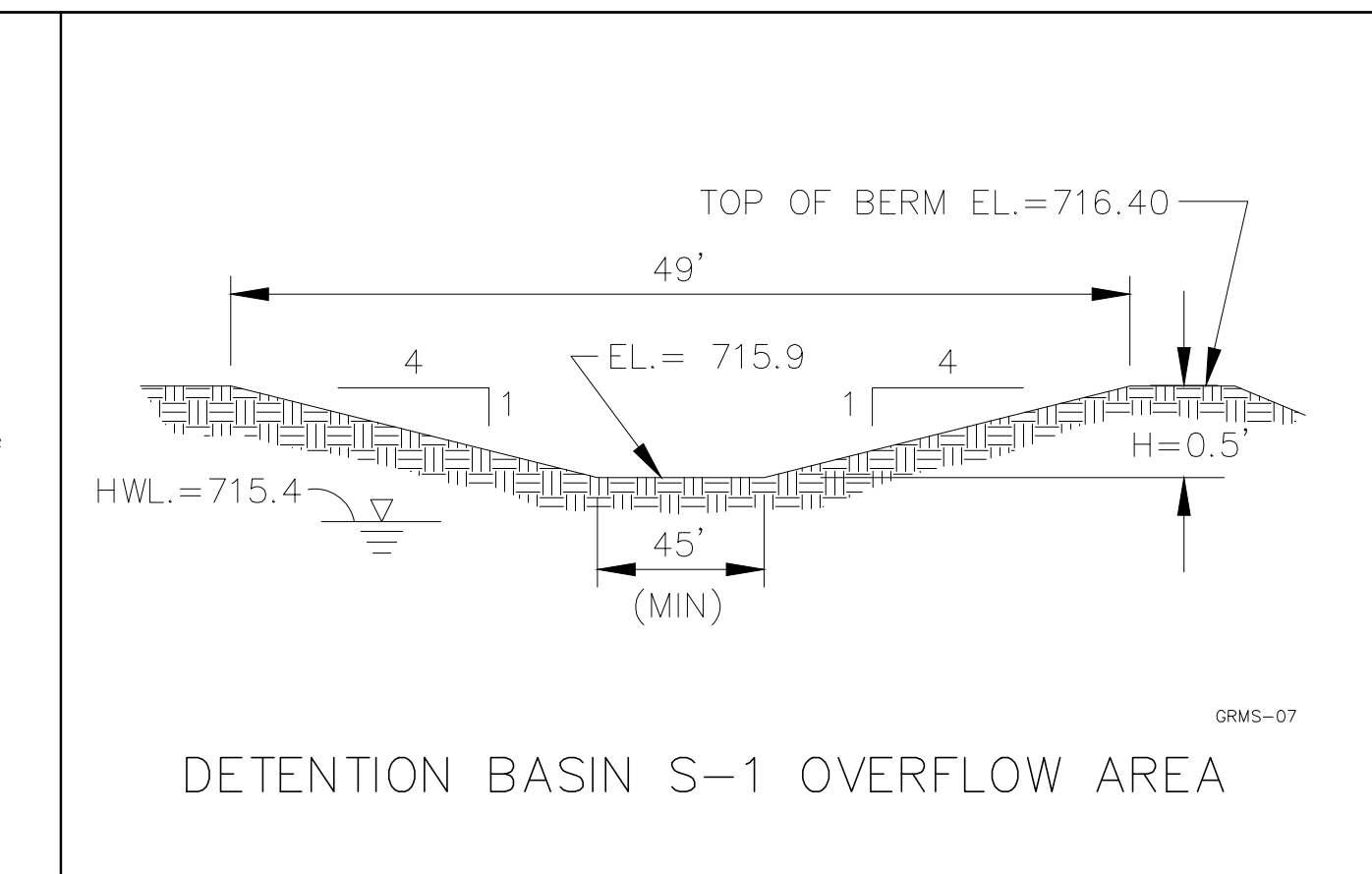
SHEET

12 OF 20

DATE 12/06/17
REVISIONS VILLAGE ROUND ONE COMMENTS
VILLAGE ROUND TWO COMMENTS

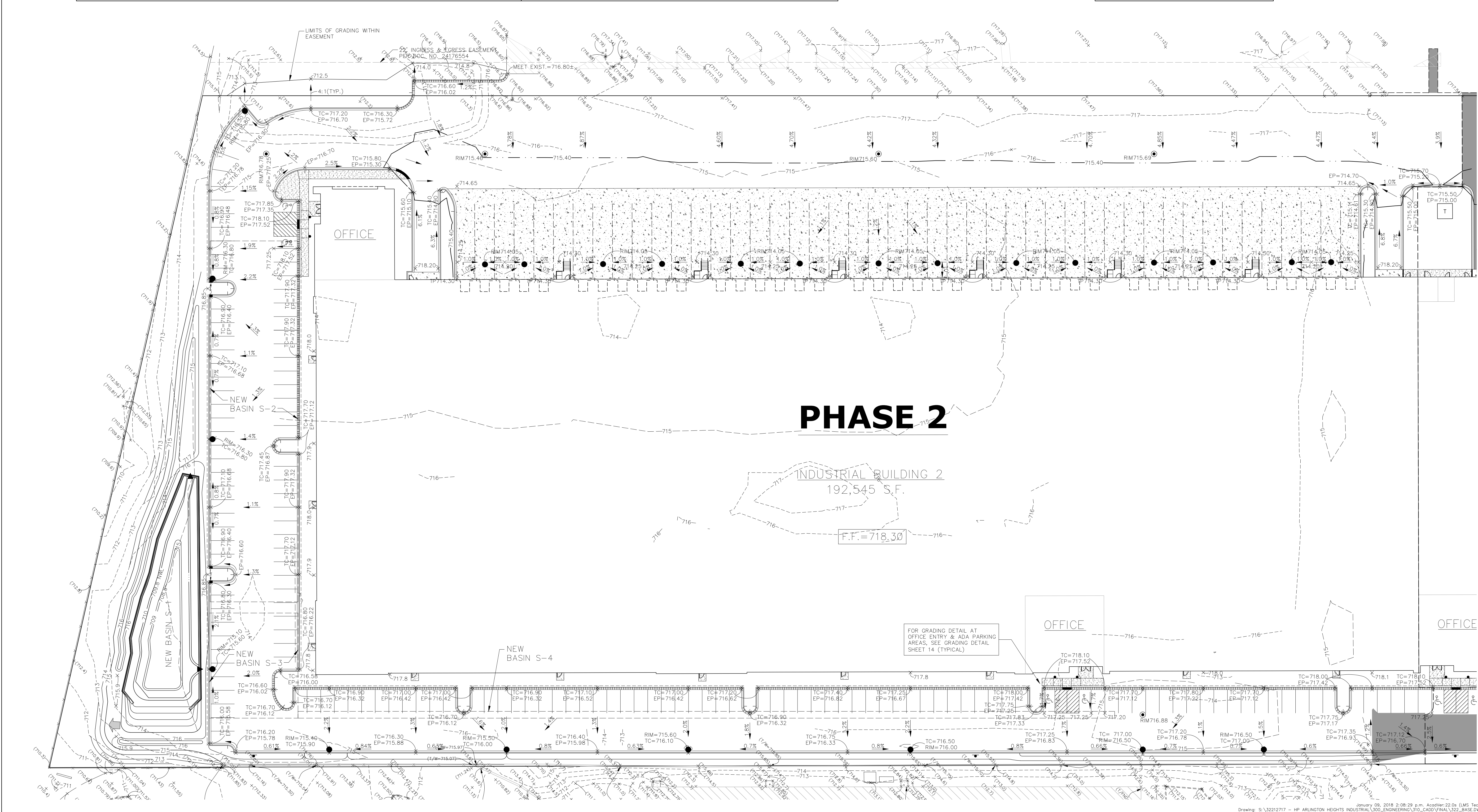
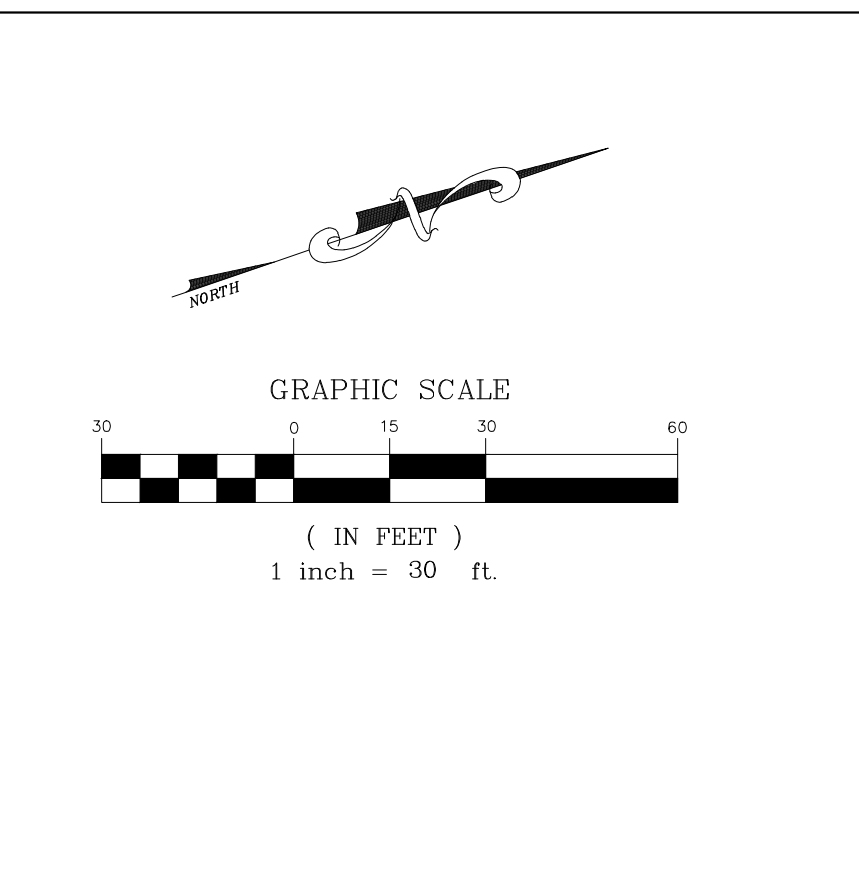
DRAWN BY TLM
TLM
TLM

© COPYRIGHT 2017



	EXISTING	PROPOSED
CONCRETE HEADWALL	>	>
PRECAST FLARED END SECTION	▷	▶
STORM DRAINAGE STRUCTURE	○	●
RETAINING WALL	=====	=====
CONTOUR	---749---	---749---
5' CONTOUR	---750---	---750---
SPOT ELEVATION	X(750.00)	750.00
DIRECTION OF SURFACE FLOW	←	←
DITCH OR SWALE		⇨
OVERFLOW RELIEF ROUTING		⇨ ↓
SLOPE BANK		⦿
RR-3 ROCK RIP-RAP		⦿

- GRADING NOTES:
1. PAVEMENT SLOPES WITHIN HANDICAP ACCESSIBLE PARKING AREAS SHALL NOT EXCEED 2.00% IN ANY DIRECTION.
 2. PAVEMENT RAMPS SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT TO EXCEED 2.00%.
 3. UNLESS SPECIFICALLY INDICATED OTHERWISE, EXISTING GRADES ARE TO BE MET AT PROJECT PERMITTER LINES.
 4. THE CONTRACTOR SHALL REFER TO THE SOIL ANALYSIS AND SECTOR EROSION CONTROL PLAN AND DETAILS (AND SWPPP DOCUMENTS) FOR THE INSTALLATION OF EROSION CONTROL MEASURES PRIOR TO BEGINNING GRADING OPERATIONS.
 5. OTHERWISE NOTED, SPOT ELEVATIONS AND PROPOSED CONTOURS REFLECT THE FINISHED PAVED SURFACE GRADE, TOP OF CURB GRADE, AND GRADED GROUND ELEVATION AS APPLICABLE.
 6. RIM GRADES FOR DRAINAGE STRUCTURES REFLECT THE FLOW LINE ELEVATION OF THE GUTTER.
 7. PAVEMENT OR DRAINAGE SWALE (AS APPLICABLE) DRAINAGE TO THE DESIGN SURFACE. THE FLOW OF DRAINAGE IS DIRECTED AWAY FROM A CURB, THE CONTRACTOR SHALL INSTALL REVERSE GUTTER BARS.
 8. RETAINING WALL TO BE IN ACCORDANCE WITH ATTACHED DETAILS.
 9. SLOPE ACROSS OPEN SPACE AREAS SHALL NOT EXCEED 3:1.
 10. PAVEMENT SLOPES SHALL NOT EXCEED 8%.



	DATE	REVISIONS	DRAWN BY
1	12/06/17	VILLAGE ROUND ONE COMMENTS	TLM
2	01/09/18	VILLAGE ROUND TWO COMMENTS	TLM

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
GRADING PLAN - PHASE 2



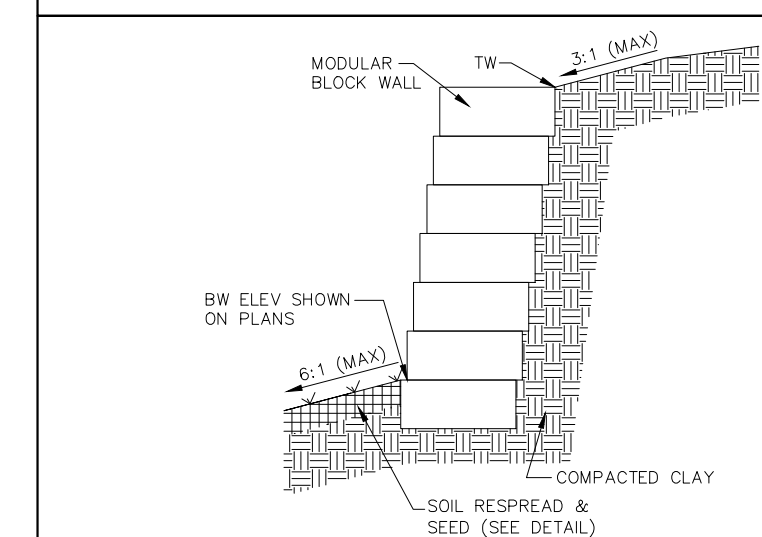
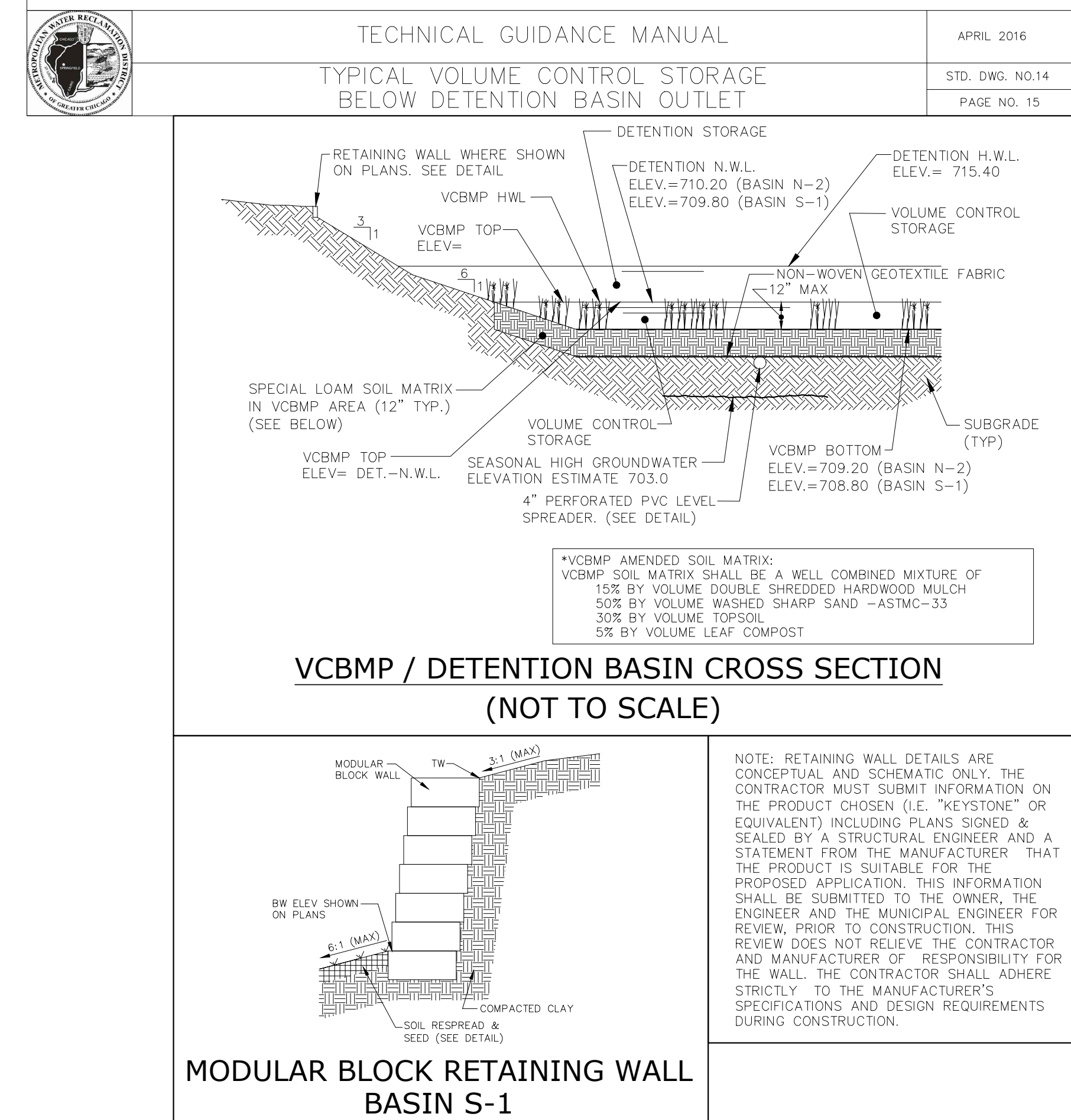
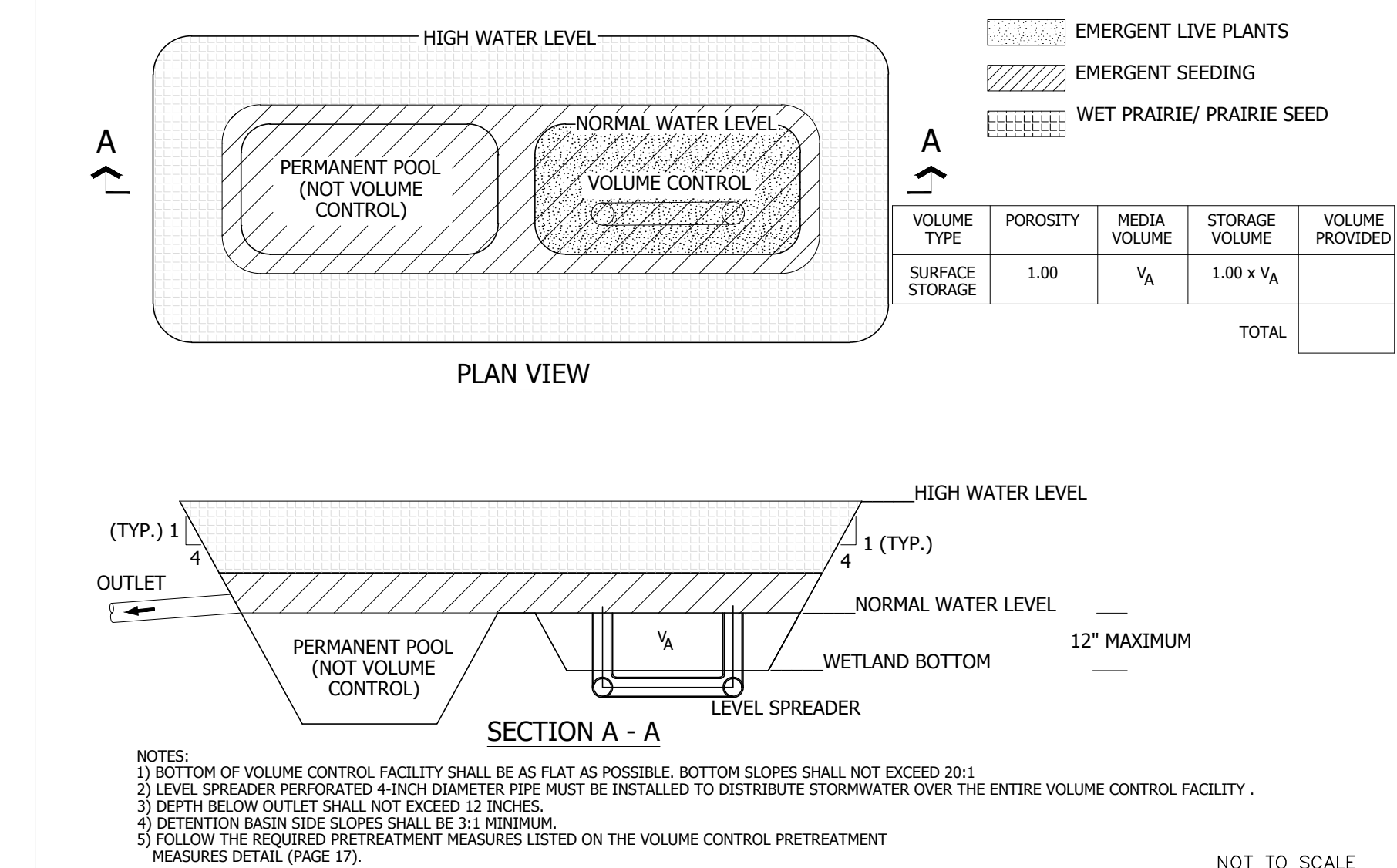
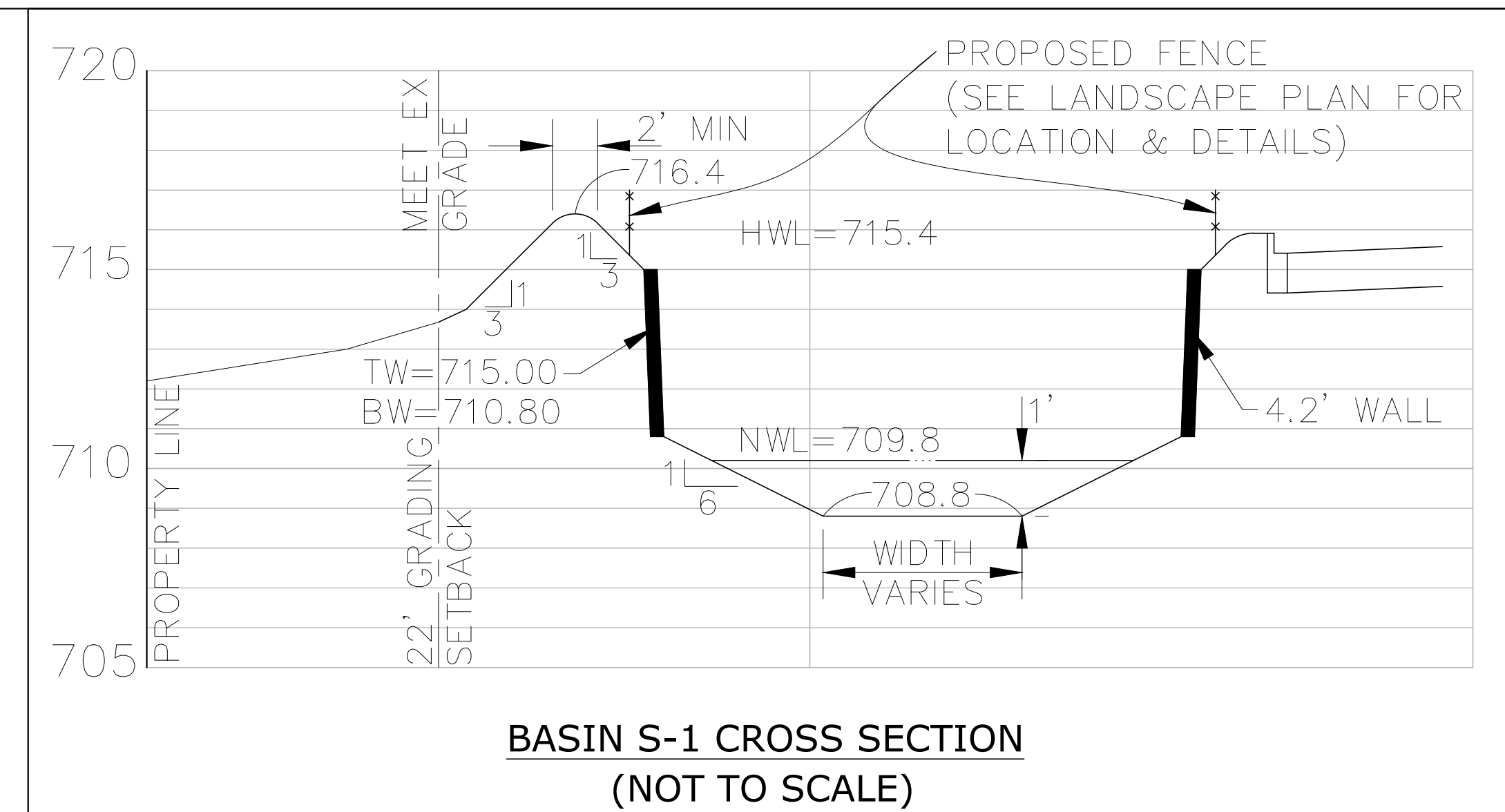
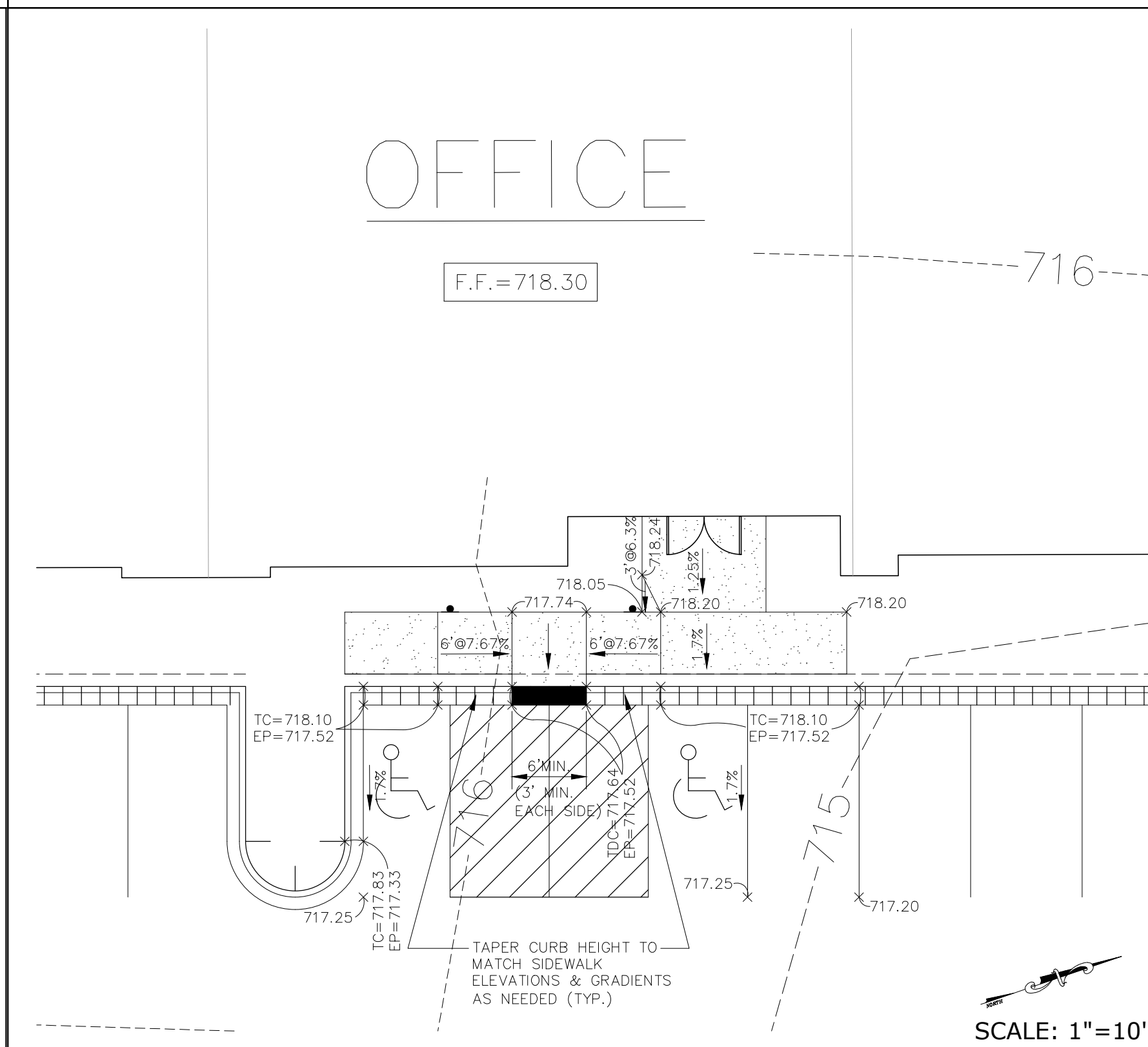
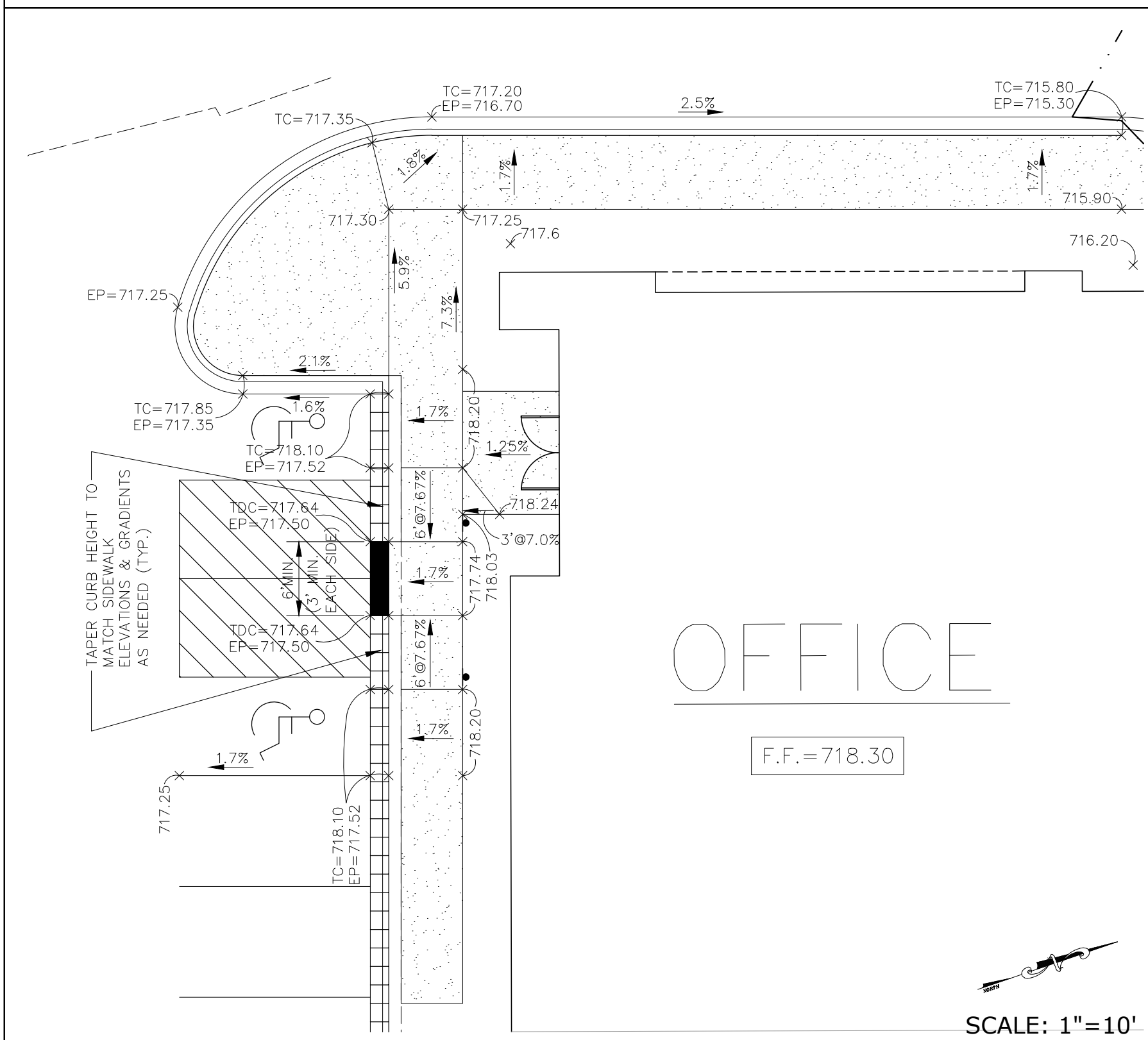
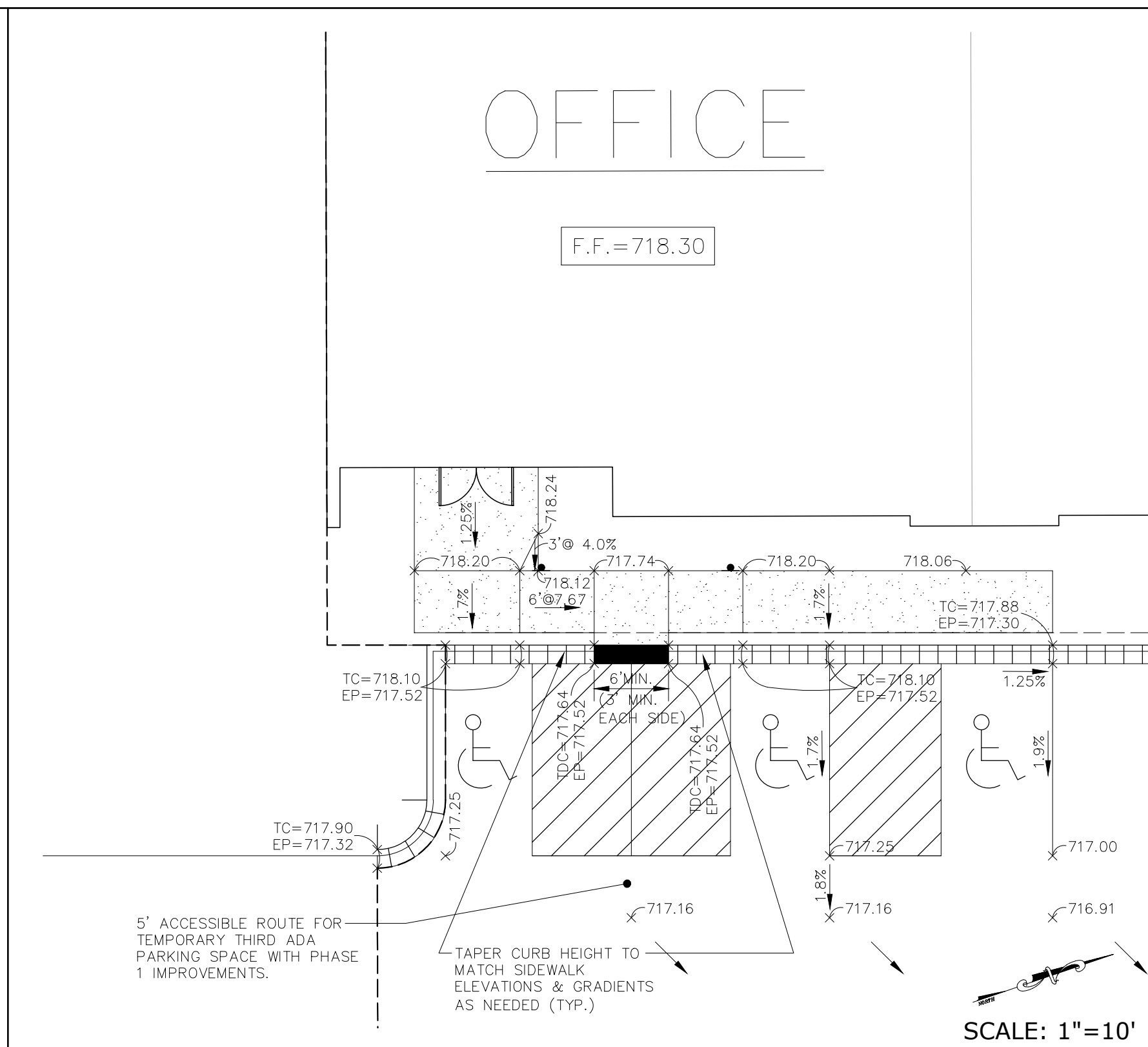
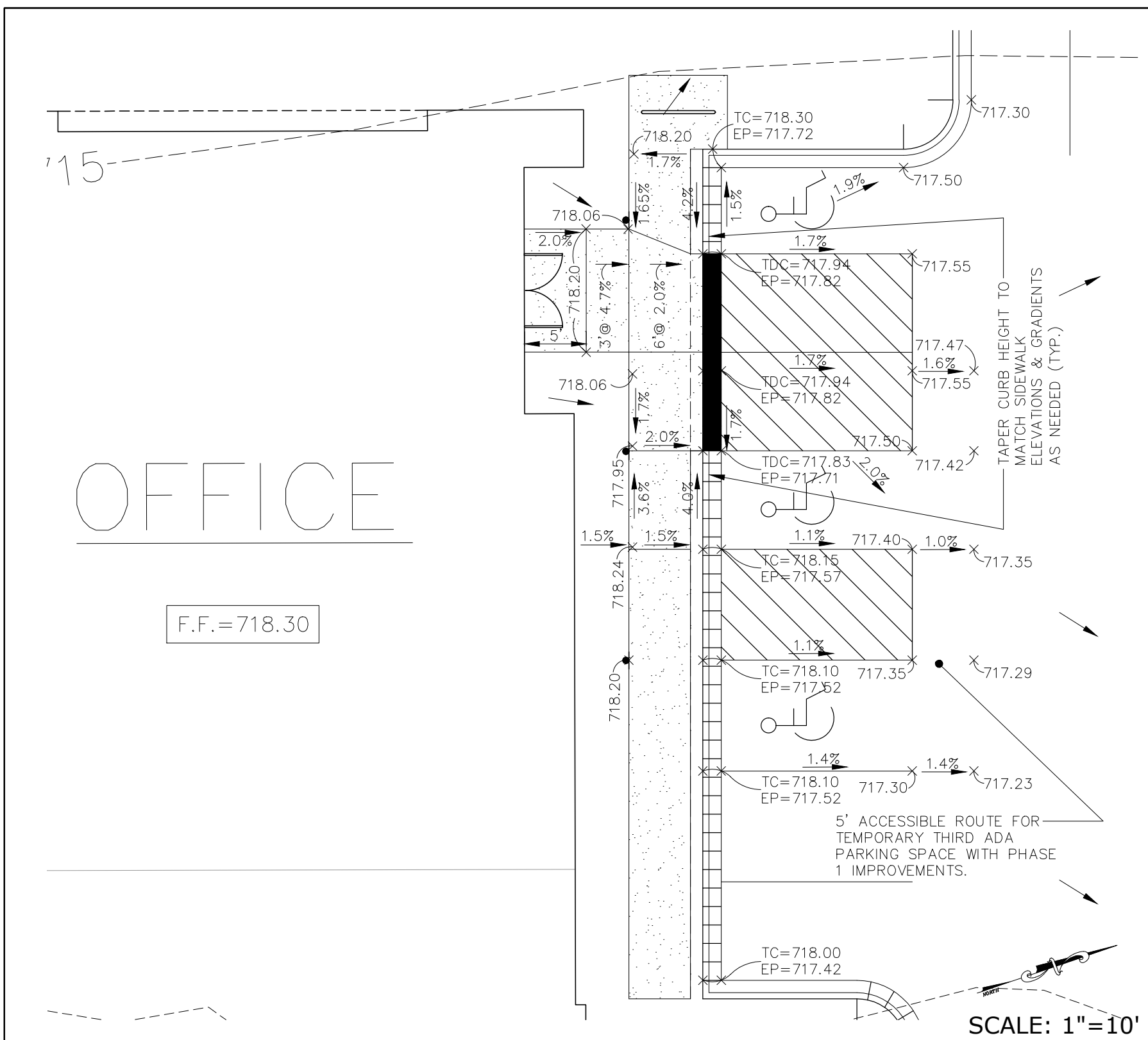
Engineering, LLC
Civil Engineering ♦ Real Estate Project Management

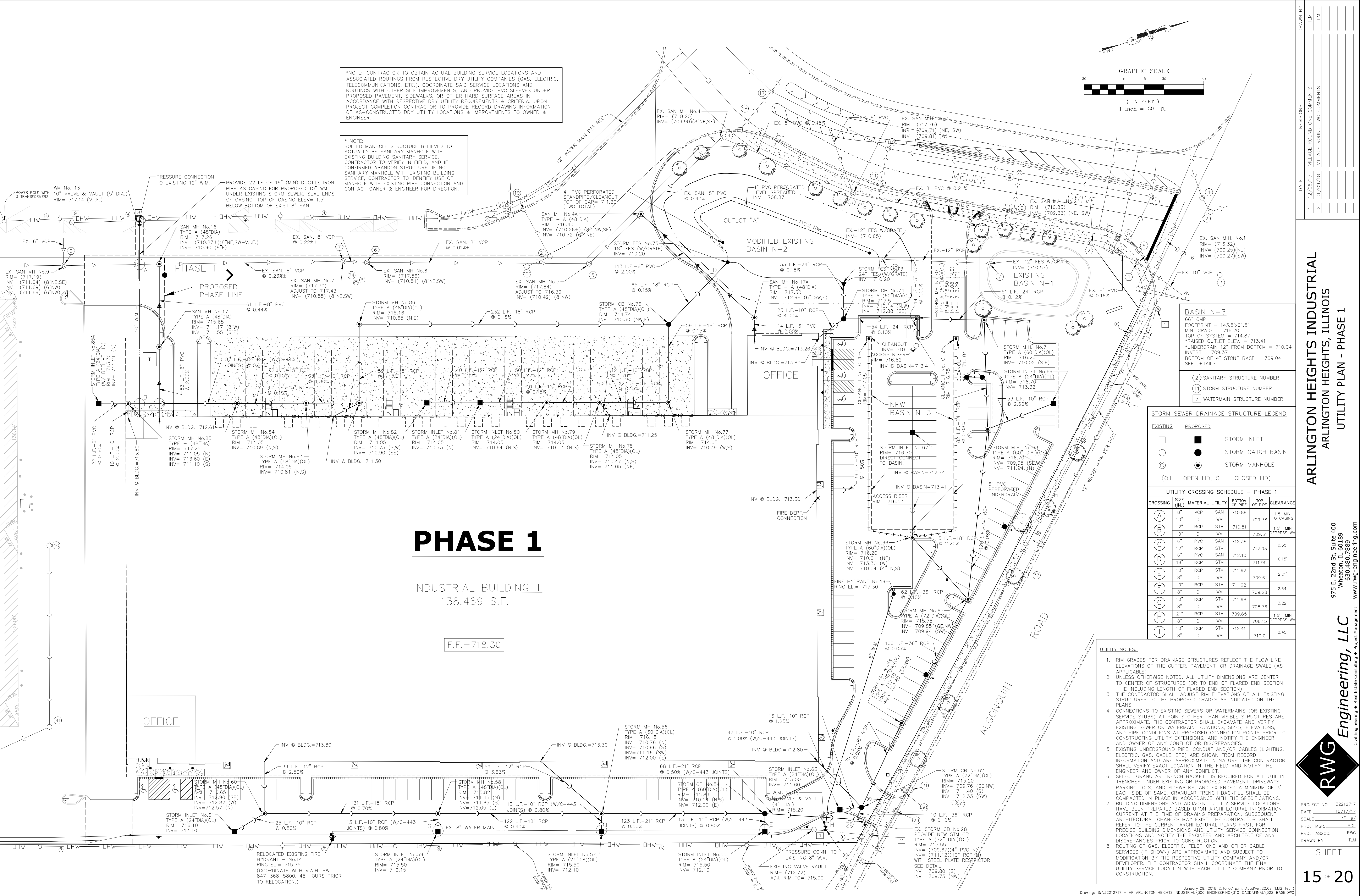
975 E. 22nd St., Suite 400
Wheaton, IL 60189
www.rwg-engineering.com

PROJECT NO. 32121217
 DATE 10/12/17
 SCALE 1"=30'
 PROJ. MOR. PD
 PROJ. ASSOC. EW
 DRAWN BY TLW

SHEET

13 OF **20**

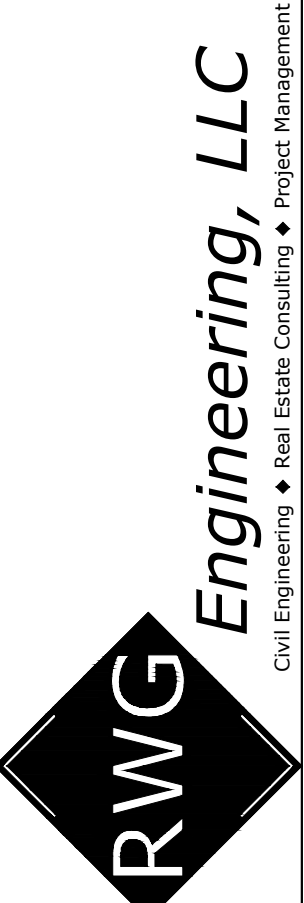




DATE	REVISIONS	BY
12/06/17	VILLAGE ROUND ONE COMMENTS	TLM
01/09/18	VILLAGE ROUND TWO COMMENTS	TLM

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
UTILITY PLAN - PHASE 1

975 E. 22nd St. Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

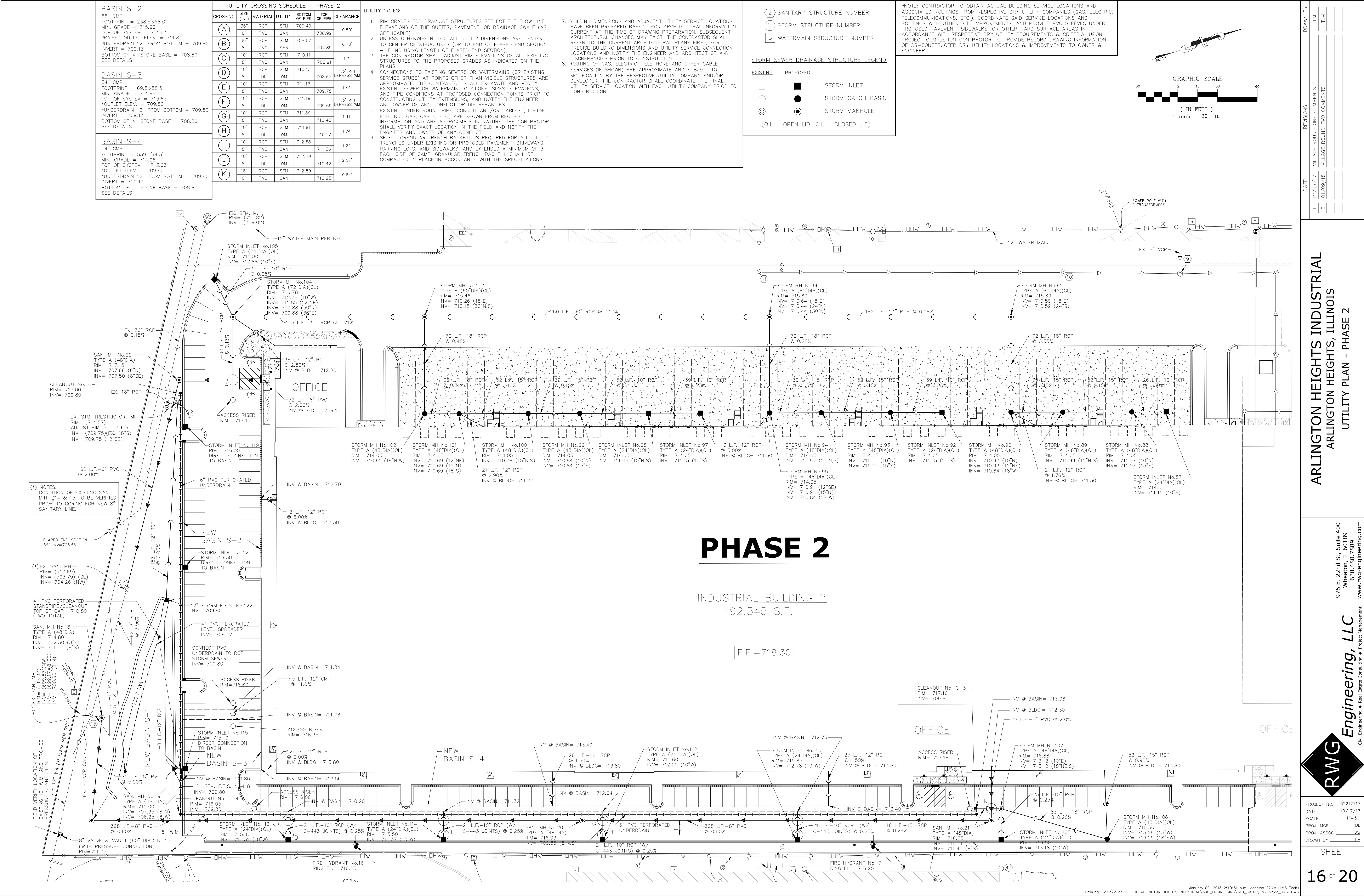


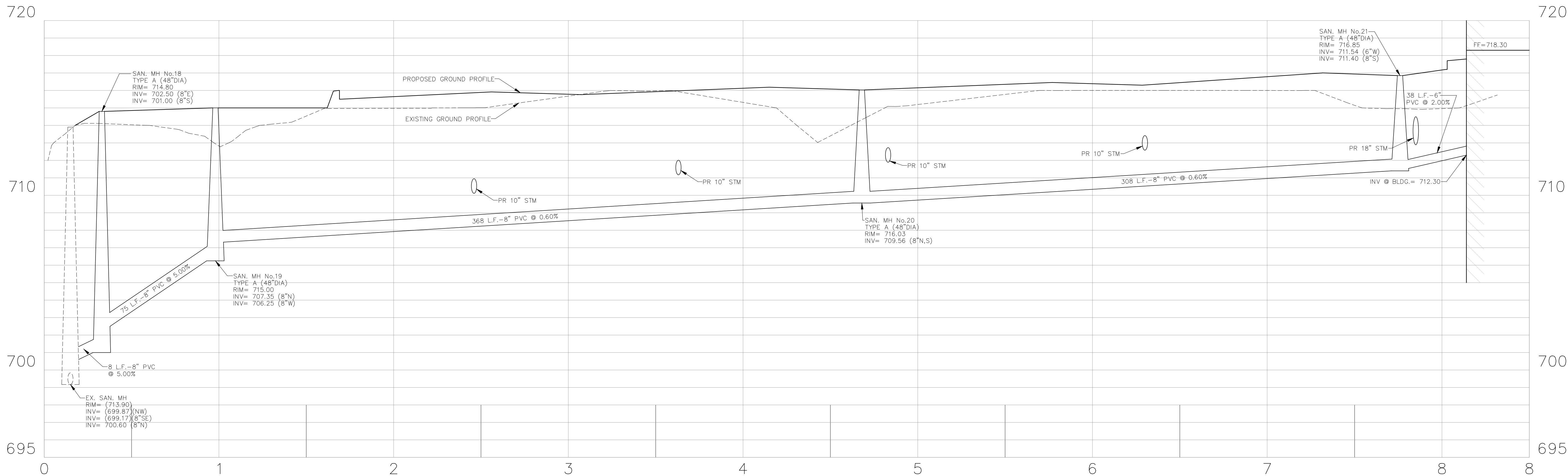
PROJECT NO.	32212717
DATE	10/17/17
SCALE	1"=30'
PROJ. MGR.	PDL
PROJ. ASSOC.	RWG
DRAWN BY	TLM

SHEET

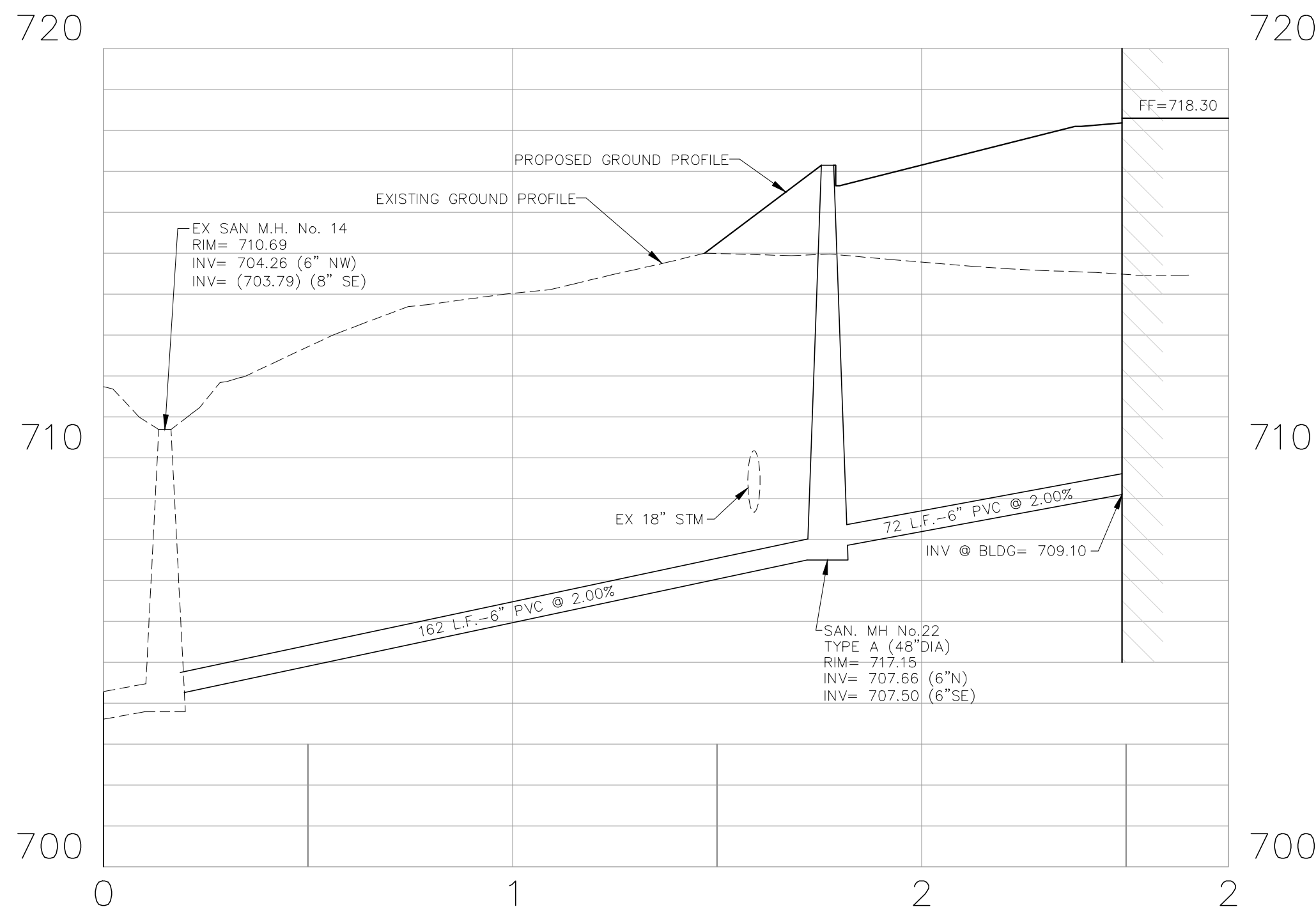
15 OF 20

© COPYRIGHT 2017

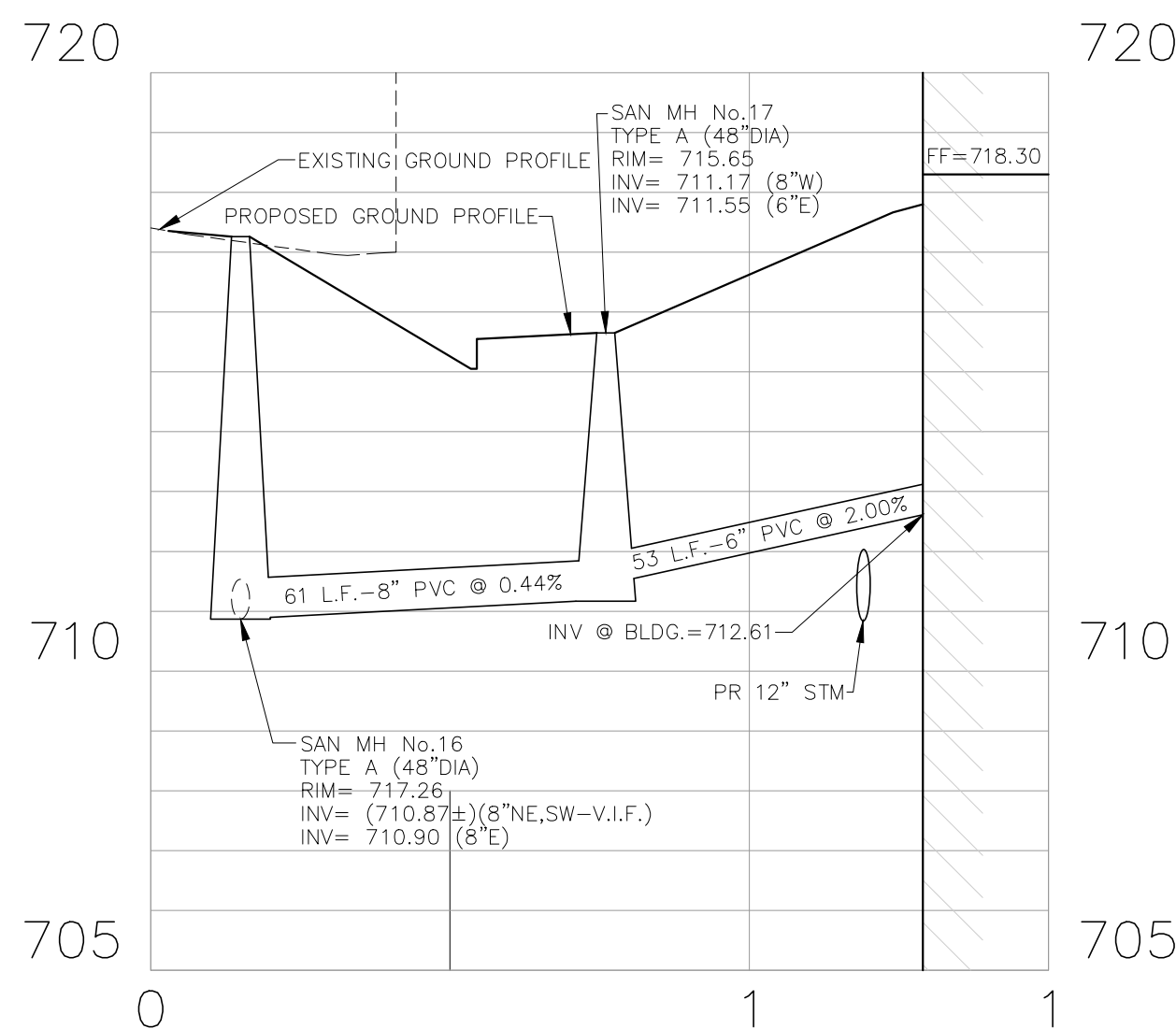




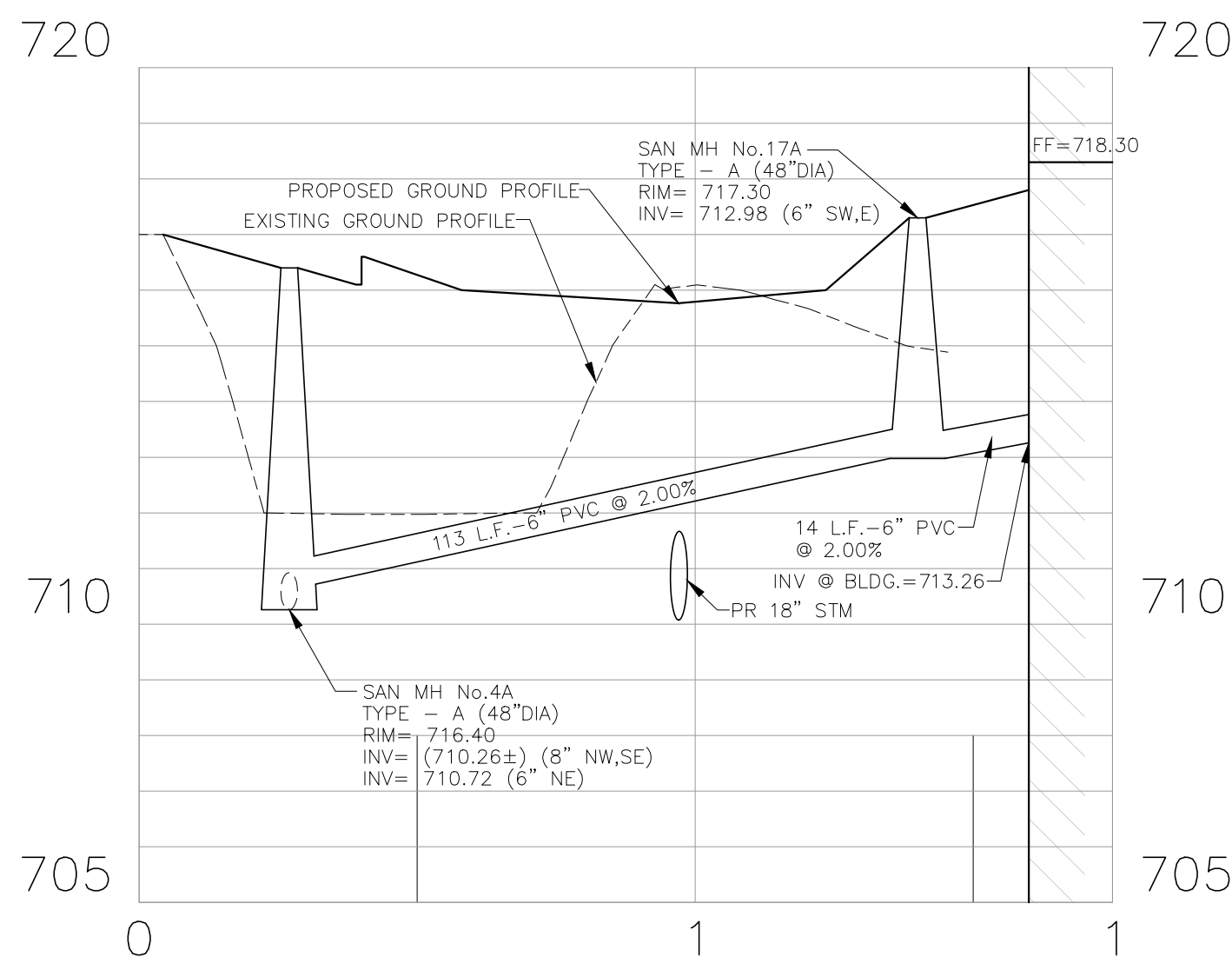
PHASE 2 - EAST SANITARY SERVICE
SCALE: 1"=30' HOR
1"= 3' VER



PHASE 2 - SOUTH SANITARY SERVICE
SCALE: 1"=30' HOR
1"= 3' VER



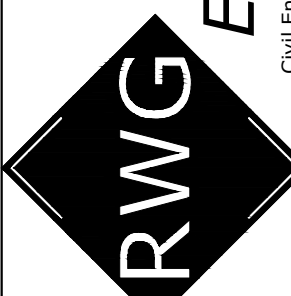
PHASE 1 - SOUTH SANITARY SERVICE
SCALE: 1"=30' HOR
1"= 3' VER



PHASE 1 - NORTH SANITARY SERVICE
SCALE: 1"=30' HOR
1"= 3' VER

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
PLAN AND PROFILE - PHASE 1 & 2

975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com



PROJECT NO. 32212717
DATE 10/17/17
SCALE 1"=30'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

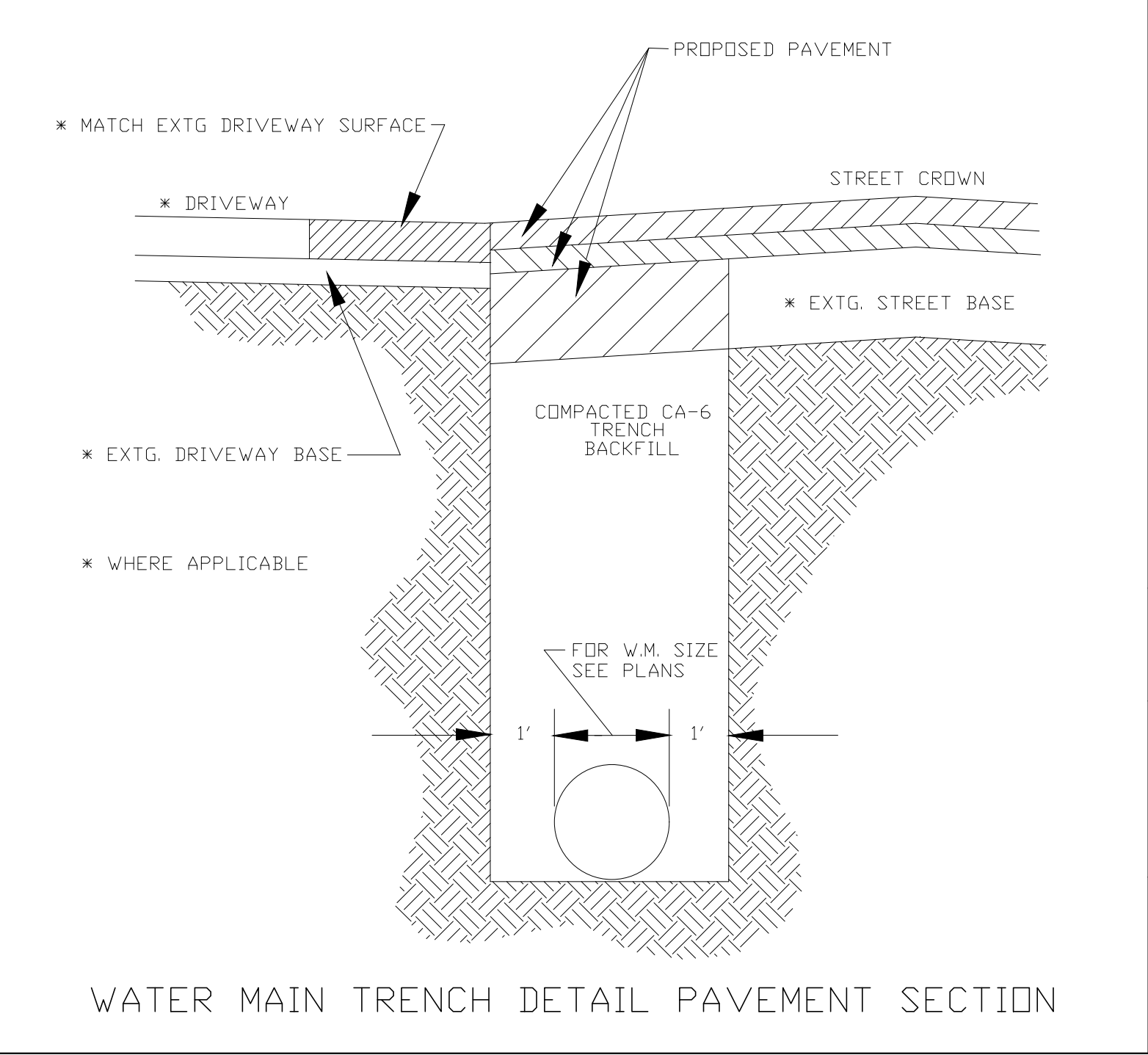
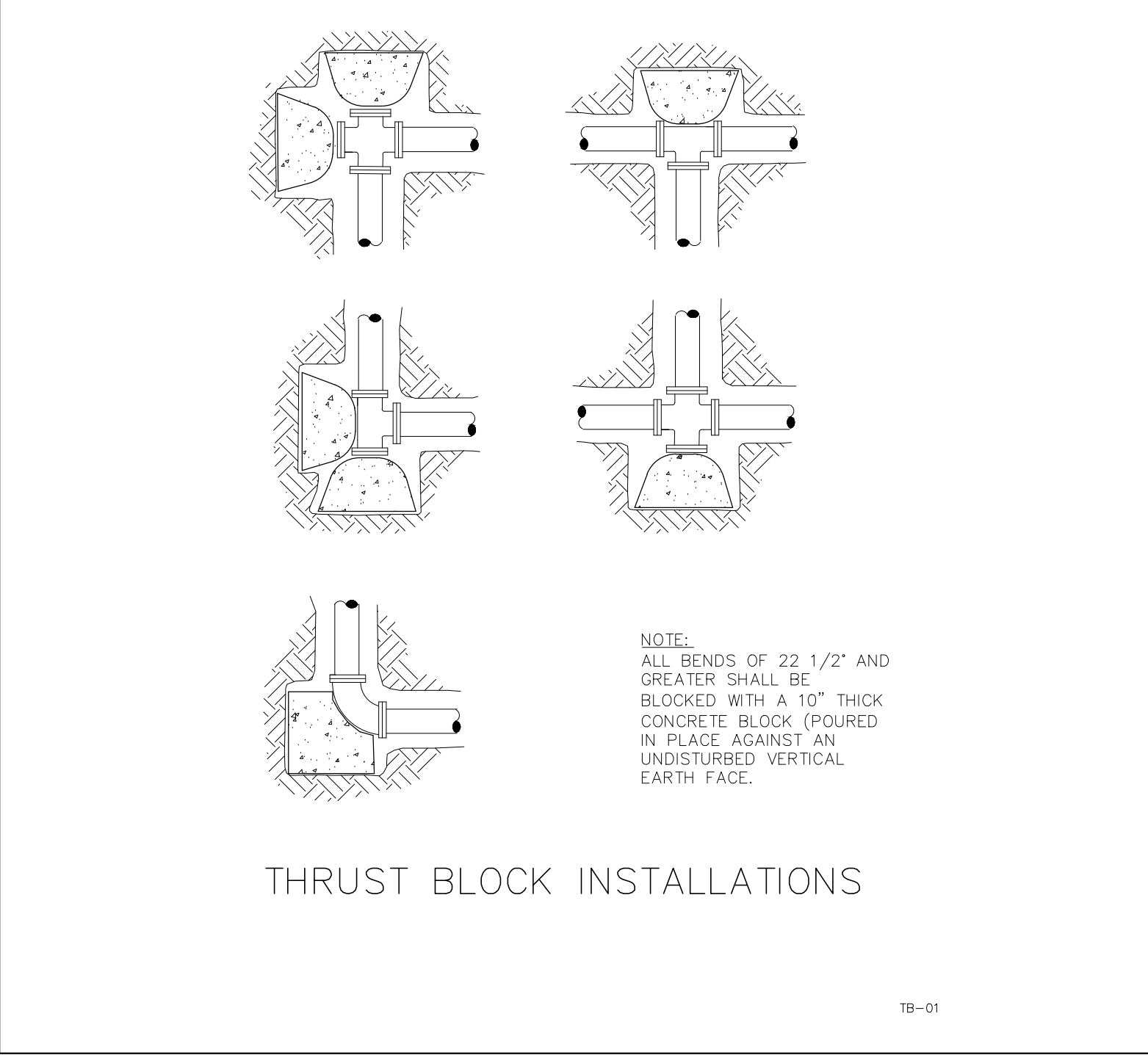
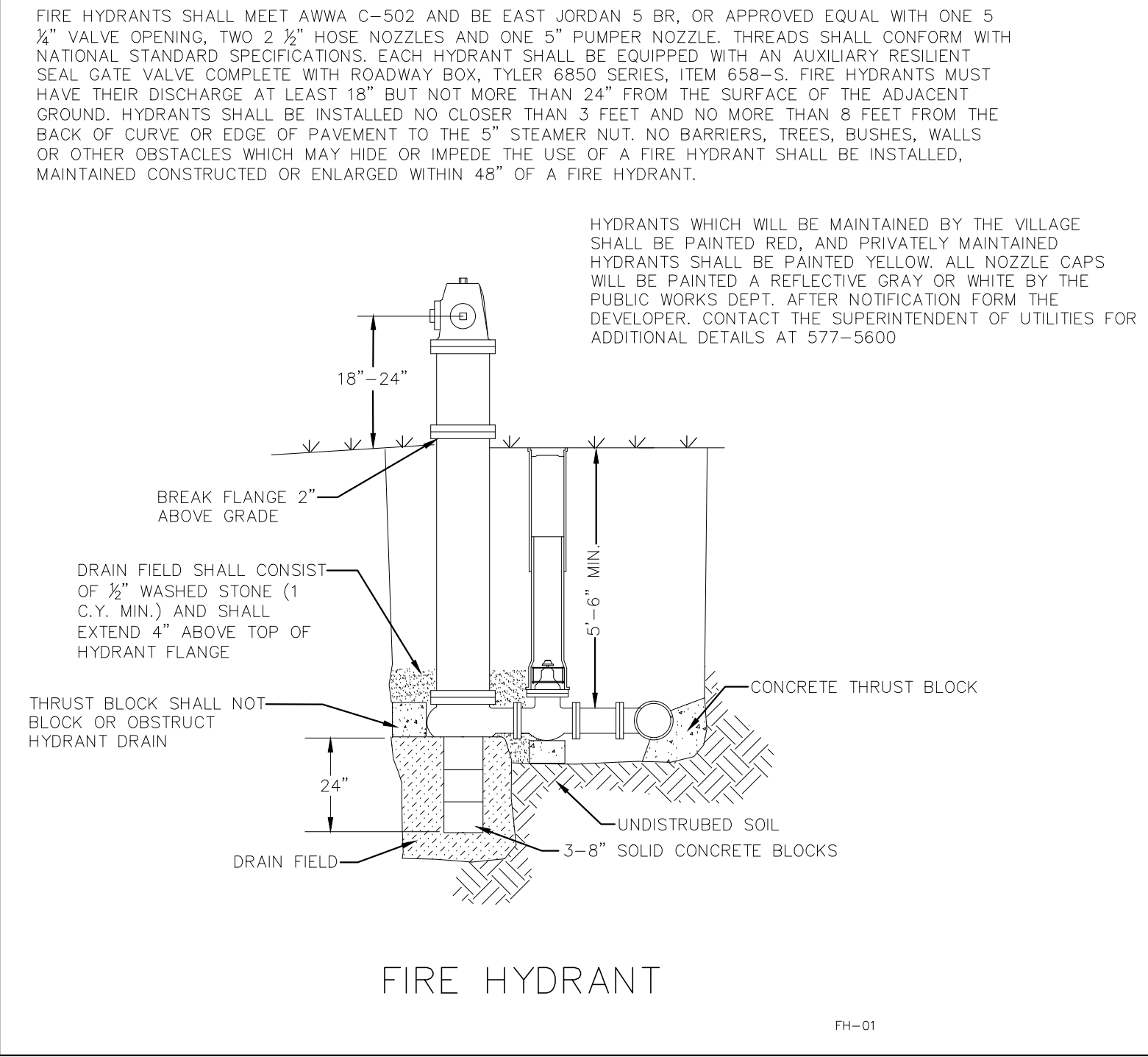
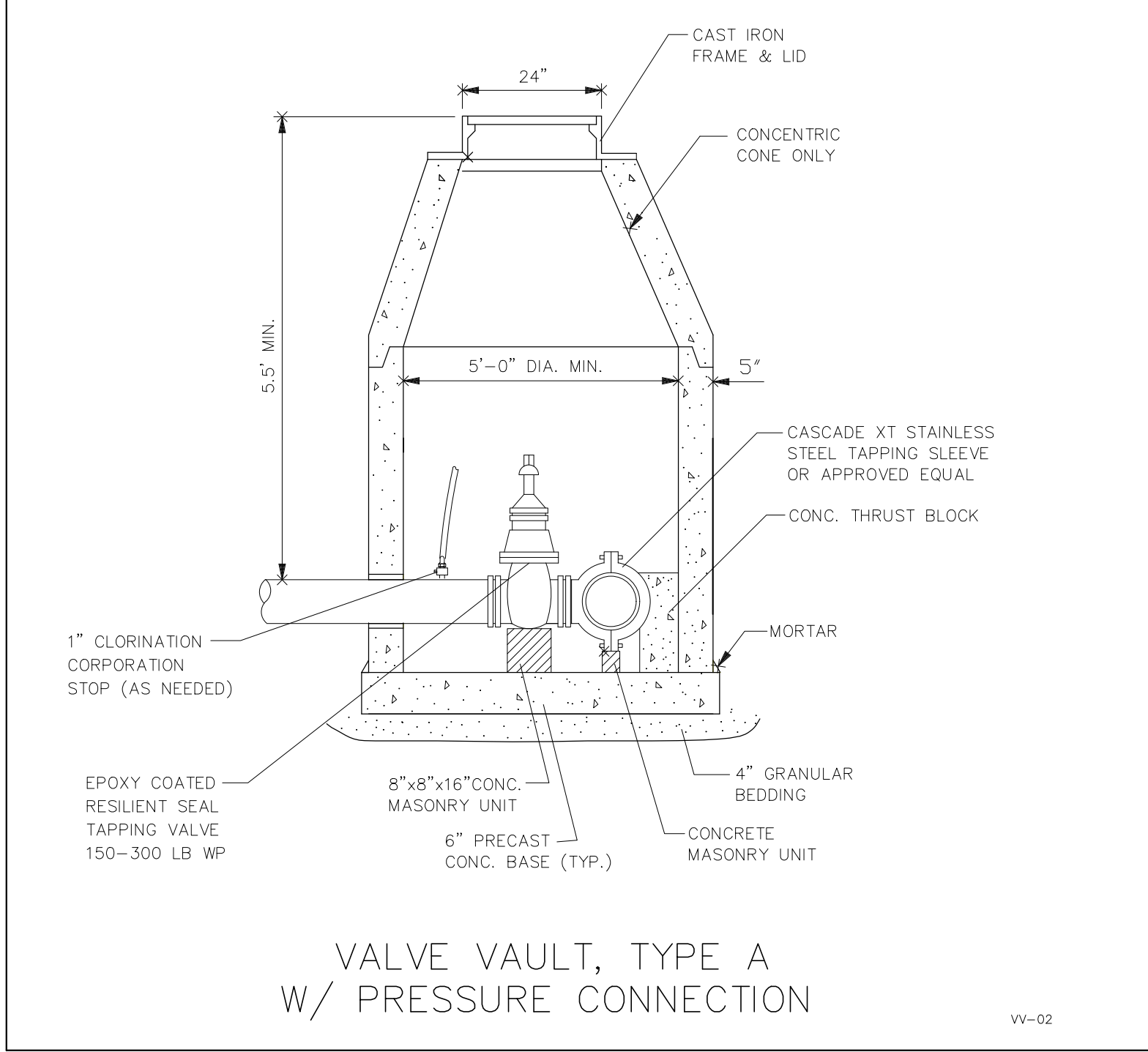
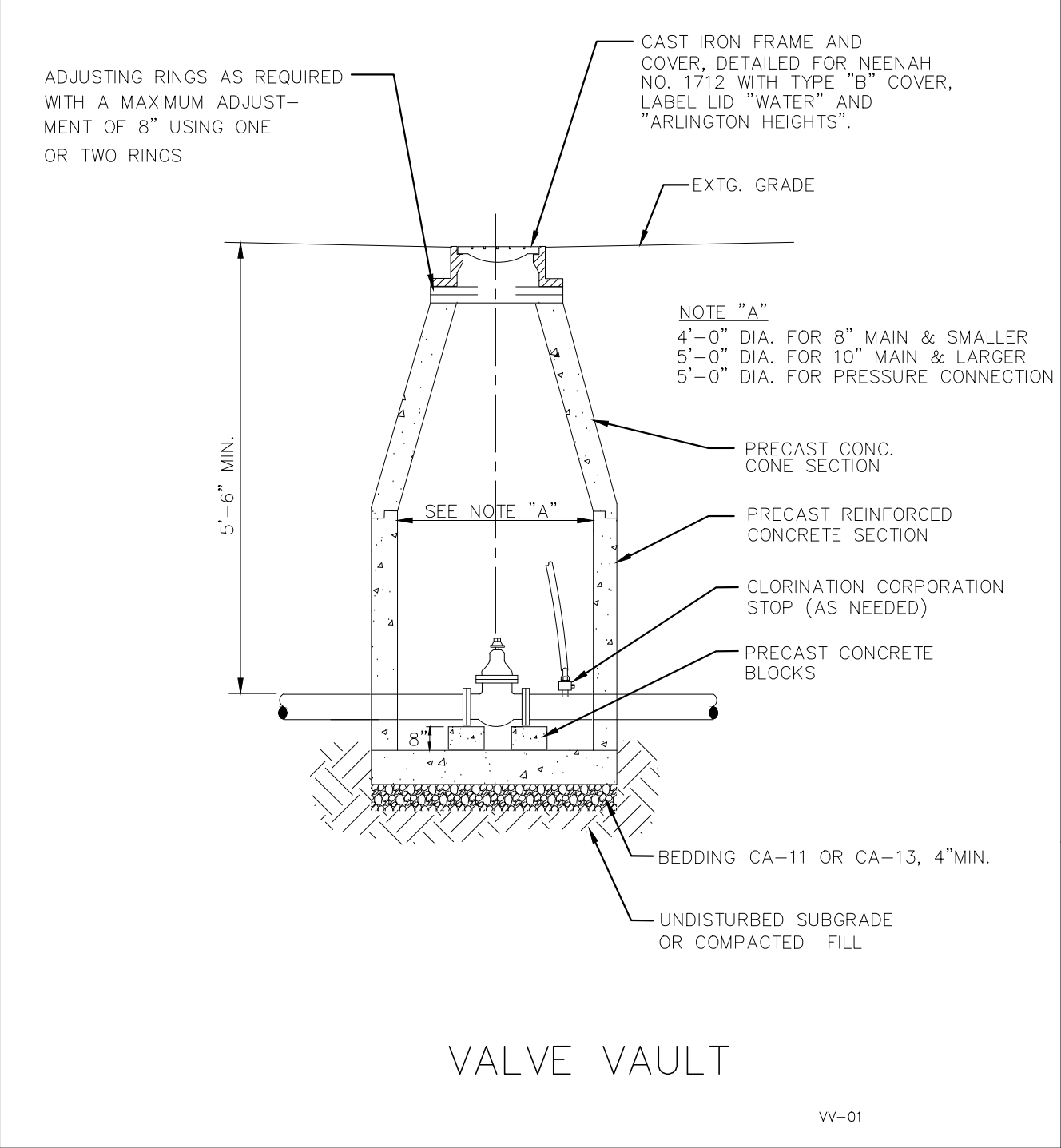
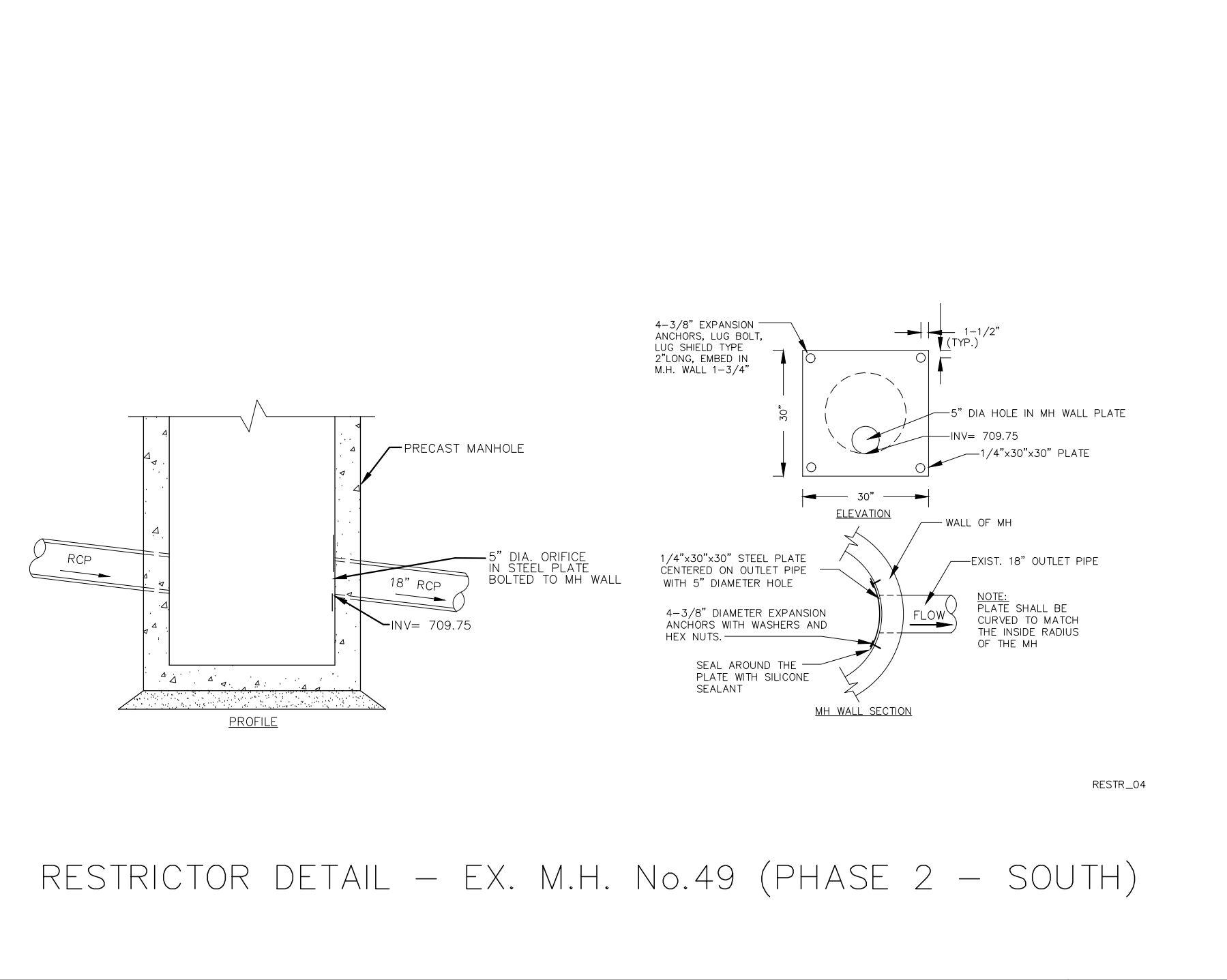
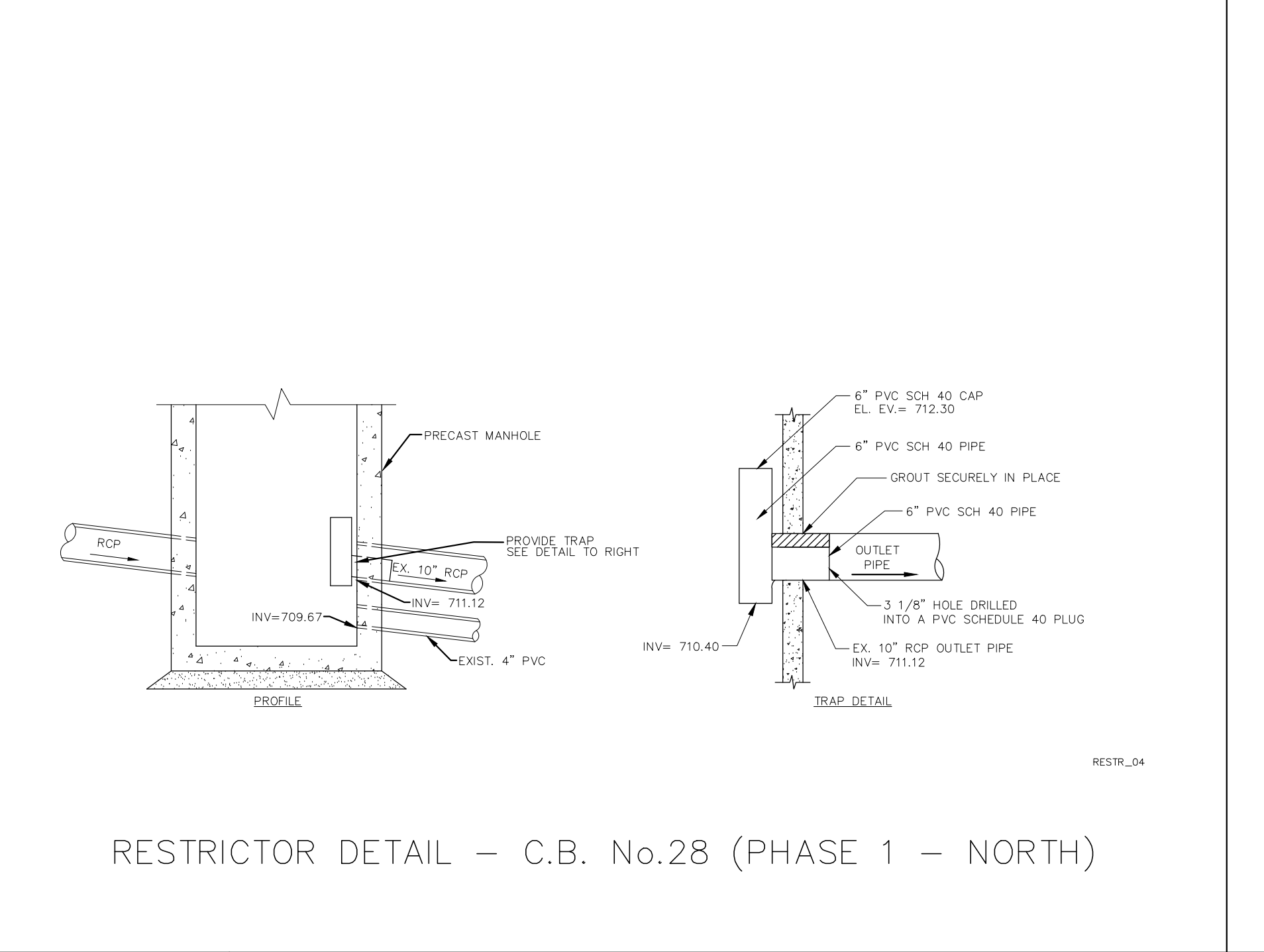
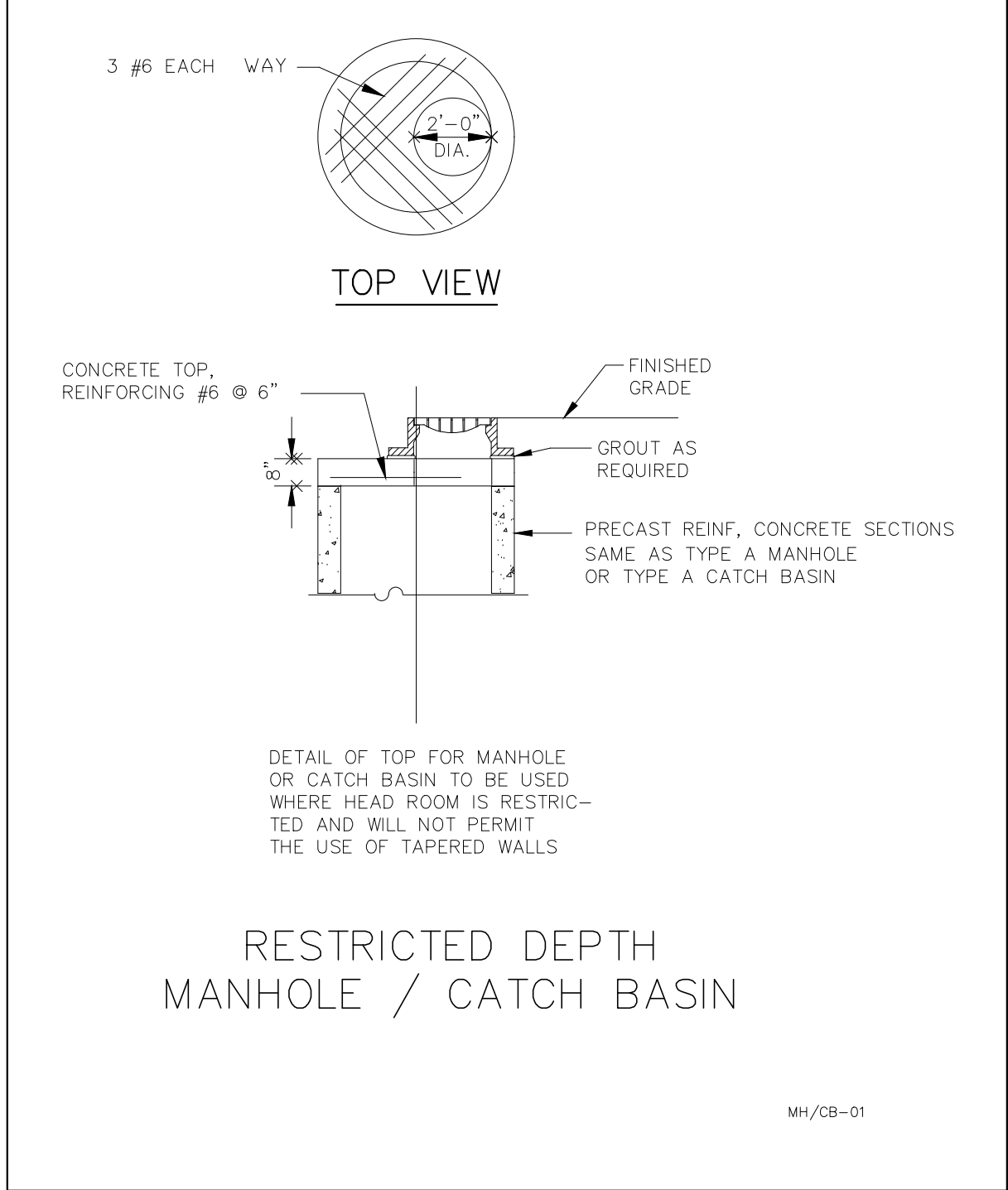
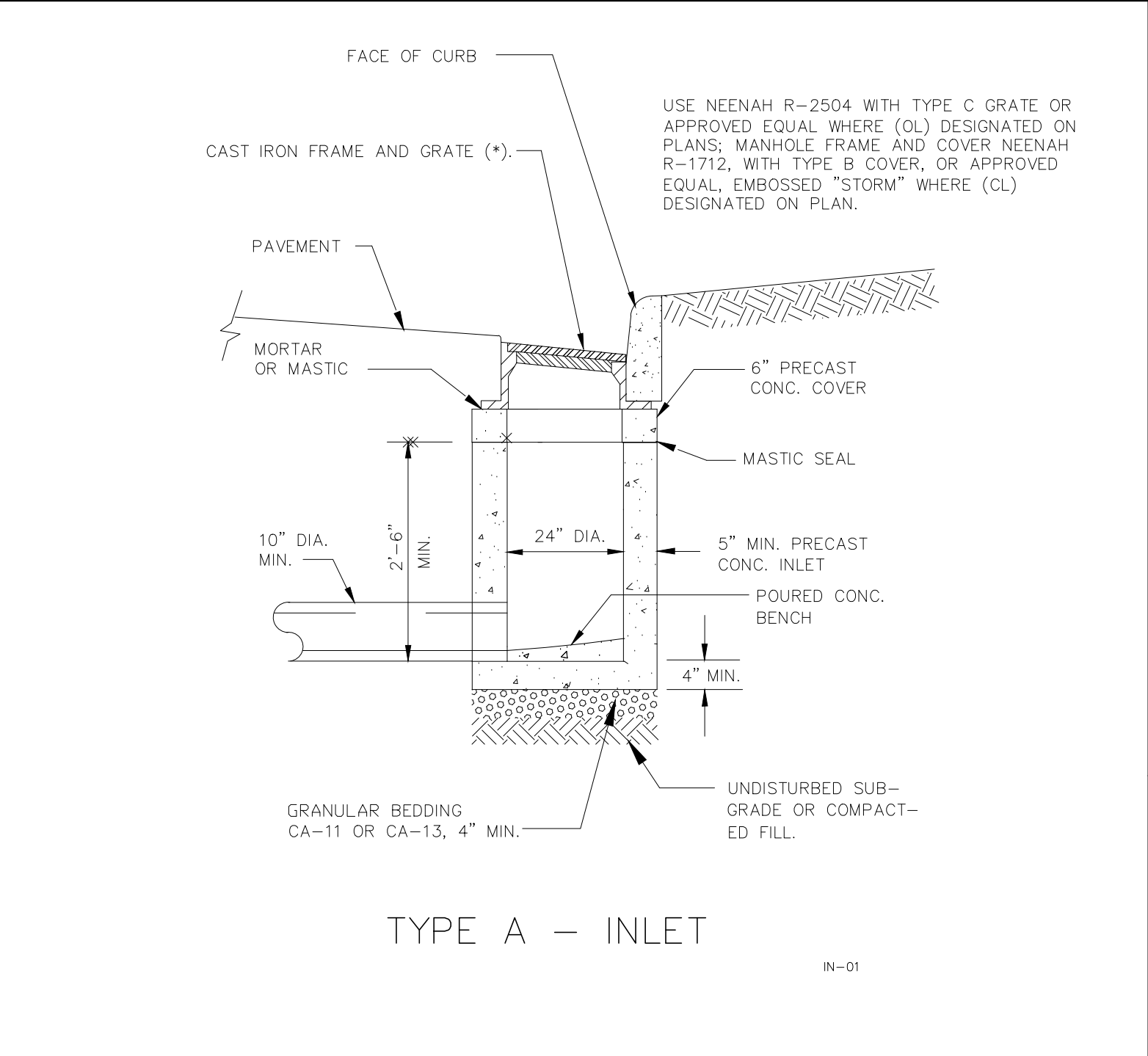
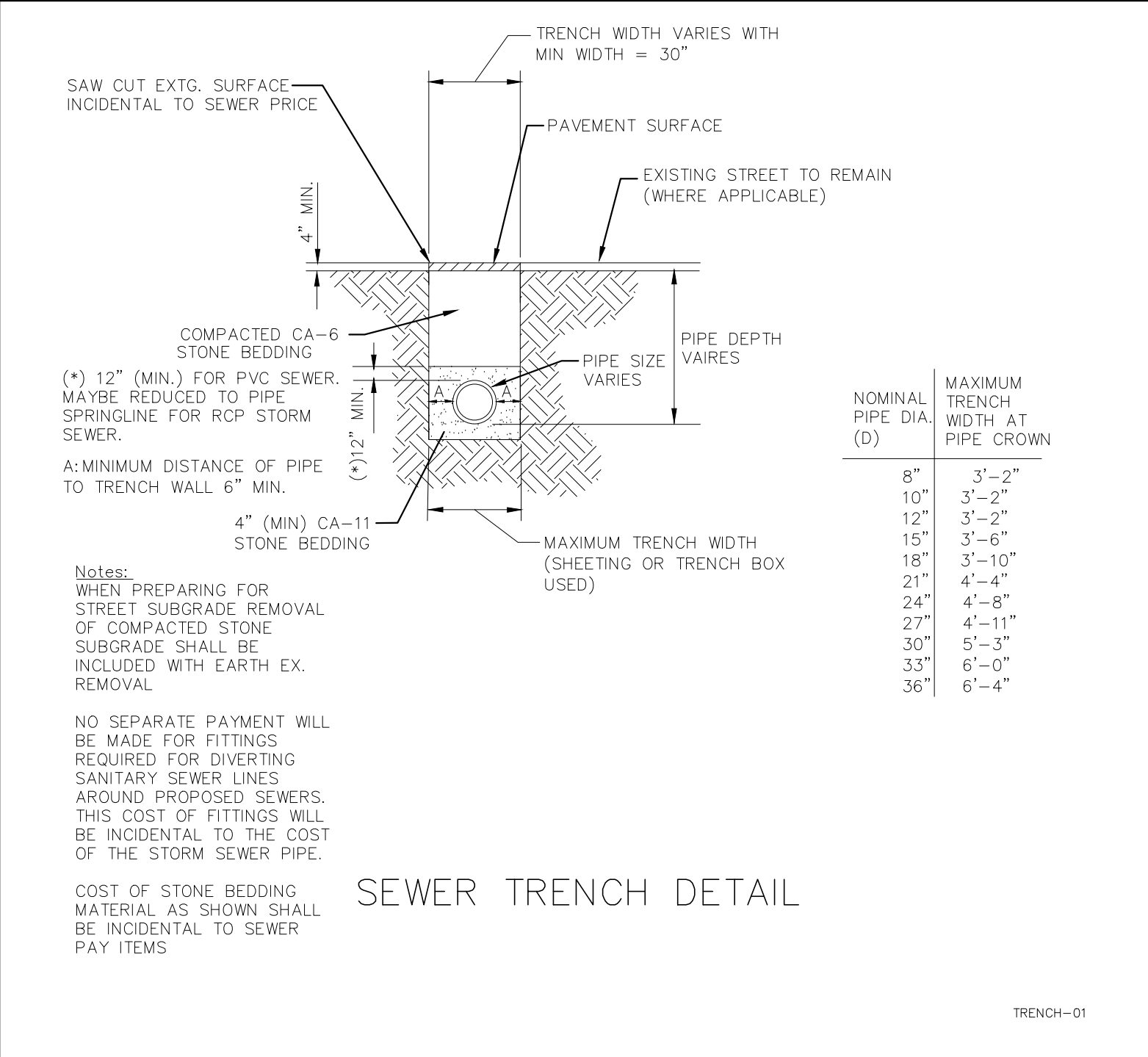
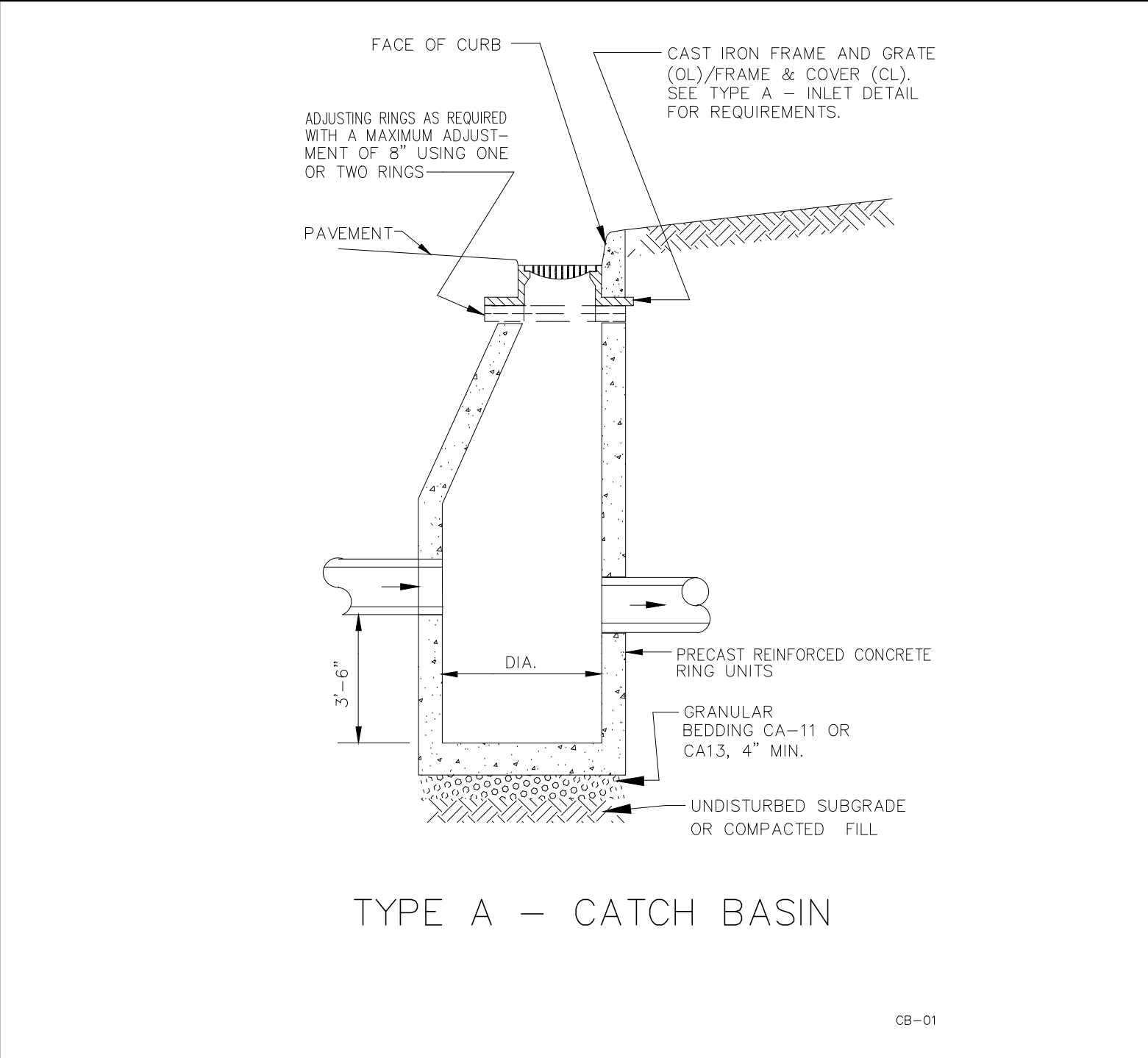
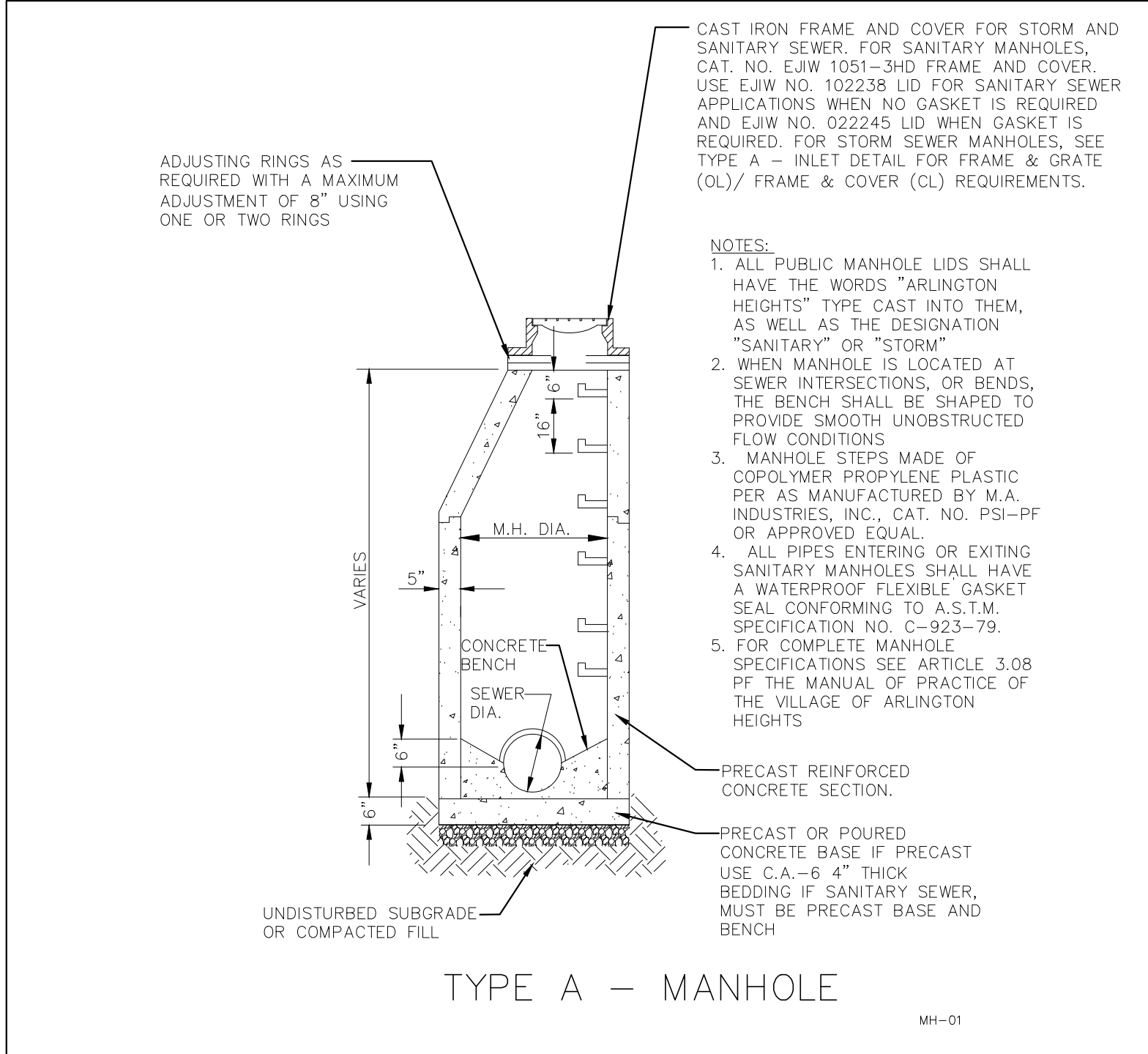
SHEET

17 OF 20

DATE	REVISIONS	DRAWN BY
12/06/17	VILLAGE ROUND ONE COMMENTS	TLM
01/09/18	VILLAGE ROUND TWO COMMENTS	TLM

© COPYRIGHT 2017

[illegible]



DATE	REVISIONS	DRAWN BY
12/06/17	VILLAGE ROUND ONE COMMENTS	TLM
01/09/18	VILLAGE ROUND TWO COMMENTS	TLM

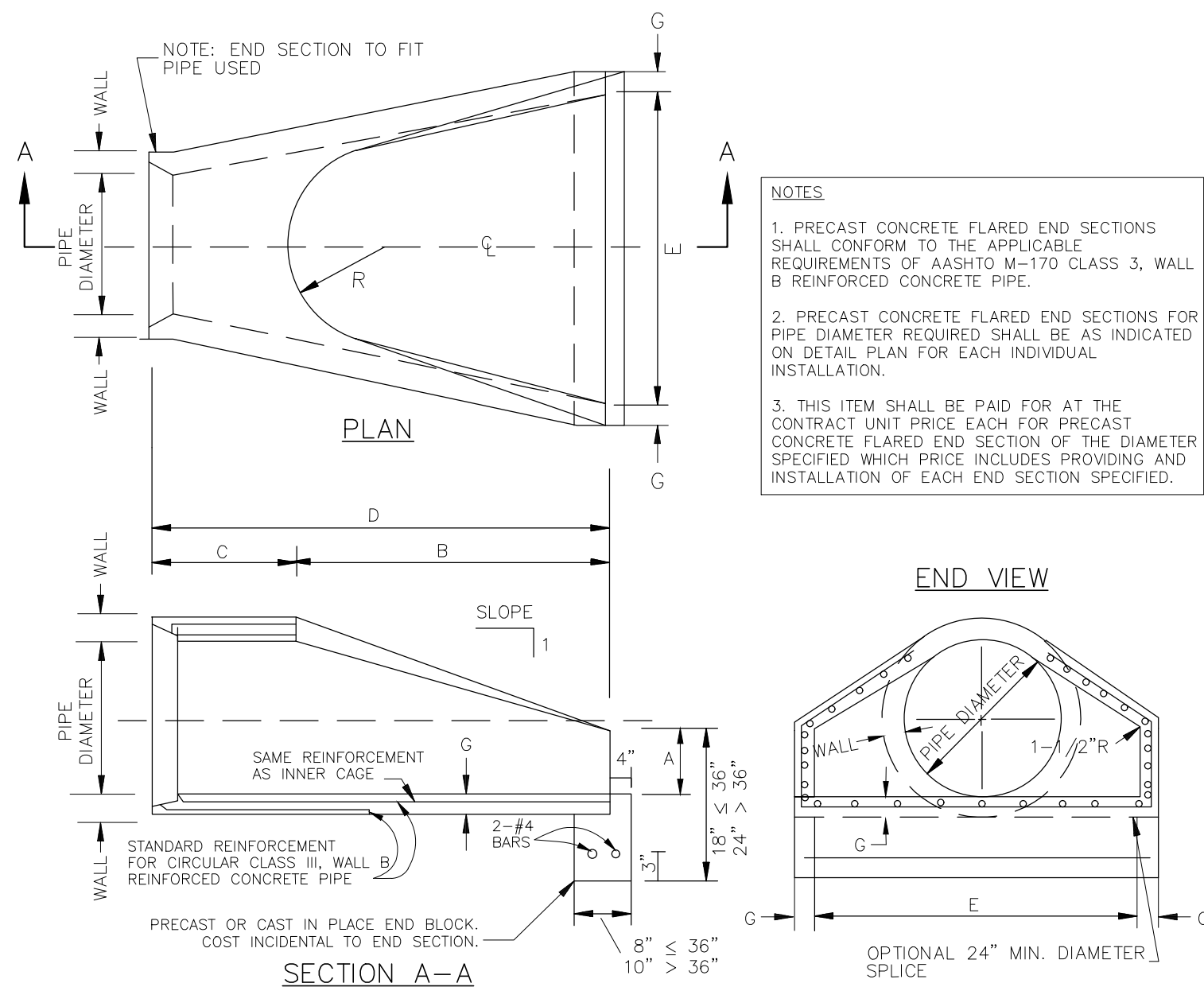
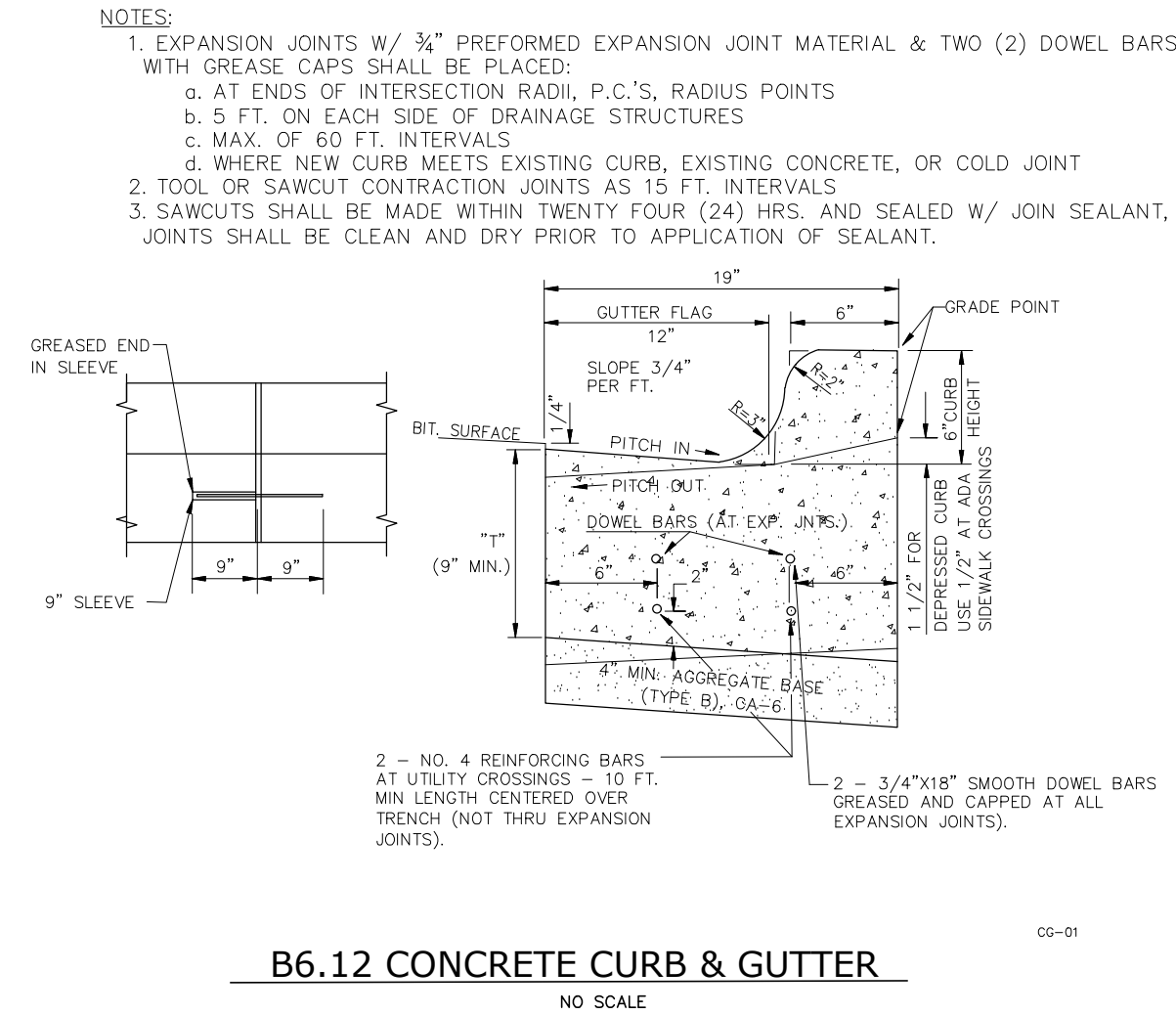
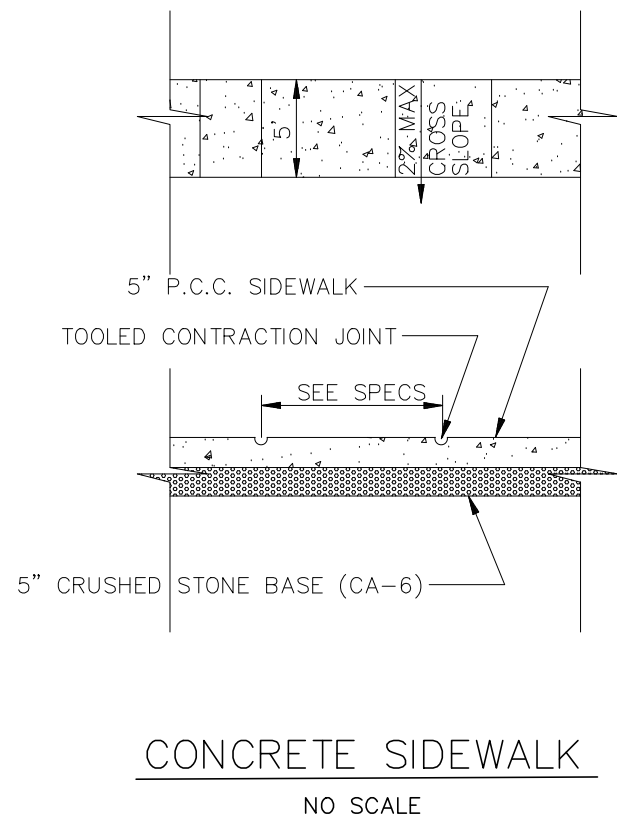
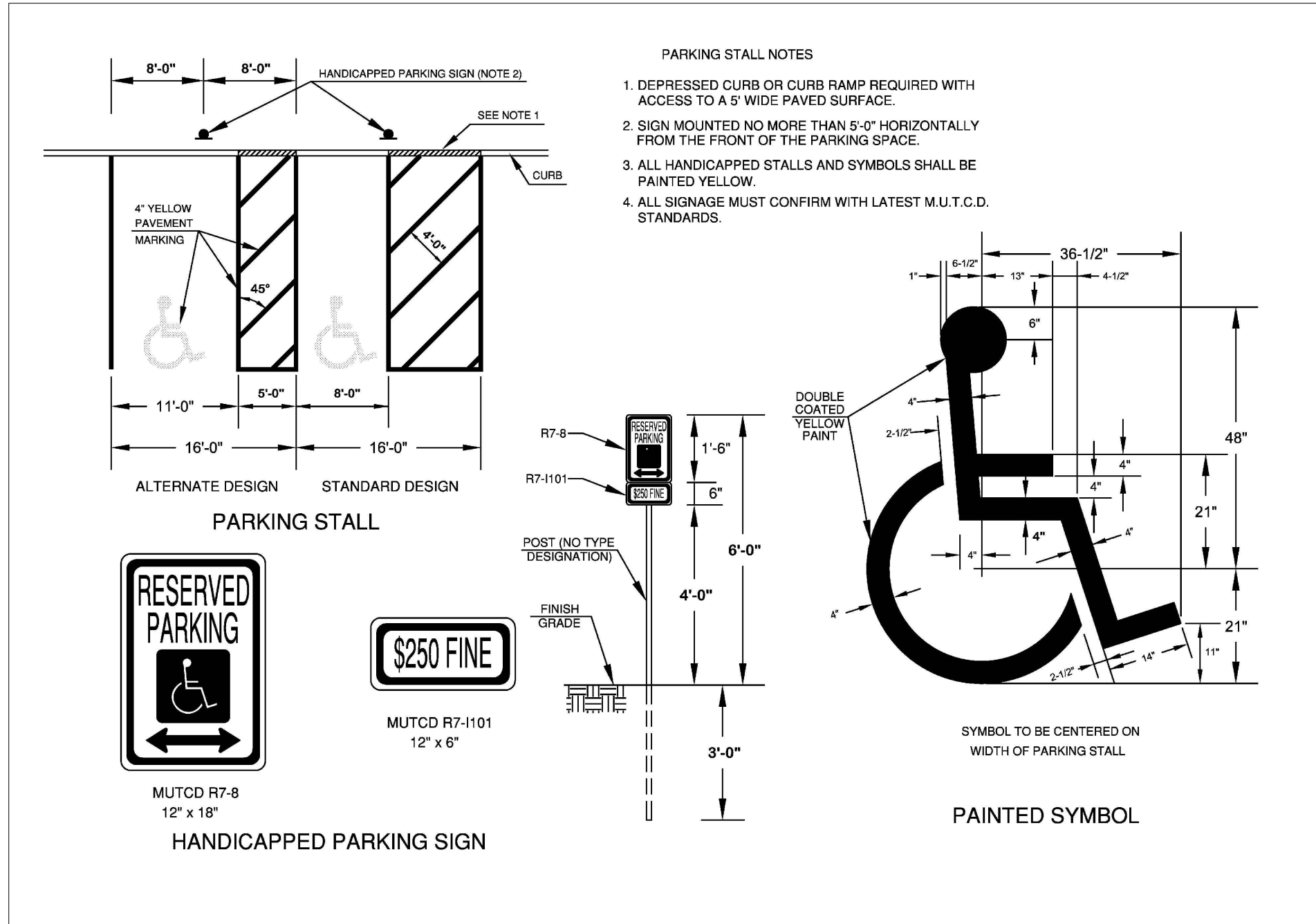
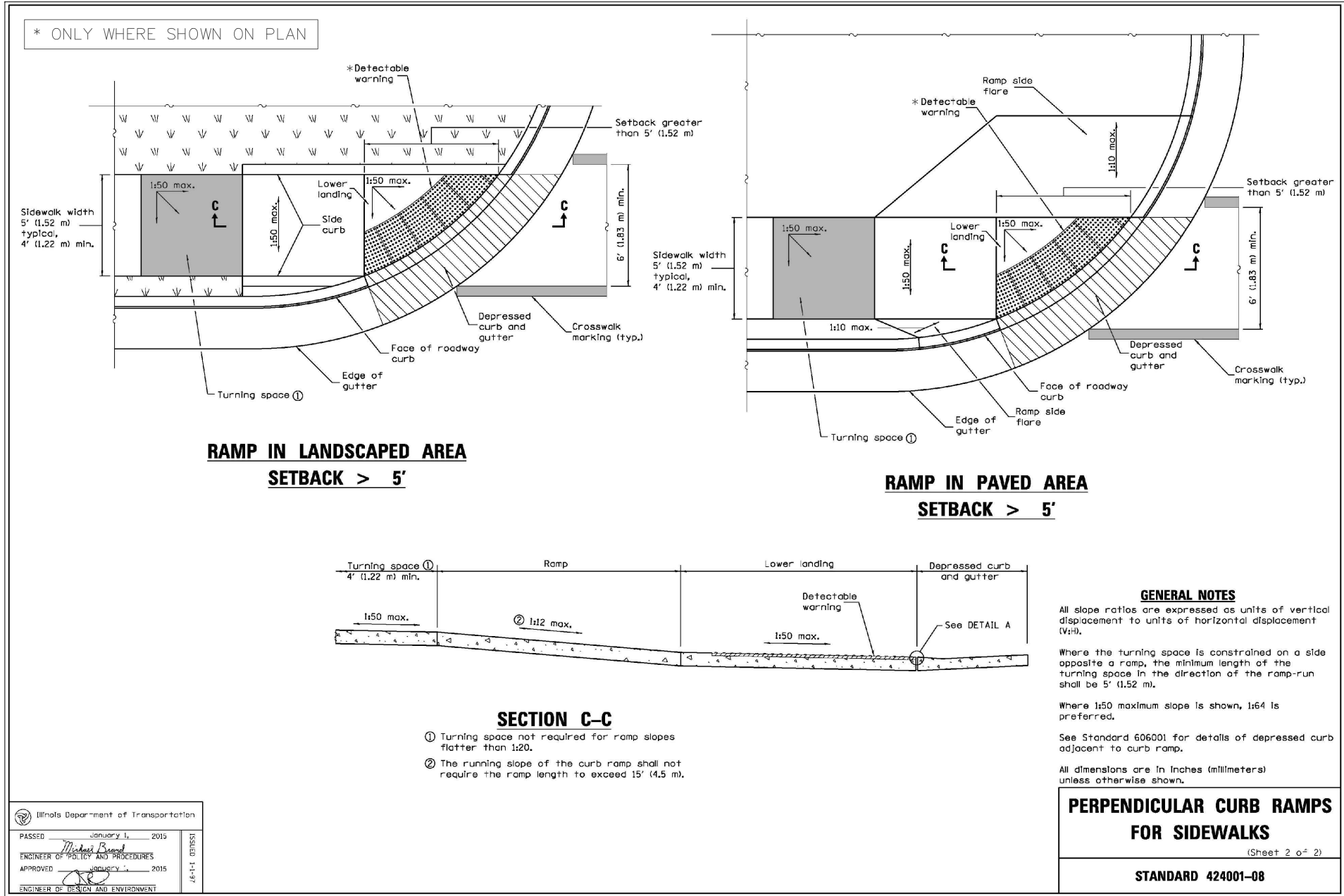
ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
CONSTRUCTION DETAILS AND STANDARDS

975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

RWG
Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management

PROJECT NO. 32212717
DATE 10/17/17
SCALE NONE
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET

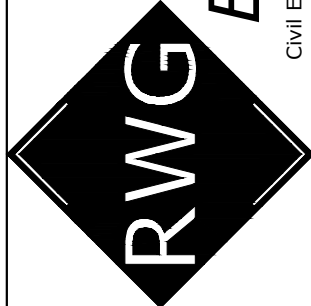


PIPE DIA.	APPROX. QTY. (lbs)	WALL (in)	A (in)	B (in)	C (in)	D (in)	E (in)	G (in)	R (in)	APPROX. SLOPE
12"	530	2	4	24	4'-0 7/8"	6'-0 7/8"	24	2	9	1:2.4
15"	740	2 1/4	6	27	3'-10"	6'-1"	30	2 1/4"	11	1:2.4
18"	990	2 1/2	9	27	3'-10"	6'-1"	36	2 1/2	12	1:2.4
21"	1280	2 3/4	9	35	38	6'-1"	3'-6"	2 3/4	13	1:2.4
24"	1520	3	9 1/2	3'-7 1/2"	30	6'-1 1/2"	4'-0"	3	14	1:2.5
27"	1930	3 1/4	10 1/2	4'-0"	25 1/2	6'-1 1/2"	4'-6"	3 1/4	14 1/2	1:2.4
30"	2190	3 1/2	12	4'-6"	19 3/4	6'-1 3/4"	5'-0"	3 1/2	15	1:2.5
33"	3200	3 3/4	13 1/2	4'-10 1/2"	39 1/4	8'-1 3/4"	5'-6"	3 3/4	17 1/2	1:2.5
36"	4100	4	15	5'-3"	34 3/4	8'-1 3/4"	6'-0"	4	20	1:2.5
42"	5380	4 1/2	21	5'-3"	35	8'-2"	6'-6"	4 1/2	22	1:2.5
48"	6550	5	24	6'-0"	26	8'-2"	7'-0"	5	22	1:2.5
54"	8240	5 1/2	27	5'-5"	35	8'-4"	7'-6"	5 1/2	24	1:2.0
60"	8730	6	35	5'-0"	39	8'-3"	8'-0"	5	*	1:1.9
66"	10710	6 1/2	30	6'-0"	27	8'-3"	8'-6"	5 1/2	*	1:1.7
72"	12520	7	36	6'-6"	21	8'-3"	9'-0"	6	*	1:1.8
78"	14770	7 1/2	36	7'-6"	21	9'-3"	9'-6"	6 1/2	*	1:1.8
84"	18160	8	36	7'-6 1/2"	21	9'-3 1/2"	10'-0"	6 1/2	*	1:1.6

* RADIUS AS FURNISHED BY MANUFACTURER

NOTE: GRATES, WHERE SPECIFIED, SHALL BE PROVIDED FOR ALL PRECAST REINFORCED CONCRETE FLARED END SECTIONS.

FES-02



Engineering, LLC

975 E. 22nd St, Suite 400
Wichita, KS 67203
www.rwg-engineering.com

PROJECT NO. 32212127
DATE 10/17/17
SCALE NONE
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET

20 OF 20

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
CONSTRUCTION DETAILS AND STANDARDS

DATE	REVISIONS	DRAWN BY
12/05/17	VILLAGE ROUND ONE COMMENTS	TLM
07/09/18	VILLAGE ROUND TWO COMMENTS	TLM

© COPYRIGHT 2017

Technical drawing of a rectangular plate with dimensions 152 mm by 152 mm. The plate features a grid of 10 horizontal and 10 vertical lines. The left edge has a series of semi-circular indentations, and the bottom-left corner is chamfered.

PROJECT SUMMARY				NOTES
CALCULATION DETAILS	STORAGE SUMMARY	PIPE DETAILS	BACKFILL DETAILS	
• LENGTH PER MANHOLE = 138 FT	• STORAGE VOLUME REQUIRED 39,304 CF	• DIAMETER = 8" N	• WIDTH AT END = 12" N	
• 10' LONG HASKER = 81.50 FT	• PIPE STORAGE = 19,388 CF	• COVERING = 6" X 1' OR 8" X 1'	• ABOVE PIPE = 8" N	
• LANDING = 10.0 N	• STRUCTURAL BACKFILL STORAGE = 8,835 CF	• GAGE = 15"	• WIDTH AT SIDES = 14" N	
• APPROX. CWP FOOTAGE = 1,304 FT	• TOTAL STORAGE PROVIDED = 39,322 CF	• COATING = ALUMINIZED STEEL	• BELOW PIPE = 4" N	
		• WALL TYPE = SOLID WALL WITH EXPLORATION JOINTS		
		• BARREL SPACING = 18" N		

				DYODS - 5257-1-0 PROJECT NAME: Arlington Heights Industrial Arlington Heights, IL DESCRIPTION: NORTH SYSTEM - PHASE 1		4551-A 4551-B 4551-C 4551-D 4551-E 4551-F 4551-G 4551-H 4551-I 4551-J 4551-K 4551-L 4551-M 4551-N 4551-O 4551-P 4551-Q 4551-R 4551-S 4551-T 4551-U 4551-V 4551-W 4551-X 4551-Y 4551-Z 4551-AA 4551-AB 4551-AC 4551-AD 4551-AE 4551-AF 4551-AG 4551-AH 4551-AI 4551-AJ 4551-AL 4551-AM 4551-AN 4551-AO 4551-AP 4551-AQ 4551-AR 4551-AS 4551-AT 4551-AU 4551-AV 4551-AW 4551-AX 4551-AY 4551-AZ 4551-BA 4551-BB 4551-BC 4551-BD 4551-BE 4551-BF 4551-BG 4551-BH 4551-BI 4551-BJ 4551-BL 4551-BM 4551-BN 4551-BO 4551-BP 4551-BQ 4551-BR 4551-BS 4551-BT 4551-BU 4551-BV 4551-BW 4551-BX 4551-BY 4551-BZ 4551-CA 4551-CB 4551-CC 4551-CD 4551-CE 4551-CF 4551-CG 4551-CH 4551-CI 4551-CJ 4551-CL 4551-CM 4551-CN 4551-CO 4551-CP 4551-CQ 4551-CR 4551-CS 4551-CT 4551-CU 4551-CV 4551-CW 4551-CX 4551-CY 4551-CZ 4551-DA 4551-DB 4551-DC 4551-DD 4551-DE 4551-DF 4551-DG 4551-DH 4551-DI 4551-DJ 4551-DL 4551-DM 4551-DN 4551-DO 4551-DP 4551-DQ 4551-DR 4551-DS 4551-DT 4551-DU 4551-DV 4551-DW 4551-DX 4551-DY 4551-DZ 4551-EA 4551-EB 4551-EC 4551-ED 4551-EE 4551-EF 4551-EG 4551-EH 4551-EI 4551-EJ 4551-EL 4551-EM 4551-EN 4551-EO 4551-EP 4551-EQ 4551-ER 4551-ES 4551-ET 4551-EU 4551-EV 4551-EW 4551-EX 4551-EY 4551-EZ 4551-FA 4551-FB 4551-FC 4551-FD 4551-FE 4551-FF 4551-FG 4551-FH 4551-FI 4551-FJ 4551-FL 4551-FM 4551-FN 4551-FO 4551-FP 4551-FQ 4551-FR 4551-FS 4551-FT 4551-FU 4551-FV 4551-FW 4551-FX 4551-FY 4551-FZ 4551-GA 4551-GB 4551-GC 4551-GD 4551-GE 4551-GF 4551-GG 4551-GH 4551-GI 4551-GJ 4551-GL 4551-GM 4551-GN 4551-GO 4551-GP 4551-GQ 4551-GR 4551-GS 4551-GT 4551-GU 4551-GV 4551-GW 4551-GX 4551-GY 4551-GZ 4551-HA 4551-HB 4551-HC 4551-HD 4551-HE 4551-HF 4551-HG 4551-HH 4551-HI 4551-HJ 4551-HL 4551-HM 4551-HN 4551-HO 4551-HP 4551-HQ 4551-HR 4551-HS 4551-HT 4551-HU 4551-HV 4551-HW 4551-HX 4551-HY 4551-HZ 4551-IA 4551-IB 4551-IC 4551-ID 4551-IE 4551-IF 4551-IG 4551-IH 4551-II 4551-IJ 4551-IL 4551-IM 4551-IN 4551-IO 4551-IP 4551-IQ 4551-IR 4551-IS 4551-IT 4551-IU 4551-IV 4551-IW 4551-IX 4551-IY 4551-IZ 4551-JA 4551-JB 4551-JC 4551-JD 4551-JE 4551-JF 4551-JG 4551-JH 4551-JI 4551-JJ 4551-JL 4551-JM 4551-JN 4551-JO 4551-JP 4551-JQ 4551-JR 4551-JS 4551-JT 4551-JU 4551-JV 4551-JW 4551-JX 4551-JY 4551-JZ 4551-KA 4551-KB 4551-KC 4551-KD 4551-KE 4551-KF 4551-KG 4551-KH 4551-KI 4551-KJ 4551-KL 4551-KM 4551-KN 4551-KO 4551-KP 4551-KQ 4551-KR 4551-KS 4551-KT 4551-KU 4551-KV 4551-KW 4551-KX 4551-KY 4551-KZ 4551-LA 4551-LB 4551-LC 4551-LD 4551-LE 4551-LF 4551-LG 4551-LH 4551-LI 4551-LJ 4551-LK 4551-LM 4551-LN 4551-LO 4551-LP 4551-LQ 4551-LR 4551-LS 4551-LT 4551-LU 4551-LV 4551-LW 4551-LX 4551-LY 4551-LZ 4551-MA 4551-MB 4551-MC 4551-MD 4551-ME 4551-MF 4551-MG 4551-MH 4551-MI 4551-MJ 4551-MK 4551-ML 4551-MN 4551-MO 4551-MP 4551-MQ 4551-MR 4551-MS 4551-MT 4551-MU 4551-MV 4551-MW 4551-MX 4551-MY 4551-MZ 4551-NA 4551-NB 4551-NC 4551-ND 4551-NE 4551-NF 4551-NG 4551-NH 4551-NI 4551-NJ 4
---	--	---	--	--	--	--

Figure 1 is a plan view of the test specimen. It shows a rectangular plate with a width of 10 ft and a length of 250 ft. The plate is divided into sections by vertical stiffeners. The stiffeners are labeled '10 ft' and '250 ft'.

PROJECT SUMMARY			STATUS
CALCULATION DETAILS	STORAGE SUMMARY	PIPE DETAILS	BACKFILL DETAILS
• LENGTH OF BARREL = 233 FT	• STORAGE VOLUME REQUIRED 96.527 CF	• DIAMETER = 96 IN	• WIDTH AT DGS = 12 IN
• PIPE THICKNESS = 98 FT	• PIPE STORAGE = 0.652 CF	• WALL THICKNESS = 1" X 8" X 3" 1"	• ABOVE PIPE = 3 IN
• LENGTH = 202.5 IN	• STRUCTURE, BACKFILL STORAGE = 1.864 CF	• COATING = ALUMINUM RUST TYPE 2 ULTZ	• BELOW PIPE = 4 IN
• APPROX. CMT POSTAGE = 1.022 FT	• TOTAL STORAGE PROVIDED = 96.527 CF	• TYPE = 96" S&W HALL MARK WITH EXPIRATION DATES = 24 IN	
		• BARREL SPACING = 24 IN	

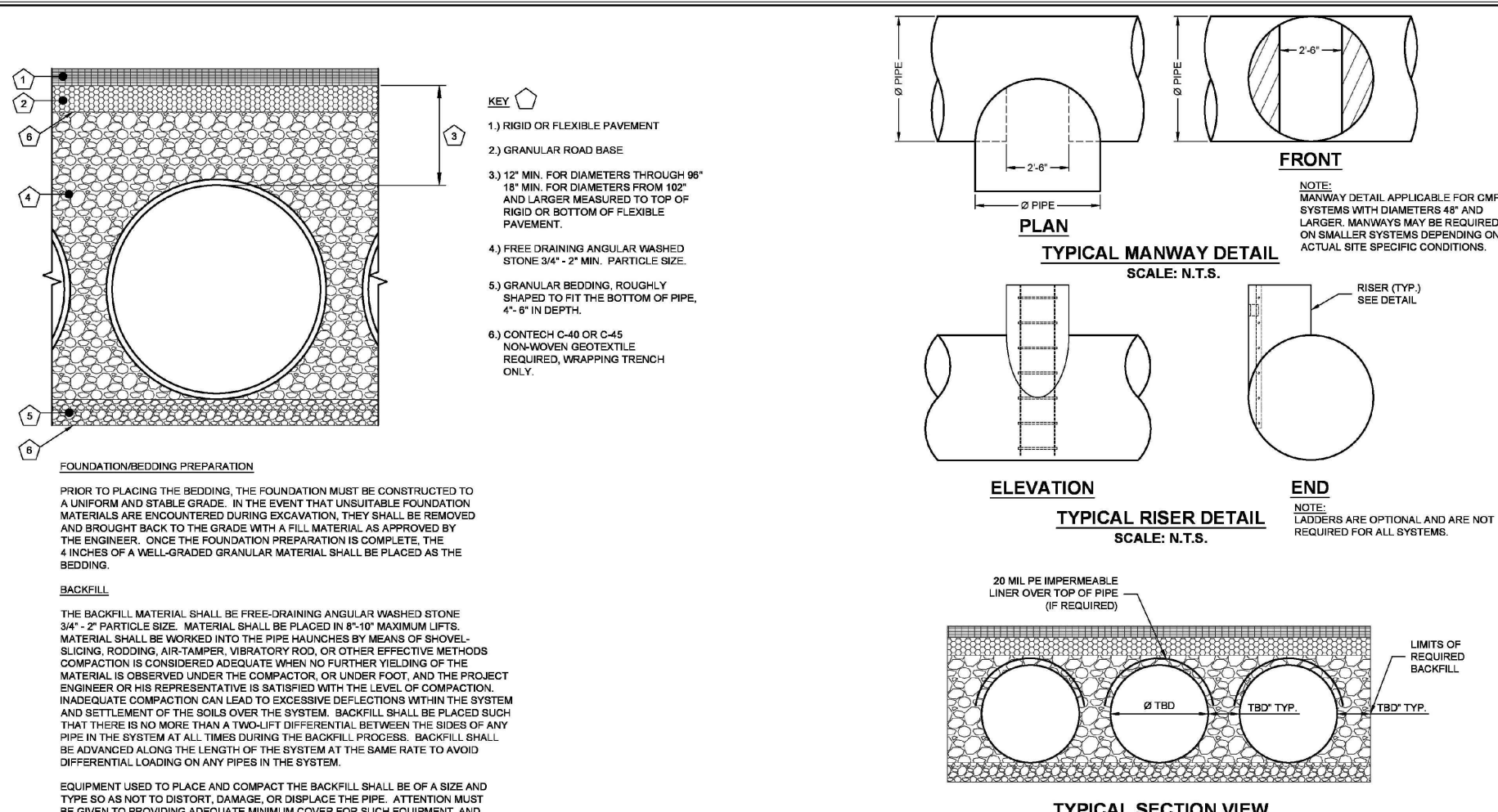
				DYODS - 5308-2-0 PROJECT NAME: Arlington Heights Industrial Arlington Heights, IL DESCRIPTION: SOUTH SYSTEM - PHASE 2 - 66" PORTION		PROJECT NO. 5308-2	REV NO. 1011-0117	DRAWN JMM/MS	CHECKED UNREVIEWED	SHEET NO. D1
9001 Cedar Pointe Dr., Suite 400, West Chicago, IL 60091 Tel: 815.384.1122 Fax: 815.384.7000 Website: www.contech-es.com		1001 W. Lake Street, Suite 200, Chicago, IL 60606 Tel: 312.346.7000 Fax: 312.346.7001 Website: www.contech-cd.com		CONTECH CIVIL DETENTION SYSTEMS						
DATE 01/11/17	REVISION DESCRIPTION 21									

PROJECT SUMMARY				NOTES
CALCULATION DETAILS	STORAGE SUMMARY	PIPE DETAILS	BACKFILL DETAILS	
• LENGTH PER BARREL = 66 FT	• STORAGE VOLUME REQUIRED 14,675 CF	• DIAMETER = 36" N	• WIDTH AT BASE = 12" N	
• LENGTH PER HEADS = 66.50 FT	• PIPE STORAGE = 11,280 CF	• WALL THICKNESS = 0.5" X 12" OR 3" X 1"	• WIDTH AT SIDES = 12" N	
• CLOSING + HD 3 = 18.50 FT	• STRUCTURAL BACKFILL STORAGE = 3,404 CF	• GAGE = 16"	• WIDTH AT TOP = 12" N	
• APPROX. CAMP FOOTAGE = 700 FT	• TOTAL STORAGE PROVIDED = 14,676 CF	• COATING = ALUMINIZED STEEL	• BELOW PIPE = 4" N	
		• PIPE ID/OD = 36" / 42"		
		• WALL TYPE = SOLID WALL WITH EXPLORATION JOINTS		
		• BARREL SPACING = 18" N		

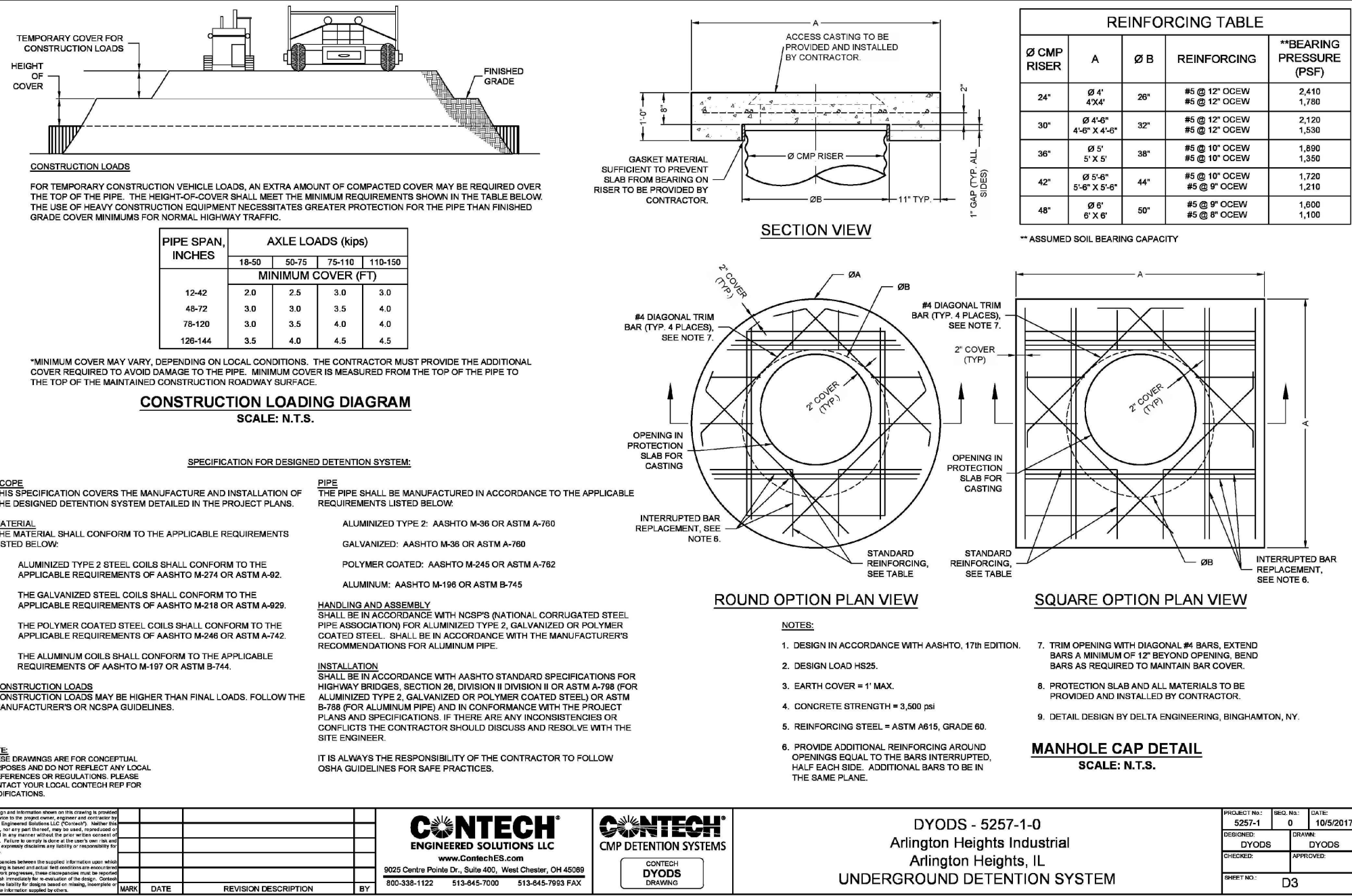
CONTECH ENGINEERING SOLUTIONS LLC www.contech-es.com		CONTECH CRD CREATION SYSTEMS CONTECH DYODS		DYODS - 5309-2-0 PROJECT NAME: Arlington Heights Industrial Arlington Heights, IL DESCRIPTION: SOUTH SYSTEM - PHASE 2 - 54" PORTION		10/1/2014 10/1/2014 10/1/2014 10/1/2014		10/1/2014 10/1/2014 10/1/2014 10/1/2014	
NAME	DATE	REVISION	DESCRIPTION	BY					

Elevation view of the bridge deck. The total length is 537'-8" and the width is 4'-0". The deck is supported by multiple piers, with the first pier located 10'-0" from the left end.

PROJECT SUMMARY				NOTES
CALCULATION DETAILS	STORAGE SUMMARY	PIPE DETAILS	BACKFILL DETAILS	
• LENGTH PER BARREL = 539.50 FT	• STORAGE VOLUME REQUIRED = 11,615.0 CF	• DIAMETER = 36 IN	• WIDTH AT BASE = 12 IN	
• LENGTH PER JOINT = 10.00 FT	• PIPE STORAGE = 4.80 CF	• COORDINATION: 6" X 12" OR 3" X 1"	• JOISTS PER JOINT = 12 IN	
• CHANGING LOG = 0.87	• STRUCTURAL BACKFILL STORAGE = 3,036 CF	• GAGE = 16	• WIDTH AT SIDES = 4 IN	
• APPROX. CAMP FOOTAGE = 540 FT	• TOTAL STORAGE PROVIDED = 11,615 CF	• GALVANIZED STEEL TYPE (A272)	• BELOW PIPE = 4 IN	
		• WALL TYPE = SOLID WALL WITH EXTRUSION JOINTS		
		• BARREL SPACING = 18 IN		

[illegible]

SCALE: N.T.S. THESE DRAWINGS ARE FOR CONCEPTION, ADVISORY AND SO NOT TO BE USED FOR CONSTRUCTION. CONTACT YOUR LOCAL COUNCIL FOR MORE INFORMATION.		CONTECH ENGINEERED SOLUTIONS LLC www.contechinc.com 3021 Center Parkway • Suite 400 • West Chester, OH 44092 330.558.1133 313.644.7502 313.644.7903 FAX		CONTECH C/P DETENTION SYSTEMS DYODS DETENTION SYSTEMS		DYODS - 5257-1-0 Arlington Heights Industrial Arlington Heights, IL UNDERGROUND DETENTION SYSTEM		PROJECT NO. 5257-1-0 DATE 10/5/2011 DRAWN BY DYODS CHECKED BY AP/10/11
--	--	--	--	---	--	---	--	---





975 E. 22nd Street, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
for
703-723 W. ALGONQUIN ROAD BUILDING
ARLINGTON HEIGHTS, IL
ARLINGTON HEIGHTS, ILLINOIS
(BASED ON PLANS BY RWG ENGINEERING, LLC, LATEST DATE 12/06/17)

DATE: 12/7/2017

FILE: 322-127-17

PHASE 1

<u>ITEM</u>	<u>DESCRIPTION</u>		<u>UNIT</u>		<u>UNIT PRICE</u>		<u>EXTENSION</u>
I. DEMOLITION, EXCAVATION, GRADING & EROSION CONTROL							
1.	SILT FENCE	1,821	L.F.	\$	2.50	\$	4,552.50
2.	CONSTRUCTION ENTRANCE	1	EA.	\$	2,500.00	\$	2,500.00
3.	REMOVE EXISTING ONSITE PAVT/SIDEWALK	16,520	S.Y.	\$	8.00	\$	132,160.00
4.	REMOVE EXISTING CURB & GUTTER	2741	L.F.	\$	8.50	\$	23,298.50
5.	REMOVE/ABANDON EXISTING UTILITY LINES	1805	L.F.	\$	25.00	\$	45,125.00
6.	REMOVE/ASBANDON EXISTING UTILITY STRUCTURES	12	EA.	\$	400.00	\$	4,800.00
7.	REMOVE EXISTING BUIDLING	1	EA.	\$	152,000.00	\$	152,000.00
8.	SITE CLEARING, EXISTING TREE REMOVAL	1	LS	\$	30,000.00	\$	30,000.00
9.	TREE PROTECTION FENCE	18	EA.	\$	90.00	\$	1,620.00
10.	SITE EXCAVATION, GRADING (PAD PREP)	7.4	AC.	\$	15,000.00	\$	111,000.00
11.	SOIL EROSION CONTROL MAINTENANCE	1	LS	\$	2,500.00	\$	2,500.00
12.	TOPSOIL RESPREAD	5,936	S.Y.	\$	2.00	\$	11,872.00
13.	INLET PROTECTION FILTER BASKETS	24	EA.	\$	250.00	\$	6,000.00
TOTAL SCHEDULE I						\$	527,428.00
II. UNDERGROUND IMPROVEMENTS							
A. SANITARY SEWER IMPROVEMENTS							
1.	6" PVC SANITARY SEWER - SDR 26	180	L.F.	\$	35.00	\$	6,300.00
2.	8" PVC SANITARY SEWER - SDR 26	61	L.F.	\$	40.00	\$	2,440.00
3.	48" MANHOLE TYPE A W/FRAME & LID	2	EA.	\$	2,500.00	\$	5,000.00
4.	48" MANHOLE TYPE A W/FRAME & LID - CONSTRUCT OVER EXIST SAN SEWER	2	EA.	\$	4,500.00	\$	9,000.00
5.	ADJUST EXISTING SANITARY MANHOLE RIM	2	EA.	\$	350.00	\$	700.00
6.	SELECT GRANULAR TRENCH BACKFILL (CA-6)	98	L.F.	\$	30.00	\$	2,940.00
7.	TELEWISE SEWER POST CONSTRUCTION	241	L.F.	\$	3.00	\$	723.00
SUBTOTAL A						\$	27,103.00
B. WATERMAIN IMPROVEMENTS							
1.	8" DUCTILE IRON WATERMAIN, INCL FITTINGS AND POLYETHYLENE	185	L.F.	\$	45.00	\$	8,325.00
2.	10" DUCTILE IRON WATERMAIN, INCL FITTINGS AND POLYETHYLENE	148	L.F.	\$	55.00	\$	8,140.00
3.	RELOCATE EX FIRE HYDRANT w/AUX VALVE	1	EA.	\$	2,000.00	\$	2,000.00
4.	FIRE HYDRANT w/AUX VALVE	1	EA.	\$	4,500.00	\$	4,500.00
5.	16" DUCTILE IRON CASING PIPE	22	L.F.	\$	80.00	\$	1,760.00
6.	DIRECT CONNECTION TO EXISTING 8" WM	1	EA.	\$	1,500.00	\$	1,500.00
7.	8" VALVE & VAULT (4' DIA)	1	EA.	\$	3,000.00	\$	3,000.00
8.	10" VALVE IN 60" VAULT PRESSURE CONNECTION	1	EA.	\$	7,500.00	\$	7,500.00
9.	ADJUST EXISTING VAULT RIM	1	EA.	\$	350.00	\$	350.00

10. SELECT GRANULAR TRENCH BACKFILL (CA-6)	255	L.F.	\$	25.00	\$	6,375.00
11. WATER PRESSURE TEST & CHLORINATION	1	L.S.	\$	1,000.00	\$	1,000.00

SUBTOTAL B **\$ 44,450.00**

C. STORM SEWER IMPROVEMENTS

1. 4" PVC PERFORATED LEVEL SPREADER (w/STANDPIPE)	165	L.F.	\$	22.00	\$	3,630.00
2. 6" PVC PERFORATED UNDERDRAIN	355	L.F.	\$	22.00	\$	7,810.00
3. 8" PVC STORM SEWER	22	L.F.	\$	25.00	\$	550.00
4. 10" RCP CL IV STORM SEWER	200	L.F.	\$	25.00	\$	5,000.00
5. 10" RCP CL IV STORM SEWER (w/C-443 JOINTS)	86	L.F.	\$	28.00	\$	2,408.00
6. 12" RCP CL IV STORM SEWER	189	L.F.	\$	30.00	\$	5,670.00
7. 12" RCP CL IV STORM SEWER (w/C-443 JOINTS)	82	L.F.	\$	33.00	\$	2,706.00
8. 15" RCP CL IV STORM SEWER	336	L.F.	\$	35.00	\$	11,760.00
9. 18" RCP CL IV STORM SEWER	535	L.F.	\$	40.00	\$	21,400.00
10. 21" RCP CL IV STORM SEWER	123	L.F.	\$	45.00	\$	5,535.00
11. 21" RCP CL IV STORM SEWER (w/C-443 JOINTS)	68	L.F.	\$	50.00	\$	3,400.00
12. 24" RCP CL IV STORM SEWER	348	L.F.	\$	50.00	\$	17,400.00
13. 36" RCP CL IV STORM SEWER	248	L.F.	\$	60.00	\$	14,880.00
14. 18" FES (w/GRATE)	1	EA.	\$	1,800.00	\$	1,800.00
15. 24" FES (w/GRATE)	1	EA.	\$	2,400.00	\$	2,400.00
16. STORM CLEANOUT	2	EA.	\$	700.00	\$	1,400.00
17. 24" DIA STORM INLET	10	EA.	\$	900.00	\$	9,000.00
18. 48" DIA STORM MANHOLE	10	EA.	\$	2,000.00	\$	20,000.00
19. 60" DIA STORM MANHOLE	6	EA.	\$	2,400.00	\$	14,400.00
20. 72" DIA STORM MANHOLE	2	EA.	\$	3,500.00	\$	7,000.00
21. 48" DIA STORM CATCH BASIN	1	EA.	\$	2,250.00	\$	2,250.00
22. 60" DIA STORM CATCH BASIN	2	EA.	\$	2,700.00	\$	5,400.00
23. 72" DIA STORM CATCH BASIN	1	EA.	\$	3,900.00	\$	3,900.00
24. CONNECT TO EXISTING STORM SEWER	2	EA.	\$	750.00	\$	1,500.00
25. STEEL ORIFICE PLATE RESTRICTOR BOLTED TO MANHOLE WALL	1	EA.	\$	800.00	\$	800.00
26. UNDERGROUND DETENTION VAULT	1	LS	\$	210,000.00	\$	210,000.00
27. SELECT GRANULAR TRENCH BACKFILL (CA-6)	2,592	L.F.	\$	25.00	\$	64,800.00

SUBTOTAL C **\$ 446,799.00**
TOTAL SCHEDULE II **\$ 518,352.00**

III. PAVING, CURB, SIDEWALK, LIGHTING IMPROVEMENTS

1. B6.12 CONCRETE CURB & GUTTER	3,340	L.F.	\$	18.00	\$	60,120.00
2. 2" BITUMINOUS SURFACE COURSE (N50)	10,095	S.Y.	\$	11.00	\$	111,045.00
3. BITUMINOUS TACK COAT (0.05 gal/sy)	505	GAL	\$	2.50	\$	1,261.88
4. 2 " BITUMINOUS BINDER COURSE (N50)	3,675	S.Y.	\$	10.00	\$	36,750.00
5. 2 1/4" BITUMINOUS BINDER COURSE (N50)	6,420	S.Y.	\$	11.25	\$	72,225.00
6. 5" BITUMINOUS BINDER COURSE (N30)	6,420	S.Y.	\$	22.00	\$	141,240.00
7. 4" AGGREGATE BASE COURSE	6,420	S.Y.	\$	6.00	\$	38,520.00
8. 8" AGGREGATE BASE COURSE	3,062	S.Y.	\$	12.00	\$	36,744.00
9. 12" AGGREGATE BASE COURSE	613	S.Y.	\$	18.00	\$	11,034.00
10. BITUMINOUS PRIME COAT (0.30 gal/sy)	3,029	GAL	\$	2.50	\$	7,572.50
11. 8" PCC PAVT ON 6" AGGREGATE BASE (CA-6)	2,436	S.Y.	\$	45.00	\$	109,620.00
12. PAVEMENT MARKING & SIGNAGE	1	L.S.	\$	5,000.00	\$	5,000.00
13. CONCRETE SIDEWALK (5" PCC ON 4" AGG CA-6)	1,373	S.F.	\$	5.00	\$	6,865.00
14. SITE LIGHTING (BUDGET FROM CONTRACTOR/HINSDALE ELECTRIC CO.)	1	L.S.	\$	43,200.00	\$	43,200.00

TOTAL SCHEDULE III **\$ 681,197.38**

IV. LANDSCAPE IMPROVEMENTS

1. BUDGET FROM WINGREN LANDSCAPE	1	LS	\$	108,162.12	\$	108,162.12
----------------------------------	---	----	----	------------	----	------------

TOTAL SCHEDULE IV **\$ 108,162.12**

PHASE 1 SUMMARY

I. DEMOLITION, EXCAVATION, GRADING & EROSION CONTROL		\$ 527,428.00
II. UNDERGROUND IMPROVEMENTS		\$ 518,352.00
A. SANITARY SEWER IMPROVEMENTS	\$ 27,103.00	
B. WATERMAIN IMPROVEMENTS	\$ 44,450.00	
C. STORM SEWER IMPROVEMENTS	\$ 446,799.00	
III. PAVING, CURB, SIDEWALK, LIGHTING IMPROVEMENTS		\$ 681,197.38
IV. LANDSCAPE IMPROVEMENTS		\$ 108,162.12
TOTAL		\$ 1,835,139.50

PHASE 2

<u>ITEM</u>	<u>DESCRIPTION</u>		<u>UNIT</u>		<u>UNIT PRICE</u>	<u>EXTENSION</u>
I.	DEMOLITION, EXCAVATION, GRADING & EROSION CONTROL					
1.	SILT FENCE	1,667	L.F.	\$	2.50	\$ 4,167.50
2.	CONSTRUCTION ENTRANCE	1	EA.	\$	2,500.00	\$ 2,500.00
3.	REMOVE EXISTING ONSITE PAVT/SIDEWALK	20,618	S.Y.	\$	8.00	\$ 164,944.00
4.	REMOVE EXISTING CURB & GUTTER	2933	L.F.	\$	8.50	\$ 24,930.50
5.	REMOVE/ABANDON EXISTING UTILITY LINES	3104	L.F.	\$	25.00	\$ 77,600.00
6.	REMOVE/ABANDON EXISTING UTILITY STRUCTURES	14	EA.	\$	400.00	\$ 5,600.00
7.	EXIST PAVEMENT REMOVE & REPLACE TO DISCONNECT WAT SERVICE FROM EX MAIN	1	EA.	\$	2,000.00	\$ 2,000.00
8.	REMOVE EXISTING BUILDING	1	EA.	\$	170,000.00	\$ 170,000.00
9.	SITE CLEARING/EXISTING TREE REMOVAL	1	LS	\$	20,000.00	\$ 20,000.00
10.	SITE EXCAVATION, GRADING (PAD PREP)	8.6	AC.	\$	15,000.00	\$ 129,000.00
11.	MODULAR BLOCK RETAINING WALL (WITH LANDSCAPE ITEMS)		S.F.		\$	-
12.	SOIL EROSION CONTROL MAINTENANCE	1	LS	\$	2,500.00	\$ 2,500.00
13.	TOPSOIL RESPREAD	5,040	S.Y.	\$	2.00	\$ 10,080.00
14.	INLET PROTECTION FILTER BASKETS	24	EA.	\$	250.00	\$ 6,000.00
	TOTAL SCHEDULE I					\$ 619,322.00
II.	UNDERGROUND IMPROVEMENTS					
	A. SANITARY SEWER IMPROVEMENTS					
1.	6" PVC SANITARY SEWER - SDR 26	272	L.F.	\$	35.00	\$ 9,520.00
2.	8" PVC SANITARY SEWER - SDR 26	759	L.F.	\$	40.00	\$ 30,360.00
3.	48" MANHOLE TYPE A W/FRAME & LID	5	EA.	\$	2,500.00	\$ 12,500.00
4.	CONNECT TO EXISTING SANITARY MANHOLE	2	EA.	\$	1,500.00	\$ 3,000.00
5.	SELECT GRANULAR TRENCH BACKFILL (CA-6)	728	L.F.	\$	30.00	\$ 21,840.00
6.	TELEWISE SEWER POST CONSTRUCTION	1031	L.F.	\$	3.00	\$ 3,093.00
	SUBTOTAL A					\$ 80,313.00
	B. WATERMAIN IMPROVEMENTS					
1.	8" DUCTILE IRON WATERMAIN, INCL FITTINGS AND POLYETHYLENE	616	L.F.	\$	45.00	\$ 27,720.00
2.	FIRE HYDRANT w/AUX VALVE	2	EA.	\$	4,500.00	\$ 9,000.00
3.	8" VALVE IN 60" VAULT PRESSURE CONNECTION	1	EA.	\$	7,000.00	\$ 7,000.00
4.	SELECT GRANULAR TRENCH BACKFILL (CA-6)	520	L.F.	\$	25.00	\$ 13,000.00
5.	WATER PRESSURE TEST & CHLORINATION	1	L.S.	\$	1,000.00	\$ 1,000.00
	SUBTOTAL B					\$ 57,720.00
	C. STORM SEWER IMPROVEMENTS					
1.	4" PVC PERFORATED LEVEL SPREADER (w/STANDPIPE)	105	L.F.	\$	22.00	\$ 2,310.00
2.	6" PVC PERFORATED UNDERDRAIN	918	L.F.	\$	22.00	\$ 20,196.00

3. 10" RCP CL IV STORM SEWER	218	L.F.	\$	25.00	\$	5,450.00
4. 10" RCP CL IV STORM SEWER (w/C-443 JOINTS)	84	L.F.	\$	28.00	\$	2,352.00
5. 12" RCP CL IV STORM SEWER	332	L.F.	\$	30.00	\$	9,960.00
6. 12" CMP STORM SEWER	8	L.F.	\$	30.00	\$	240.00
7. 15" RCP CL IV STORM SEWER	325	L.F.	\$	35.00	\$	11,375.00
8. 18" RCP CL IV STORM SEWER	341	L.F.	\$	40.00	\$	13,640.00
9. 24" RCP CL IV STORM SEWER	182	L.F.	\$	50.00	\$	9,100.00
10. 30" RCP CL IV STORM SEWER	405	L.F.	\$	55.00	\$	22,275.00
11. 36" RCP CL IV STORM SEWER	60	L.F.	\$	60.00	\$	3,600.00
12. 12" FES (w/GRATE)	2	EA.	\$	1,300.00	\$	2,600.00
13. STORM CLEANOUT	3	EA.	\$	700.00	\$	2,100.00
14. 24" DIA STORM INLET	13	EA.	\$	900.00	\$	11,700.00
15. 48" DIA STORM MANHOLE	12	EA.	\$	2,000.00	\$	24,000.00
16. 60" DIA STORM MANHOLE	3	EA.	\$	2,400.00	\$	7,200.00
17. 72" DIA STORM MANHOLE	1	EA.	\$	3,500.00	\$	3,500.00
18. CONNECT TO EXISTING STORM SEWER	1	EA.	\$	750.00	\$	750.00
19. STEEL ORIFICE PLATE RESTRICTOR BOLTED TO MANHOLE WALL	1	EA.	\$	900.00	\$	900.00
20. UNDERGROUND DETENTION VAULT	1	LS	\$	460,000.00	\$	460,000.00
21. SELECT GRANULAR TRENCH BACKFILL (CA-6)	2,678	L.F.	\$	25.00	\$	66,950.00

SUBTOTAL C	\$	680,198.00
TOTAL SCHEDULE II	\$	818,231.00

III. PAVING, CURB, SIDEWALK, LIGHTING IMPROVEMENTS

1. B6.12 CONCRETE CURB & GUTTER	3,236	L.F.	\$	18.00	\$	58,248.00
2. 2" BITUMINOUS SURFACE COURSE (N50)	11,128	S.Y.	\$	11.00	\$	122,408.00
3. BITUMINOUS TACK COAT (0.05 gal/sy)	556	GAL	\$	2.50	\$	1,390.00
4. 2 " BITUMINOUS BINDER COURSE (N50)	2,586	S.Y.	\$	10.00	\$	25,860.00
5. 2 1/4" BITUMINOUS BINDER COURSE (N50)	8,542	S.Y.	\$	11.25	\$	96,097.50
6. 5" BITUMINOUS BINDER COURSE (N30)	8,542	S.Y.	\$	22.00	\$	187,924.00
7. 4" AGGREGATE BASE COURSE	8,542	S.Y.	\$	6.00	\$	51,252.00
8. 8" AGGREGATE BASE COURSE	1,444	S.Y.	\$	12.00	\$	17,328.00
9. 12" AGGREGATE BASE COURSE	1,142	S.Y.	\$	18.00	\$	20,556.00
10. BITUMINOUS PRIME COAT (0.30 gal/sy)	3,338	GAL	\$	2.50	\$	8,345.00
11. 8" PCC PAVT ON 6" AGGREGATE BASE (CA-6)	3,999	S.Y.	\$	45.00	\$	179,955.00
12. PAVEMENT MARKINGS & SIGNAGE	1	L.S.	\$	5,000.00	\$	5,000.00
13. CONCRETE SIDEWALK (5" PCC ON 4" AGG CA-6)	1,822	S.F.	\$	5.00	\$	9,110.00
14. SITE LIGHTING (BUDGET FROM CONTRACTOR/HINSDALE ELECTRIC CO)	1	L.S.	\$	37,600.00	\$	37,600.00

TOTAL SCHEDULE III	\$	821,073.50
---------------------------	-----------	-------------------

IV. LANDSCAPE IMPROVEMENTS

1. BUDGET FROM WINGREN LANDSCAPE	1	LS	\$	187,265.33	\$	187,265.33
----------------------------------	---	----	----	------------	----	------------

TOTAL SCHEDULE IV	\$	187,265.33
--------------------------	-----------	-------------------

PHASE 2 SUMMARY

I. DEMOLITION, EXCAVATION, GRADING & EROSION CONTROL	\$	619,322.00
II. UNDERGROUND IMPROVEMENTS	\$	818,231.00
A. SANITARY SEWER IMPROVEMENTS	\$	80,313.00
B. WATERMAIN IMPROVEMENTS	\$	57,720.00
C. STORM SEWER IMPROVEMENTS	\$	680,198.00
III. PAVING, CURB, SIDEWALK, LIGHTING IMPROVEMENTS	\$	821,073.50
IV. LANDSCAPE IMPROVEMENTS	\$	187,265.33
TOTAL	\$	2,445,891.83

TOTAL SUMMARY - PHASE 1 & 2

	<u>PHASE 1</u>		<u>PHASE 2</u>		<u>TOTAL</u>
I. DEMOLITION, EXCAVATION, GRADING & EROSION CONTROL	\$ 527,428.00	\$	619,322.00	\$	1,146,750.00
II. UNDERGROUND IMPROVEMENTS	\$ 518,352.00	\$	818,231.00	\$	1,336,583.00
III. PAVING, CURB, SIDEWALK, LIGHTING IMPROVEMENTS	\$ 681,197.38	\$	821,073.50	\$	1,502,270.88
IV. LANDSCAPE IMPROVEMENTS	<u>\$ 108,162.12</u>	\$	<u>187,265.33</u>	\$	<u>295,427.45</u>
TOTALS	\$ 1,835,139.50	\$	2,445,891.83	\$	4,281,031.33

NOTES:

1. EXISTING TOTAL SITE AREA = 15.41 +/- AC. PROPOSED DISTURBANCE BY PHASE (TO INCLUDE MISC WORK IN OFFSITE EAEMENT AREAS): PH1 = 7.4 +/- ACS; PH2 = 8.6 +/- ACS
- 2 THIS ENGINEER'S OPINION OF PROBABLE COST HAS BEEN PREPARED BASED ON THE ENGINEER'S EXPERIENCE AS A DESIGN PROFESSIONAL AND IS FURNISHED FOR INFORMATION ONLY. IT DOES NOT CONSTITUTE A GUARANTEE OF ACTUAL CONSTRUCTION COSTS.



Morgan Harbour Construction
7510 S. Madison Street
Willowbrook, IL 60527

703-723 Algonquin Rd Phase 1
703-723 Algonquin Rd.
Arlington Heights, IL
Proposal # **19722**

Commercial Construction
Proposal

Scope

PH 1 Plant Material w/ Mulch to Code			<u>\$79,841.12</u>
7.00	6.00ft	Amelanchier Grandiflora	
15.00	6.00ft	Malus 'Prairifire'	
3.00	2.50in	Syringa Reticulata 'Ivory Silk'	
5.00	6 ft. BB	Acer ginnala	
6.00	2.50in	Carpinus Betulus 'Fastigiata'	
9.00	6.00ft	Viburnum Prunifolium	
7.00	4.00in	Quercus Bicolor	
6.00	4.00in	Gleditsia Triacan. Inerm 'Skyline'	
4.00	4.00in	Acer X Freemanii 'Autumn Blaze'	
4.00	6.00ft	Thuja Occ. 'Emerald Green'	
45.00	6.00ft	Thuja Occidentalis 'Techny'	
20.00	#5 POT	Juniperus Chinensis 'Sea Green'	
61.00	30"w	Taxus x media 'Densiformis' (Bergi strain)	
18.00	2.50ft	Cotoneaster Acutifolius	
22.00	#5 POT	Hydrangea Arborensens 'Annabelle'	
17.00	#5 POT	Hydrangea Macrophylla 'Bailmer'	
53.00	#3 POT	Rosa 'Radrazz'	
5.00	30.00in	Spiraea X Bumalda 'Goldflame'	
71.00	36.00in	Syringa Patula 'Miss Kim'	
20.00	3.00ft	Viburnum Dentatum 'Synnvestvedt'	
15.00	#5 POT	Viburnum Dentatum 'Christom'	
144.00	#1	Coreopsis v. 'Zagreb'	
132.00	#1	Hemerocallis 'Happy Returns'	
8.00	#1	Hosta 'Sum and Substance'	
13.00	#1	Hosta sieboldiana 'Frances Williams'	
	#1	Perovskia atriplicifolia	

18.00		
61.00	#1	Salvia x s. 'May Night'
6.00	24ct Plug Stand	Sedum kamtschaticum
29.00	#1	Geranium 'Rozanne' PP12175
25.00	#1	Heuchera 'Palace Purple' (micrantha var. diversifolia)
7.00	#1	Hosta 'Krossa Regal'
114.00	#1	Calamagrostis a. 'Karl Foerster'
58.00	#1	Schizachyrium scoparium (aka Andropogon scoparius)
25.00	#1 POT	Panicum Virgatum 'Northwind'
35.00	#1	Carex m. 'Ice Dance'
8.00	#1	Panicum v. 'Cheyenne Sky' PP23209

PH 1 Seed and Blanket	<u>\$9,408.00</u>
------------------------------	--------------------------

35,600.00	SF	Grading, Topsoil, Seed & Blanket
-----------	----	----------------------------------

PH 1 Native Seeding	<u>\$18,549.00</u>
----------------------------	---------------------------

16,900.00	SF	Native Seed and Blanket
3.00	YR	Native Monitoring & Maintenance

PH 1 Gravel Strip	<u>\$368.00</u>
--------------------------	------------------------

92.00	SF	1' Wide DG Strip
-------	----	------------------

<u>Project Total</u>	<u>\$108,166.12</u>
-----------------------------	----------------------------

Sincerely,
Wingren Landscape, Inc.

James Zumbahlen Jr.

James Zumbahlen Jr.
Project Manager

Acceptance

Signature

Date



Morgan Harbour Construction
7510 S. Madison Street
Willowbrook, IL 60527

703-723 Algonquin Rd Phase 2
703-723 Algonquin Rd.
Arlington Heights, IL
Proposal # **19787**

Commercial Construction
Proposal

Scope

PH 2 Plant Material w/ Mulch to Code	<u>\$54,659.33</u>
---	---------------------------

2.00	2.50in	Acer X Freemanii 'Autumn Blaze'
14.00	6.00ft	Amelanchier Grandiflora
2.00	2.50in	Celtis Occidentalis
4.00	2.50in	Gleditsia Triacan. Inerm 'Skyline'
2.00	2.50in	Tilia Americana 'Redmond'
4.00	6.00ft	Malus 'Prairifire'
6.00	2.50in	Syringa Reticulata 'Ivory Silk'
6.00	6.00ft	Thuja Occ. 'Emerald Green'
50.00	6.00ft	Thuja Occidentalis 'Techny'
10.00	30.00in	Buxus X 'Green Velvet'
20.00	#5 POT	Juniperus Chinensis 'Sea Green'
42.00	30"w	Taxus x media 'Densiflora' (Bergi strain)
40.00	2.50ft	Cotoneaster Acutifolius
5.00	#5 POT	Hydrangea Arborens 'Annabelle'
21.00	#5 POT	Hydrangea Macrophylla 'Bailmer'
32.00	#3 POT	Rosa 'Radrizz'
56.00	36.00in	Syringa Patula 'Miss Kim'
21.00	3.00ft	Viburnum Dentatum 'Sinnott'
31.00	#1	Coreopsis v. 'Zagreb'
21.00	#1	Geranium 'Rozanne' PP12175
39.00	#1	Hemerocallis 'Happy Returns'
26.00	#1	Salvia x s. 'May Night'
28.00	#1	Panicum v. 'Northwind'

PH 2 Seed and Blanket	<u>\$7,470.00</u>
------------------------------	--------------------------

41,500.00	SF	Seed and Blanket
-----------	----	------------------

<u>PH 2 Native Seeding</u>			<u>\$16,836.00</u>
11,600.00	SF	Native Seed and Blanket	
3.00	YR	Native Monitoring & Maintenance	
<u>PH 2 Retaining Wall</u>			<u>\$107,980.00</u>
4,560.00	SFF	Retaining Wall	
1.00	LS	Engineering Fees	
<u>PH 2 Gravel Strip</u>			<u>\$320.00</u>
80.00	SF	1' Wide DG Strip	
<u>Project Total</u>			<u>\$187,265.33</u>

Sincerely,
Wingren Landscape, Inc.

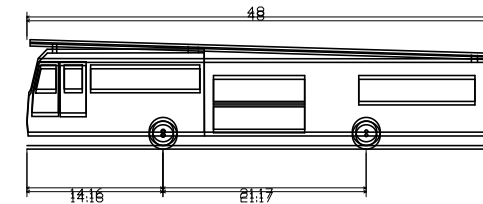
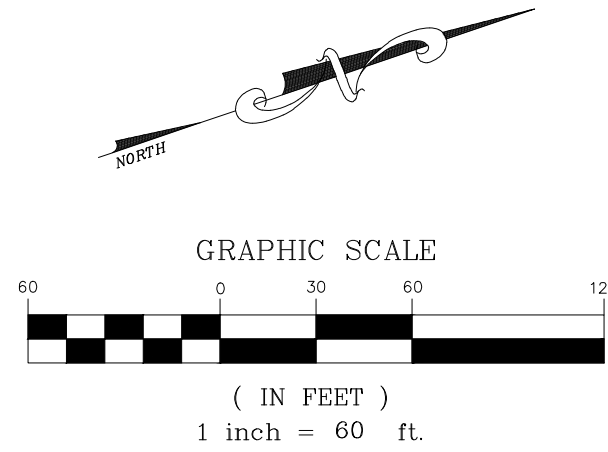
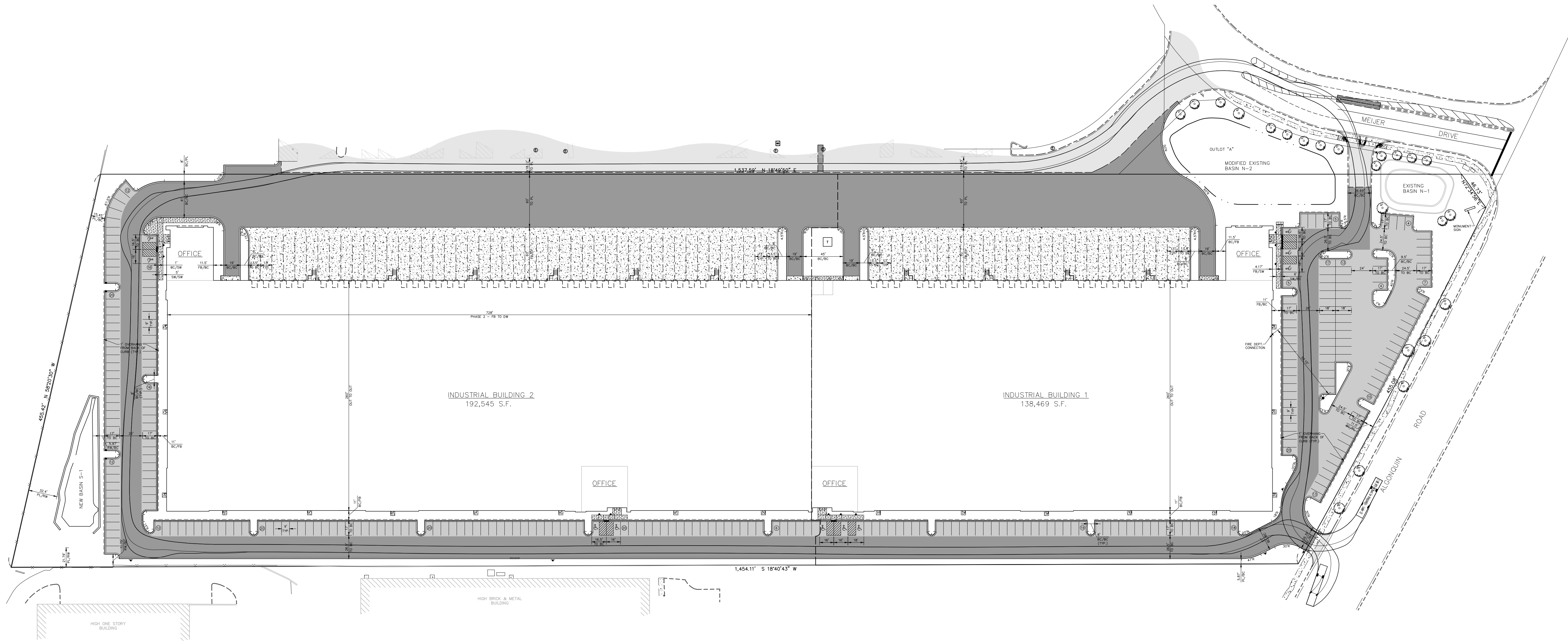
James Zumbahlen Jr.

James Zumbahlen Jr.
Project Manager

Acceptance

Signature

Date



E=ONE HP95 Mid Mount For ArlingtonHeights = Ladder 131
Overall Length 1418
Overall Width 8117
Overall Body Height 1418
Min Body Ground Clearance 8117
Track Width 1418
Lock-to-lock time 8117
Max Wheel Angle 1418

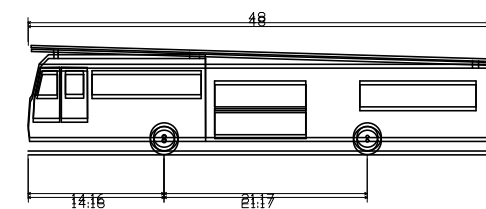
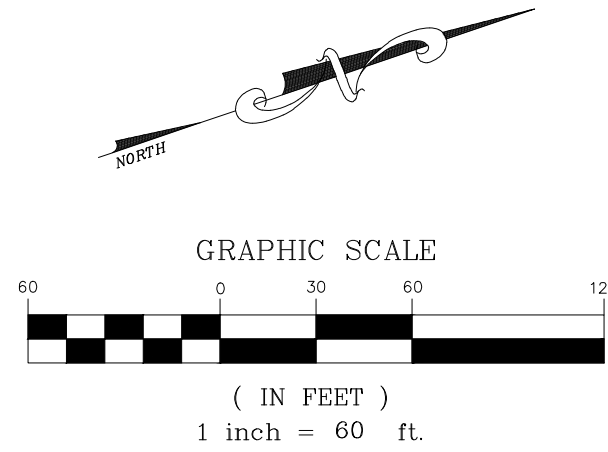
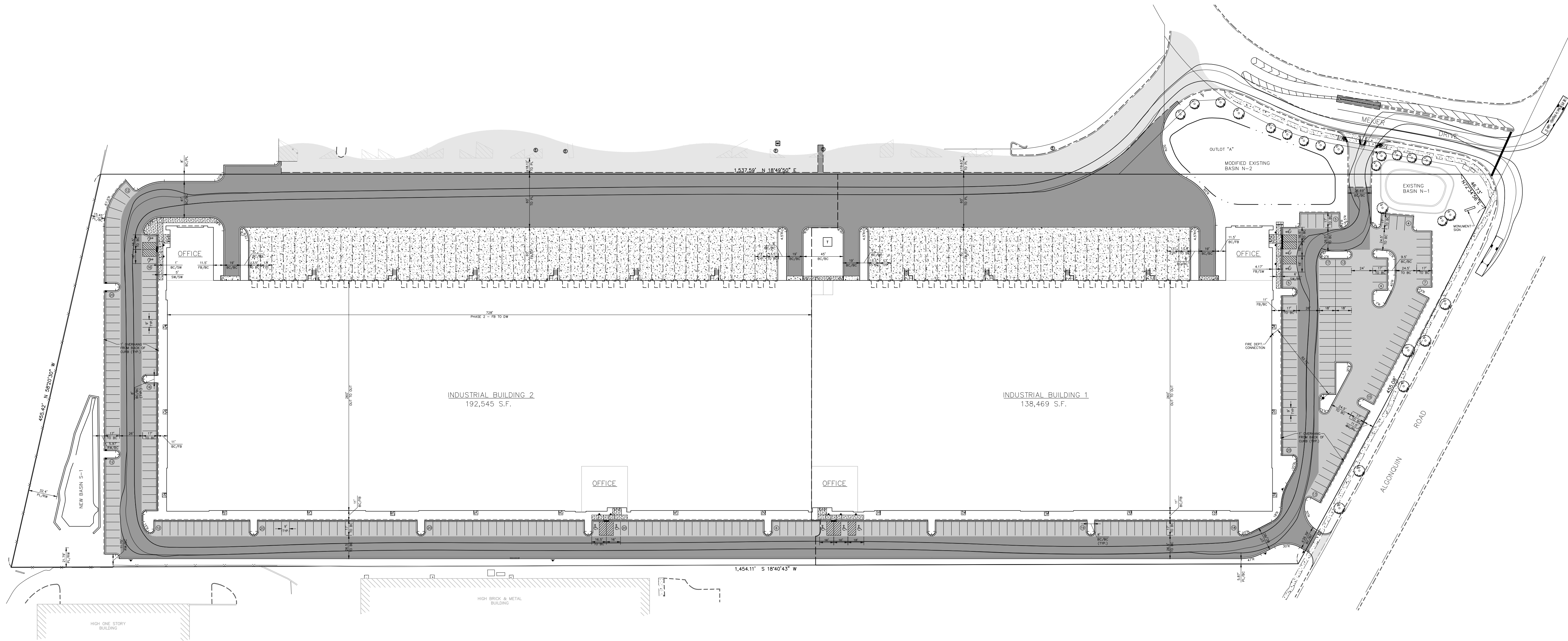
DATE	REVISIONS	DRAWN BY

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
FIRE TRUCK MANEUVERING EXHIBIT

975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

RWG Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management

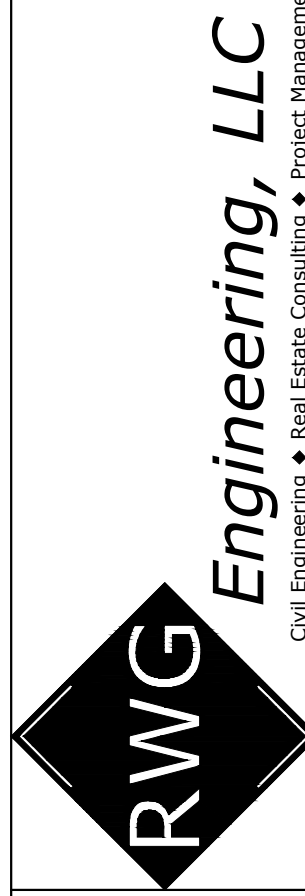
PROJECT NO. 32212717
DATE 01/09/18
SCALE 1"=60'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM



E-BNE HP95 Mid Mount for Arlington Heights - Ladder 131
Overall Length 40'00"
Overall Width 8'00"
Overall Body Height 11'00"
On Body Ground Clearance 1'00"
Pack Width 8'00"
Lock-to-lock time 6'00"
Max Wheel Angle 40'00"

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
FIRE TRUCK MANEUVERING EXHIBIT

975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com



PROJECT NO. 32212717
DATE 01/09/18
SCALE 1"=60'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET

2 OF 2



D-Series Size 0 LED Area Luminaire



d#series

Specifications

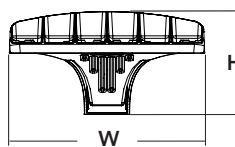
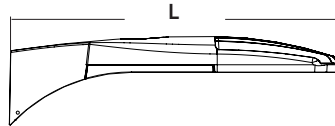
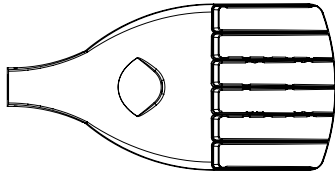
EPA: 0.95 ft²
(.09 m²)

Length: 26"
(66.0 cm)

Width: 13"
(33.0 cm)

Height: 7"
(17.8 cm)

Weight (max): 16 lbs
(7.25 kg)



A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED 40C 1000 40K T3M MVOLT SPA DDBXD

DSX0 LED											
Series	LEDs	Drive current		Color temperature		Distribution			Voltage	Mounting	
DSX0 LED	Forward optics	530	530 mA	30K	3000 K	T1S	Type I short	T5S	Type V short	MVOLT ⁴	Shipped included
	20C 20 LEDs (one engine)	700	700 mA	40K	4000 K	T2S	Type II short	T5M	Type V medium	120 ⁵	SPA Square pole mounting
	40C 40 LEDs (two engines)	1000	1000 mA (1 A)	50K	5000 K	T2M	Type II medium	T5W	Type V wide	208 ⁵	RPA Round pole mounting
	Rotated optics			AMBPC	Amber phosphor converted ²	T3S	Type III short	BLC	Backlight control ^{2,3}	240 ⁵	WBA Wall bracket
	30C 30 LEDs (one engine) ¹					T3M	Type III medium	LCCO	Left corner cutoff ^{2,3}	277 ⁵	SPUMBA Square pole universal mounting adaptor ⁷
						T4M	Type IV medium	RCCO	Right corner cutoff ^{2,3}	347 ^{5,6}	RPUMBA Round pole universal mounting adaptor ⁷
						TFTM	Forward throw medium			480 ^{5,6}	Shipped separately
					T5VS	Type V very short ⁸				KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁹	

Control options				Other options		Finish <i>(required)</i>	
Shipped installed				BL30	Bi-level switched dimming, 30% ^{14,15}	Shipped installed	DDBXD Dark bronze
PER	NEMA twist-lock receptacle only (control ordered separate) ⁹			BL50	Bi-level switched dimming, 50% ^{14,15}	HS House-side shield ¹⁸	DBLXD Black
PER5	Five-wire receptacle only (control ordered separate) ^{9,10}			PNMTDD3	Part night, dim till dawn ¹⁶	SF Single fuse (120, 277, 347V) ⁵	DNAXD Natural aluminum
PER7	Seven-wire receptacle only (control ordered separate) ^{9,10}			PNMT5D3	Part night, dim 5 hrs ¹⁶	DF Double fuse (208, 240, 480V) ⁵	DWHXD White
DMG	0-10V dimming extend out back of housing for external control (no controls)(leads exit fixture) ¹¹			PNMT6D3	Part night, dim 6 hrs ¹⁶	L90 Left rotated optics ¹	DDBTXD Textured dark bronze
PIR	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc ^{12,13}			PNMT7D3	Part night, dim 7 hrs ¹⁶	R90 Right rotated optics ¹	DBLBXD Textured black
PIRH	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc ^{12,13}			FAO	Field adjustable output ¹⁷	DDL Diffused drop lens ¹⁸	DNATXD Textured natural aluminum
PIR1FC3V	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc ^{12,13}					BS Bird spikes	DWHGXD Textured white
PIRH1FC3V	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc ^{12,13}						



One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • www.lithonia.com
© 2011-2017 Acuity Brands Lighting, Inc. All rights reserved.

DSX0-LED
Rev. 08/23/17
Page 1 of 6

Catalog
Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹
- This luminaire is part of an A+ Certified solution for ROAM®X or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a **shaded background**¹

To learn more about A+, visit www.acuitybrands.com/aplus.

- See ordering tree for details.
- A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)

Ordering Information Cont.

Accessories

Ordered and shipped separately.

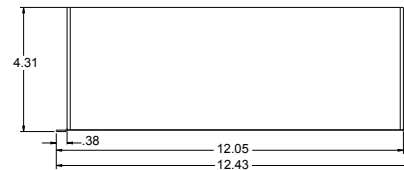
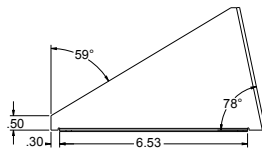
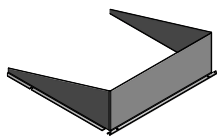
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ¹⁹
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ¹⁹
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ¹⁹
DSHORT SBK U	Shorting cap ¹⁹
DSXOEGS DDBXD U	External glare shield
DSXOHS 20C U	House-side shield for 20 LED unit ¹⁸
DSXOHS 30C U	House-side shield for 30 LED unit ¹⁸
DSXOHS 40C U	House-side shield for 40 LED unit ¹⁸
DSXODDL U	Diffused drop lens (polycarbonate) ¹⁸
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) ²⁰
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ⁴

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

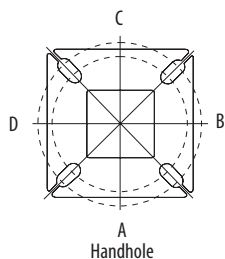
- 30 LEDs (30C option) and rotated options (L90 or R90) only available together.
- AMBPC is not available with BLC, LCCO or RCCO.
- Not available with HS or DDL.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Not available in 20C or 30C at 530mA. Not available with BL30, BL50 or PNMT options.
- Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
- Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories, Shorting Cap included.
- If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
- DMG option for 347V or 480V requires 1000mA.
- Reference Motion Sensor table on page 3.
- Reference PER Table on page 3 to see functionality.
- Requires (2) separately switched circuits.
- Not available with 347V, 480V, PNMT, PIR1FC3V or PIRH1FC3V. For PER5 or PER7 see PER Table on page 3.
- Not available with 347V, 480V, PNMT, PIR1FC3V or PIRH1FC3V. For PER5 or PER7 see PER Table on page 3. Separate Dusk to Dawn required.
- Not available with other controls options.
- Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- Requires luminaire to be specified with PER option. See PER Table.
- For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter **

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290			
2-7/8"	AST25-190	AST25-280	AST25-290			
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Pole drilling nomenclature: # of heads at degree from handhole (default side A)					
DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D

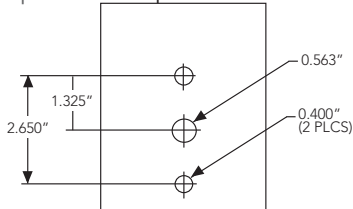
Note: Review luminaire spec sheet for specific nomenclature

Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

*3 fixtures @120 require round pole top/tenon.

Template #8

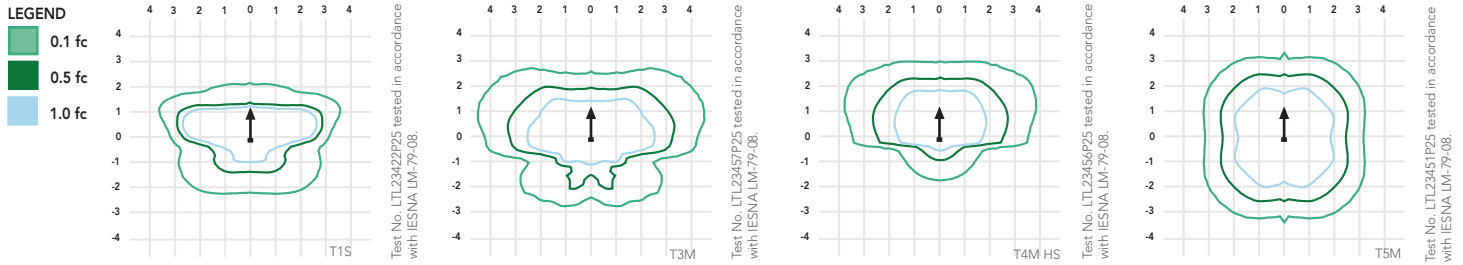
Top of Pole



Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [D-Series Area Size 0 homepage](#).

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	1.02
10°C	1.01
20°C	1.00
25°C	1.00
30°C	1.00
40°C	0.99

Electrical Load

Number of LEDs	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
20C	530	35	0.34	0.22	0.21	0.20	--	--
	700	45	0.47	0.28	0.24	0.22	0.18	0.14
	1000	72	0.76	0.45	0.39	0.36	0.36	0.26
30C	530	52	0.51	0.31	0.28	0.25	--	--
	700	70	0.72	0.43	0.37	0.34	0.25	0.19
	1000	104	1.11	0.64	0.56	0.49	0.47	0.34
40C	530	68	0.71	0.41	0.36	0.33	0.25	0.19
	700	91	0.94	0.55	0.48	0.42	0.33	0.24
	1000	138	1.45	0.84	0.73	0.64	0.69	0.50

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	DSX0 LED 20C 1000			
	1	0.98	0.96	0.93
	DSX0 LED 40C 1000			
	1	0.98	0.95	0.90
	DSX0 LED 40C 700			
	1	0.99	0.99	0.99

Motion Sensor Default Settings

Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)	
		Wire 4/Wire5	Wire 4/Wire5	Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	✗	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	✗	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	✗	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	✗	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture



*Future-proof means: Ability to change controls in the future.



One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • www.lithonia.com
© 2011-2017 Acuity Brands Lighting, Inc. All rights reserved.

DSX0-LED
Rev. 08/23/17
Page 3 of 6

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
20C (20 LEDs)	530 mA	35 W	T1S	4,079	1	0	1	117	4,380	1	0	1	125	4,408	1	0	1	126	2,541	1	0	1	73
			T2S	4,206	1	0	1	120	4,516	1	0	1	129	4,544	1	0	1	130	2,589	1	0	1	74
			T2M	4,109	1	0	1	117	4,413	1	0	1	126	4,440	1	0	1	127	2,539	1	0	1	73
			T3S	4,104	1	0	1	117	4,407	1	0	1	126	4,435	1	0	1	127	2,558	1	0	1	73
			T3M	4,142	1	0	1	118	4,447	1	0	2	127	4,475	1	0	2	128	2,583	1	0	1	74
			T4M	4,198	1	0	1	120	4,508	1	0	2	129	4,536	1	0	1	130	2,570	1	0	1	73
			TFTM	4,135	1	0	1	118	4,440	1	0	1	127	4,468	1	0	1	128	2,540	1	0	1	73
			TSVS	4,368	2	0	0	125	4,691	2	0	0	134	4,720	2	0	0	135	2,650	1	0	0	76
			TSS	4,401	2	0	2	126	4,725	2	0	0	135	4,755	2	0	0	136	2,690	1	0	0	77
			TSM	4,408	2	0	1	126	4,734	3	0	1	135	4,763	3	0	1	136	2,658	2	0	0	76
			TSW	4,344	3	0	1	124	4,664	3	0	1	133	4,693	3	0	1	134	2,663	2	0	1	76
			BLC	3,071	1	0	1	88	3,297	1	0	1	94	3,318	1	0	1	95					
			LCCO	2,983	1	0	1	85	3,204	1	0	1	92	3,224	1	0	1	92					
			RCCO	2,983	1	0	1	85	3,204	1	0	1	92	3,224	1	0	1	92					
			T1S	5,181	1	0	1	115	5,563	1	0	1	124	5,598	1	0	1	124	3,144	1	0	1	70
			T2S	5,342	1	0	1	119	5,736	1	0	1	127	5,772	1	0	1	128	3,203	1	0	1	71
			T2M	5,219	1	0	2	116	5,605	1	0	2	125	5,640	1	0	2	125	3,141	1	0	1	70
			T3S	5,213	1	0	1	116	5,598	1	0	1	124	5,633	1	0	1	125	3,165	1	0	1	70
			T3M	5,260	1	0	2	117	5,649	1	0	2	126	5,684	1	0	2	126	3,196	1	0	1	71
			T4M	5,332	1	0	2	118	5,725	1	0	2	127	5,761	1	0	2	128	3,179	1	0	1	71
			TFTM	5,252	1	0	2	117	5,640	1	0	2	125	5,675	1	0	2	126	3,143	1	0	1	70
			TSVS	5,548	2	0	0	123	5,958	2	0	0	132	5,995	2	0	0	133	3,278	2	0	0	73
			TSS	5,589	2	0	0	124	6,002	2	0	0	133	6,039	2	0	0	134	3,328	2	0	0	74
			TSM	5,599	3	0	1	124	6,012	3	0	1	134	6,050	3	0	1	134	3,288	2	0	1	73
			TSW	5,517	3	0	1	123	5,924	3	0	1	132	5,961	3	0	2	132	3,295	2	0	1	73
			BLC	3,909	1	0	1	87	4,198	1	0	1	93	4,224	1	0	1	94					
			LCCO	3,798	1	0	1	84	4,078	1	0	1	91	4,104	1	0	1	91					
			RCCO	3,798	1	0	1	84	4,078	1	0	1	91	4,104	1	0	1	91					
	1000 mA	72 W	T1S	7,085	2	0	2	98	7,608	2	0	2	106	7,656	2	0	2	106					
			T2S	7,305	2	0	2	101	7,845	2	0	2	109	7,894	2	0	2	110					
			T2M	7,138	2	0	2	99	7,665	2	0	2	106	7,713	2	0	2	107					
			T3S	7,129	1	0	2	99	7,656	2	0	2	106	7,704	2	0	2	107					
			T3M	7,194	2	0	2	100	7,725	2	0	2	107	7,773	2	0	2	108					
			T4M	7,292	2	0	2	101	7,830	2	0	2	109	7,879	2	0	2	109					
			TFTM	7,183	1	0	2	100	7,713	2	0	2	107	7,761	2	0	2	108					
			TSVS	7,588	3	0	0	105	8,148	3	0	0	113	8,199	3	0	0	114					
			TSS	7,644	3	0	0	106	8,208	3	0	0	114	8,259	3	0	0	115					
			TSM	7,657	3	0	2	106	8,222	3	0	2	114	8,274	3	0	2	115					
			TSW	7,545	3	0	2	105	8,102	3	0	2	113	8,153	3	0	2	113					
			BLC	5,162	1	0	1	72	5,543	1	0	1	77	5,578	1	0	1	77					
			LCCO	5,015	1	0	2	70	5,386	1	0	2	75	5,419	1	0	2	75					
			RCCO	5,015	1	0	2	70	5,386	1	0	2	75	5,419	1	0	2	75					

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40C (40 LEDs)	530 mA	68 W	T1S	7,926	2	0	2	117	8,511	2	0	2	125	8,564	2	0	2	126	4,878	1	0	1	72
			T2S	8,172	2	0	2	120	8,775	2	0	2	129	8,830	2	0	2	130	4,969	1	0	1	73
			T2M	7,985	2	0	2	117	8,574	2	0	2	126	8,628	2	0	2	127	4,874	1	0	1	72
			T3S	7,975	2	0	2	117	8,564	2	0	2	126	8,617	2	0	2	127	4,910	1	0	1	72
			T3M	8,047	2	0	2	118	8,642	2	0	3	127	8,696	2	0	3	128	4,958	1	0	2	73
			T4M	8,157	2	0	2	120	8,759	2	0	2	129	8,813	2	0	2	130	4,932	1	0	2	73
			TFTM	8,035	2	0	2	118	8,628	2	0	2	127	8,682	2	0	2	128	4,876	1	0	2	72
			TSVS	8,488	3	0	0	125	9,115	3	0	1	134	9,172	3	0	1	135	5,086	2	0	0	75
			TSS	8,550	3	0	1	126	9,182	4	0	2	135	9,239	3	0	1	136	5,163	2	0	0	76
			TSM	8,565	3	0	2	126	9,198	3	0	2	135	9,255	3	0	2	136	5,102	3	0	1	75
			TSW	8,440	4	0	2	124	9,063	3	0	2	133	9,120	4	0	2	134	5,112	3	0	1	75
			BLC	6,142	1	0	2	90	6,595	1	0	2	97	6,636	1	0	2	98					
			LCCO	5,967	1	0	2	88	6,407	1	0	2	94	6,447	1	0	2	95					
			RCCO	5,967	1	0	2	88	6,407	1	0	2	94	6,447	1	0	2	95					
	700 mA	91 W	T1S	10,066	2	0	2	111	10,810	2	0	2	119	10,877	2	0	2	120	6,206	2	0	2	68
			T2S	10,379	2	0	2	114	11,145	2	0	2	122	11,215	2	0	2	123	6,322	2	0	2	69
			T2M	10,141	2	0	2	111	10,890	2	0	2	120	10,958	2	0	2	120	6,201	2	0	2	68
			T3S	10,129	2	0	2	111	10,877	2	0	2	120	10,945	2	0	2	120	6,247	1	0	2	69
			T3M	10,221	2	0	3	112	10,975	2	0	3	121	11,044	2	0	3	121	6,308	2	0	2	69
			T4M	10,359	2	0	3	114	11,124	2	0	3	122	11,194	2	0	3	123	6,275	1	0	2	69
			TFTM	10,205	2	0	2	112	10,958	2	0	2	120	11,027	2	0	2	121	6,203	1	0	2	68
			TSVS	10,781	3	0	1	118	11,576	3	0	1	127	11,649	3	0	1	128	6,671	2	0	0	73
			TSS	10,860	3	0	1	119	11,662	3	0	1	128	11,734	3	0	1	129	6,569	2	0	0	72
			TSM	10,879	4	0	2	120	11,682	4	0	2	128	11,755	4	0	2	129	6,491	3	0	1	71
			TSW	10,719	4	0	2	118	11,511	4	0	2	126	11,583	4	0	2	127	6,504	3	0	2	71
			BLC	7,819	1	0	2	86	8,396	1	0	2	92	8,448	1	0	2	93					
			LCCO	7,596	1	0	2	83	8,157	1	0	2	90	8,208	1	0	2	90					
			RCCO	7,596	1	0	2	83	8,157	1	0	2	90	8,208	1	0	2	90					
	1000 mA	138 W	T1S	13,767	3	0	3	100	14,783	3	0	3	107	14,876	3	0	3	108					
			T2S	14,194	3	0	3	103	15,242	3	0	3	110	15,338	3	0	3	111					
			T2M	13,869	3	0	3	101	14,893	3	0	3	108	14,986	3	0	3	109					
			T3S	13,852	2	0	2	100	14,875	3	0	3	108	14,968	3	0	3	108					
			T3M	13,978	3	0	3	101	15,028	3	0	3	109	15,104	3	0	3	109					
			T4M	14,168	3	0	3	103	15,214	3	0	3	110	15,309	3	0	3	111					
			TFTM	13,956	2	0	3	101	14,987	2	0	3	109	15,080	2	0	3	109					
			TSVS	14,744	4	0	1	107	15,832	4	0	1	115	15,931	4	0	1	115					
			TSS	14,852	4	0	1	108	15,948	4	0	1	116	16,048	4	0	1	116					
			TSM	14,878	4	0	2	108	15,976	4	0	2	116	16,076	4	0	2	116					
			TSW	14,660	4	0	2	106	15,742	4	0	2	114	15,840	4	0	2	115					
			BLC	10,325	1	0	2	75	11,087	1	0	2	80	11,156	1	0	2	81					
			LCCO	10,031	2	0	2	73	10,771	2	0	3	78	10,839	2	0	3	79					
			RCCO	10,031	2	0	2	73	10,771	2	0	3	78	10,839	2	0	3	79					

L90 and R90 Rotated Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30C (30 LEDs)	530 mA	52 W	T1S	6,130	2	0	2	118	6,583	2	0	2	127	6,624	2	0	2	127	3,841	2	0	2	74
			T2S	6,321	2	0	2	122	6,787	2	0	2	131	6,830	2	0	2	131	3,912	2	0	2	75
			T2M	6,176	3	0	3	119	6,632	3	0	3	128	6,673	3	0	3	128	3,837	2	0	2	74
			T3S	6,168	3	0	3	119	6,624	3	0	3	127	6,665	3	0	3	128	3,866	2	0	2	74
			T3M	6,224	3	0	3	120	6,684	3	0	3	129	6,726	3	0	3	129	3,904	2	0	2	75
			T4M	6,309	3	0	3	121	6,775	3	0	3	130	6,817	3	0	3	131	3,884	2	0	2	75
			TFTM	6,215	3	0	3	120	6,673	3	0	3	128	6,715	3	0	3	129	3,839	2	0	2	74
			T5VS	6,565	2	0	0	126	7,050	3	0	0	136	7,094	3	0	0	136	4,005	2	0	0	77
			T5S	6,613	2	0	0	127	7,102	2	0	0	137	7,146	2	0	0	137	4,065	2	0	0	78
			T5M	6,625	3	0	1	127	7,114	3	0	1	137	7,159	3	0	1	138	4,017	2	0	1	77
			T5W	6,528	3	0	2	126	7,010	3	0	2	135	7,054	3	0	2	136	4,025	3	0	1	77
			BLC	4,747	2	0	2	91	5,098	2	0	2	98	5,130	2	0	2	99					
			LCCO	4,612	1	0	2	89	4,953	1	0	2	95	4,984	1	0	2	96					
			RCCO	4,612	1	0	2	89	4,953	1	0	2	95	4,984	1	0	2	96					
	700 mA	70 W	T1S	7,786	3	0	3	111	8,361	3	0	3	119	8,413	3	0	3	120	4,783	2	0	2	68
			T2S	8,028	3	0	3	115	8,620	3	0	3	123	8,674	3	0	3	124	4,873	2	0	2	70
			T2M	7,844	3	0	3	112	8,423	3	0	3	120	8,476	3	0	3	121	4,779	2	0	2	68
			T3S	7,834	3	0	3	112	8,413	3	0	3	120	8,465	3	0	3	121	4,815	2	0	2	69
			T3M	7,905	3	0	3	113	8,489	3	0	3	121	8,542	3	0	3	122	4,862	3	0	3	69
			T4M	8,013	3	0	3	114	8,604	3	0	3	123	8,658	3	0	3	124	4,837	3	0	3	69
			TFTM	7,893	3	0	3	113	8,476	3	0	3	121	8,529	3	0	3	122	4,781	3	0	3	68
			T5VS	8,338	3	0	0	119	8,954	3	0	0	128	9,010	3	0	0	129	4,988	2	0	0	71
			T5S	8,400	3	0	0	120	9,020	3	0	1	129	9,076	3	0	1	130	5,063	2	0	0	72
			T5M	8,414	3	0	2	120	9,036	3	0	2	129	9,092	3	0	2	130	5,003	3	0	1	71
			T5W	8,291	4	0	2	118	8,903	4	0	2	127	8,959	4	0	2	128	5,013	3	0	1	72
			BLC	6,044	2	0	2	86	6,490	3	0	3	93	6,530	3	0	3	93					
			LCCO	5,872	1	0	2	84	6,305	1	0	2	90	6,345	1	0	2	91					
			RCCO	5,872	1	0	2	84	6,305	1	0	2	90	6,345	1	0	2	91					
	1000 mA	104 W	T1S	10,648	3	0	3	102	11,434	3	0	3	110	11,506	3	0	3	111					
			T2S	10,979	3	0	3	106	11,789	3	0	3	113	11,863	3	0	3	114					
			T2M	10,727	3	0	3	103	11,519	3	0	3	111	11,591	3	0	3	111					
			T3S	10,714	3	0	3	103	11,505	3	0	3	111	11,577	3	0	3	111					
			T3M	10,812	3	0	3	104	11,610	4	0	4	112	11,682	4	0	4	112					
			T4M	10,958	4	0	4	105	11,767	4	0	4	113	11,841	4	0	4	114					
			TFTM	10,795	3	0	3	104	11,592	4	0	4	111	11,664	4	0	4	112					
			T5VS	11,404	3	0	0	110	12,245	3	0	1	118	12,322	3	0	1	118					
			T5S	11,487	3	0	1	110	12,336	3	0	1	119	12,413	3	0	1	119					
			T5M	11,508	4	0	2	111	12,357	4	0	2	119	12,434	4	0	2	120					
			T5W	11,339	4	0	2	109	12,176	4	0	2	117	12,252	4	0	2	118					
			BLC	7,981	3	0	3	77	8,570	3	0	3	82	8,624	3	0	3	83					
			LCCO	7,754	1	0	2	75	8,326	2	0	2	80	8,378	2	0	2	81					
			RCCO	7,754	1	0	2	75	8,326	2	0	2	80	8,378	2	0	2	81					

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) or optional 3000 K (70 minimum CRI) or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine(s) configurations consist of 20, 30 or 40 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L99/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an

expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV or 6kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.





D-Series Size 0 LED Area Luminaire



d#series

Specifications

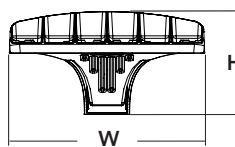
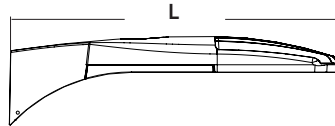
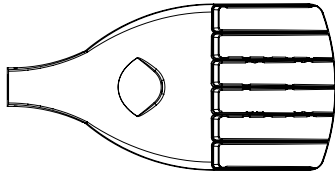
EPA: 0.95 ft²
(.09 m²)

Length: 26"
(66.0 cm)

Width: 13"
(33.0 cm)

Height: 7"
(17.8 cm)

Weight (max): 16 lbs
(7.25 kg)



A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED 40C 1000 40K T3M MVOLT SPA DDBXD

DSX0 LED											
Series	LEDs	Drive current		Color temperature		Distribution			Voltage	Mounting	
DSX0 LED	Forward optics	530	530 mA	30K	3000 K	T1S	Type I short	T5S	Type V short	MVOLT ⁴	Shipped included
	20C 20 LEDs (one engine)	700	700 mA	40K	4000 K	T2S	Type II short	T5M	Type V medium	120 ⁵	SPA Square pole mounting
	40C 40 LEDs (two engines)	1000	1000 mA (1 A)	50K	5000 K	T2M	Type II medium	T5W	Type V wide	208 ⁵	RPA Round pole mounting
	Rotated optics					T3S	Type III short	BLC	Backlight control ^{2,3}	240 ⁵	WBA Wall bracket
	30C 30 LEDs (one engine) ¹			AMBPC	Amber phosphor converted ²	T3M	Type III medium	LCCO	Left corner cutoff ^{2,3}	277 ⁵	SPUMBA Square pole universal mounting adaptor ⁷
						T4M	Type IV medium	RCCO	Right corner cutoff ^{2,3}	347 ^{5,6}	RPUMBA Round pole universal mounting adaptor ⁷
						TFTM	Forward throw medium			480 ^{5,6}	Shipped separately
					T5VS	Type V very short				KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁸	

Control options				Other options		Finish <i>(required)</i>			
Shipped installed				BL30	Bi-level switched dimming, 30% ^{14,15}	Shipped installed	DDBXD	Dark bronze	
PER	NEMA twist-lock receptacle only (control ordered separate) ⁹			BL50	Bi-level switched dimming, 50% ^{14,15}	HS	House-side shield ¹⁸	DBLXD	Black
PER5	Five-wire receptacle only (control ordered separate) ^{9,10}			PNMTDD3	Part night, dim till dawn ¹⁶	SF	Single fuse (120, 277, 347V) ⁵	DNAXD	Natural aluminum
PER7	Seven-wire receptacle only (control ordered separate) ^{9,10}			PNMT5D3	Part night, dim 5 hrs ¹⁶	DF	Double fuse (208, 240, 480V) ⁵	DWHXD	White
DMG	0-10V dimming extend out back of housing for external control (no controls)(leads exit fixture) ¹¹			PNMT6D3	Part night, dim 6 hrs ¹⁶	L90	Left rotated optics ¹	DDBTXD	Textured dark bronze
PIR	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc ^{12,13}			PNMT7D3	Part night, dim 7 hrs ¹⁶	R90	Right rotated optics ¹	DBLBXD	Textured black
PIRH	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc ^{12,13}			FAO	Field adjustable output ¹⁷	DDL	Diffused drop lens ¹⁸	DNATXD	Textured natural aluminum
PIR1FC3V	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc ^{12,13}					BS	Bird spikes	DWHGXD	Textured white
PIRH1FC3V	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc ^{12,13}								



One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • www.lithonia.com
© 2011-2017 Acuity Brands Lighting, Inc. All rights reserved.

DSX0-LED
Rev. 08/23/17
Page 1 of 6

Catalog
Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹
- This luminaire is part of an A+ Certified solution for ROAM®X or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a **shaded background**¹

To learn more about A+, visit www.acuitybrands.com/aplus.

- See ordering tree for details.
- A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)

Ordering Information Cont.

Accessories

Ordered and shipped separately.

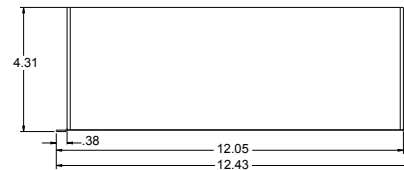
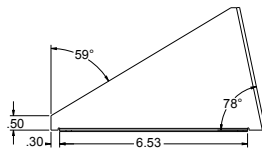
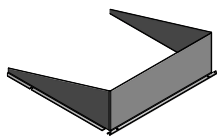
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ¹⁹
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ¹⁹
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ¹⁹
DSHORT SBK U	Shorting cap ¹⁹
DSXOEGS DDBXD U	External glare shield
DSXOHS 20C U	House-side shield for 20 LED unit ¹⁸
DSXOHS 30C U	House-side shield for 30 LED unit ¹⁸
DSXOHS 40C U	House-side shield for 40 LED unit ¹⁸
DSXODDL U	Diffused drop lens (polycarbonate) ¹⁸
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) ²⁰
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ⁴

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

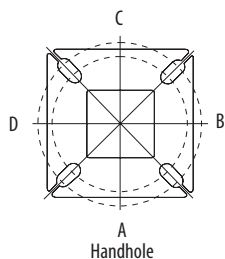
- 30 LEDs (30C option) and rotated options (L90 or R90) only available together.
- AMBPC is not available with BLC, LCCO or RCCO.
- Not available with HS or DDL.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Not available in 20C or 30C at 530mA. Not available with BL30, BL50 or PNMT options.
- Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
- Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories, Shorting Cap included.
- If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
- DMG option for 347V or 480V requires 1000mA.
- Reference Motion Sensor table on page 3.
- Reference PER Table on page 3 to see functionality.
- Requires (2) separately switched circuits.
- Not available with 347V, 480V, PNMT, PIR1FC3V or PIRH1FC3V. For PER5 or PER7 see PER Table on page 3.
- Not available with 347V, 480V, PNMT, PIR1FC3V or PIRH1FC3V. For PER5 or PER7 see PER Table on page 3. Separate Dusk to Dawn required.
- Not available with other controls options.
- Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- Requires luminaire to be specified with PER option. See PER Table.
- For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter **

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290			
2-7/8"	AST25-190	AST25-280	AST25-290			
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Pole drilling nomenclature: # of heads at degree from handhole (default side A)					
DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D

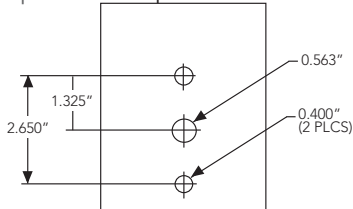
Note: Review luminaire spec sheet for specific nomenclature

Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

*3 fixtures @120 require round pole top/tenon.

Template #8

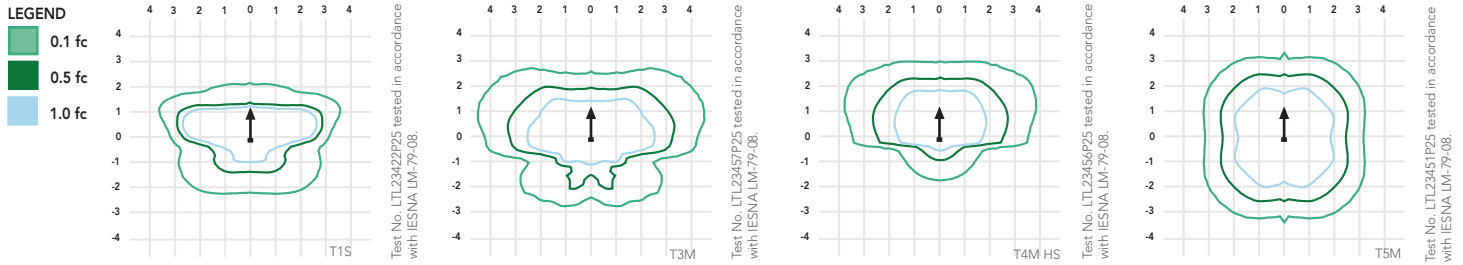
Top of Pole



Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [D-Series Area Size 0 homepage](#).

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	1.02
10°C	1.01
20°C	1.00
25°C	1.00
30°C	1.00
40°C	0.99

Electrical Load

Number of LEDs	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
20C	530	35	0.34	0.22	0.21	0.20	--	--
	700	45	0.47	0.28	0.24	0.22	0.18	0.14
	1000	72	0.76	0.45	0.39	0.36	0.36	0.26
30C	530	52	0.51	0.31	0.28	0.25	--	--
	700	70	0.72	0.43	0.37	0.34	0.25	0.19
	1000	104	1.11	0.64	0.56	0.49	0.47	0.34
40C	530	68	0.71	0.41	0.36	0.33	0.25	0.19
	700	91	0.94	0.55	0.48	0.42	0.33	0.24
	1000	138	1.45	0.84	0.73	0.64	0.69	0.50

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	DSX0 LED 20C 1000			
	1	0.98	0.96	0.93
	DSX0 LED 40C 1000			
	1	0.98	0.95	0.90
	DSX0 LED 40C 700			
	1	0.99	0.99	0.99

Motion Sensor Default Settings

Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)	
		Wire 4/Wire5	Wire 4/Wire5	Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	✗	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	✗	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	✗	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	✗	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture



*Future-proof means: Ability to change controls in the future.



One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • www.lithonia.com
© 2011-2017 Acuity Brands Lighting, Inc. All rights reserved.

DSX0-LED
Rev. 08/23/17
Page 3 of 6

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
20C (20 LEDs)	530 mA	35 W	T1S	4,079	1	0	1	117	4,380	1	0	1	125	4,408	1	0	1	126	2,541	1	0	1	73
			T2S	4,206	1	0	1	120	4,516	1	0	1	129	4,544	1	0	1	130	2,589	1	0	1	74
			T2M	4,109	1	0	1	117	4,413	1	0	1	126	4,440	1	0	1	127	2,539	1	0	1	73
			T3S	4,104	1	0	1	117	4,407	1	0	1	126	4,435	1	0	1	127	2,558	1	0	1	73
			T3M	4,142	1	0	1	118	4,447	1	0	2	127	4,475	1	0	2	128	2,583	1	0	1	74
			T4M	4,198	1	0	1	120	4,508	1	0	2	129	4,536	1	0	1	130	2,570	1	0	1	73
			TFTM	4,135	1	0	1	118	4,440	1	0	1	127	4,468	1	0	1	128	2,540	1	0	1	73
			TSVS	4,368	2	0	0	125	4,691	2	0	0	134	4,720	2	0	0	135	2,650	1	0	0	76
			TSS	4,401	2	0	2	126	4,725	2	0	0	135	4,755	2	0	0	136	2,690	1	0	0	77
			TSM	4,408	2	0	1	126	4,734	3	0	1	135	4,763	3	0	1	136	2,658	2	0	0	76
			TSW	4,344	3	0	1	124	4,664	3	0	1	133	4,693	3	0	1	134	2,663	2	0	1	76
			BLC	3,071	1	0	1	88	3,297	1	0	1	94	3,318	1	0	1	95					
			LCCO	2,983	1	0	1	85	3,204	1	0	1	92	3,224	1	0	1	92					
			RCCO	2,983	1	0	1	85	3,204	1	0	1	92	3,224	1	0	1	92					
			T1S	5,181	1	0	1	115	5,563	1	0	1	124	5,598	1	0	1	124	3,144	1	0	1	70
			T2S	5,342	1	0	1	119	5,736	1	0	1	127	5,772	1	0	1	128	3,203	1	0	1	71
			T2M	5,219	1	0	2	116	5,605	1	0	2	125	5,640	1	0	2	125	3,141	1	0	1	70
			T3S	5,213	1	0	1	116	5,598	1	0	1	124	5,633	1	0	1	125	3,165	1	0	1	70
			T3M	5,260	1	0	2	117	5,649	1	0	2	126	5,684	1	0	2	126	3,196	1	0	1	71
			T4M	5,332	1	0	2	118	5,725	1	0	2	127	5,761	1	0	2	128	3,179	1	0	1	71
			TFTM	5,252	1	0	2	117	5,640	1	0	2	125	5,675	1	0	2	126	3,143	1	0	1	70
			TSVS	5,548	2	0	0	123	5,958	2	0	0	132	5,995	2	0	0	133	3,278	2	0	0	73
			TSS	5,589	2	0	0	124	6,002	2	0	0	133	6,039	2	0	0	134	3,328	2	0	0	74
			TSM	5,599	3	0	1	124	6,012	3	0	1	134	6,050	3	0	1	134	3,288	2	0	1	73
			TSW	5,517	3	0	1	123	5,924	3	0	1	132	5,961	3	0	2	132	3,295	2	0	1	73
			BLC	3,909	1	0	1	87	4,198	1	0	1	93	4,224	1	0	1	94					
			LCCO	3,798	1	0	1	84	4,078	1	0	1	91	4,104	1	0	1	91					
			RCCO	3,798	1	0	1	84	4,078	1	0	1	91	4,104	1	0	1	91					
	1000 mA	72 W	T1S	7,085	2	0	2	98	7,608	2	0	2	106	7,656	2	0	2	106					
			T2S	7,305	2	0	2	101	7,845	2	0	2	109	7,894	2	0	2	110					
			T2M	7,138	2	0	2	99	7,665	2	0	2	106	7,713	2	0	2	107					
			T3S	7,129	1	0	2	99	7,656	2	0	2	106	7,704	2	0	2	107					
			T3M	7,194	2	0	2	100	7,725	2	0	2	107	7,773	2	0	2	108					
			T4M	7,292	2	0	2	101	7,830	2	0	2	109	7,879	2	0	2	109					
			TFTM	7,183	1	0	2	100	7,713	2	0	2	107	7,761	2	0	2	108					
			TSVS	7,588	3	0	0	105	8,148	3	0	0	113	8,199	3	0	0	114					
			TSS	7,644	3	0	0	106	8,208	3	0	0	114	8,259	3	0	0	115					
			TSM	7,657	3	0	2	106	8,222	3	0	2	114	8,274	3	0	2	115					
			TSW	7,545	3	0	2	105	8,102	3	0	2	113	8,153	3	0	2	113					
			BLC	5,162	1	0	1	72	5,543	1	0	1	77	5,578	1	0	1	77					
			LCCO	5,015	1	0	2	70	5,386	1	0	2	75	5,419	1	0	2	75					
			RCCO	5,015	1	0	2	70	5,386	1	0	2	75	5,419	1	0	2	75					

Performance Data Cont.

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40C (40 LEDs)	530 mA	68 W	T1S	7,926	2	0	2	117	8,511	2	0	2	125	8,564	2	0	2	126	4,878	1	0	1	72
			T2S	8,172	2	0	2	120	8,775	2	0	2	129	8,830	2	0	2	130	4,969	1	0	1	73
			T2M	7,985	2	0	2	117	8,574	2	0	2	126	8,628	2	0	2	127	4,874	1	0	1	72
			T3S	7,975	2	0	2	117	8,564	2	0	2	126	8,617	2	0	2	127	4,910	1	0	1	72
			T3M	8,047	2	0	2	118	8,642	2	0	3	127	8,696	2	0	3	128	4,958	1	0	2	73
			T4M	8,157	2	0	2	120	8,759	2	0	2	129	8,813	2	0	2	130	4,932	1	0	2	73
			TFTM	8,035	2	0	2	118	8,628	2	0	2	127	8,682	2	0	2	128	4,876	1	0	2	72
			TSVS	8,488	3	0	0	125	9,115	3	0	1	134	9,172	3	0	1	135	5,086	2	0	0	75
			TSS	8,550	3	0	1	126	9,182	4	0	2	135	9,239	3	0	1	136	5,163	2	0	0	76
			TSM	8,565	3	0	2	126	9,198	3	0	2	135	9,255	3	0	2	136	5,102	3	0	1	75
			TSW	8,440	4	0	2	124	9,063	3	0	2	133	9,120	4	0	2	134	5,112	3	0	1	75
			BLC	6,142	1	0	2	90	6,595	1	0	2	97	6,636	1	0	2	98					
			LCCO	5,967	1	0	2	88	6,407	1	0	2	94	6,447	1	0	2	95					
			RCCO	5,967	1	0	2	88	6,407	1	0	2	94	6,447	1	0	2	95					
	700 mA	91 W	T1S	10,066	2	0	2	111	10,810	2	0	2	119	10,877	2	0	2	120	6,206	2	0	2	68
			T2S	10,379	2	0	2	114	11,145	2	0	2	122	11,215	2	0	2	123	6,322	2	0	2	69
			T2M	10,141	2	0	2	111	10,890	2	0	2	120	10,958	2	0	2	120	6,201	2	0	2	68
			T3S	10,129	2	0	2	111	10,877	2	0	2	120	10,945	2	0	2	120	6,247	1	0	2	69
			T3M	10,221	2	0	3	112	10,975	2	0	3	121	11,044	2	0	3	121	6,308	2	0	2	69
			T4M	10,359	2	0	3	114	11,124	2	0	3	122	11,194	2	0	3	123	6,275	1	0	2	69
			TFTM	10,205	2	0	2	112	10,958	2	0	2	120	11,027	2	0	2	121	6,203	1	0	2	68
			TSVS	10,781	3	0	1	118	11,576	3	0	1	127	11,649	3	0	1	128	6,671	2	0	0	73
			TSS	10,860	3	0	1	119	11,662	3	0	1	128	11,734	3	0	1	129	6,569	2	0	0	72
			TSM	10,879	4	0	2	120	11,682	4	0	2	128	11,755	4	0	2	129	6,491	3	0	1	71
			TSW	10,719	4	0	2	118	11,511	4	0	2	126	11,583	4	0	2	127	6,504	3	0	2	71
			BLC	7,819	1	0	2	86	8,396	1	0	2	92	8,448	1	0	2	93					
			LCCO	7,596	1	0	2	83	8,157	1	0	2	90	8,208	1	0	2	90					
			RCCO	7,596	1	0	2	83	8,157	1	0	2	90	8,208	1	0	2	90					
	1000 mA	138 W	T1S	13,767	3	0	3	100	14,783	3	0	3	107	14,876	3	0	3	108					
			T2S	14,194	3	0	3	103	15,242	3	0	3	110	15,338	3	0	3	111					
			T2M	13,869	3	0	3	101	14,893	3	0	3	108	14,986	3	0	3	109					
			T3S	13,852	2	0	2	100	14,875	3	0	3	108	14,968	3	0	3	108					
			T3M	13,978	3	0	3	101	15,028	3	0	3	109	15,104	3	0	3	109					
			T4M	14,168	3	0	3	103	15,214	3	0	3	110	15,309	3	0	3	111					
			TFTM	13,956	2	0	3	101	14,987	2	0	3	109	15,080	2	0	3	109					
			TSVS	14,744	4	0	1	107	15,832	4	0	1	115	15,931	4	0	1	115					
			TSS	14,852	4	0	1	108	15,948	4	0	1	116	16,048	4	0	1	116					
			TSM	14,878	4	0	2	108	15,976	4	0	2	116	16,076	4	0	2	116					
			TSW	14,660	4	0	2	106	15,742	4	0	2	114	15,840	4	0	2	115					
			BLC	10,325	1	0	2	75	11,087	1	0	2	80	11,156	1	0	2	81					
			LCCO	10,031	2	0	2	73	10,771	2	0	3	78	10,839	2	0	3	79					
			RCCO	10,031	2	0	2	73	10,771	2	0	3	78	10,839	2	0	3	79					

L90 and R90 Rotated Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30C (30 LEDs)	530 mA	52 W	T1S	6,130	2	0	2	118	6,583	2	0	2	127	6,624	2	0	2	127	3,841	2	0	2	74
			T2S	6,321	2	0	2	122	6,787	2	0	2	131	6,830	2	0	2	131	3,912	2	0	2	75
			T2M	6,176	3	0	3	119	6,632	3	0	3	128	6,673	3	0	3	128	3,837	2	0	2	74
			T3S	6,168	3	0	3	119	6,624	3	0	3	127	6,665	3	0	3	128	3,866	2	0	2	74
			T3M	6,224	3	0	3	120	6,684	3	0	3	129	6,726	3	0	3	129	3,904	2	0	2	75
			T4M	6,309	3	0	3	121	6,775	3	0	3	130	6,817	3	0	3	131	3,884	2	0	2	75
			TFTM	6,215	3	0	3	120	6,673	3	0	3	128	6,715	3	0	3	129	3,839	2	0	2	74
			T5VS	6,565	2	0	0	126	7,050	3	0	0	136	7,094	3	0	0	136	4,005	2	0	0	77
			T5S	6,613	2	0	0	127	7,102	2	0	0	137	7,146	2	0	0	137	4,065	2	0	0	78
			T5M	6,625	3	0	1	127	7,114	3	0	1	137	7,159	3	0	1	138	4,017	2	0	1	77
			T5W	6,528	3	0	2	126	7,010	3	0	2	135	7,054	3	0	2	136	4,025	3	0	1	77
			BLC	4,747	2	0	2	91	5,098	2	0	2	98	5,130	2	0	2	99					
			LCCO	4,612	1	0	2	89	4,953	1	0	2	95	4,984	1	0	2	96					
			RCCO	4,612	1	0	2	89	4,953	1	0	2	95	4,984	1	0	2	96					
	700 mA	70 W	T1S	7,786	3	0	3	111	8,361	3	0	3	119	8,413	3	0	3	120	4,783	2	0	2	68
			T2S	8,028	3	0	3	115	8,620	3	0	3	123	8,674	3	0	3	124	4,873	2	0	2	70
			T2M	7,844	3	0	3	112	8,423	3	0	3	120	8,476	3	0	3	121	4,779	2	0	2	68
			T3S	7,834	3	0	3	112	8,413	3	0	3	120	8,465	3	0	3	121	4,815	2	0	2	69
			T3M	7,905	3	0	3	113	8,489	3	0	3	121	8,542	3	0	3	122	4,862	3	0	3	69
			T4M	8,013	3	0	3	114	8,604	3	0	3	123	8,658	3	0	3	124	4,837	3	0	3	69
			TFTM	7,893	3	0	3	113	8,476	3	0	3	121	8,529	3	0	3	122	4,781	3	0	3	68
			T5VS	8,338	3	0	0	119	8,954	3	0	0	128	9,010	3	0	0	129	4,988	2	0	0	71
			T5S	8,400	3	0	0	120	9,020	3	0	1	129	9,076	3	0	1	130	5,063	2	0	0	72
			T5M	8,414	3	0	2	120	9,036	3	0	2	129	9,092	3	0	2	130	5,003	3	0	1	71
			T5W	8,291	4	0	2	118	8,903	4	0	2	127	8,959	4	0	2	128	5,013	3	0	1	72
			BLC	6,044	2	0	2	86	6,490	3	0	3	93	6,530	3	0	3	93					
			LCCO	5,872	1	0	2	84	6,305	1	0	2	90	6,345	1	0	2	91					
			RCCO	5,872	1	0	2	84	6,305	1	0	2	90	6,345	1	0	2	91					
	1000 mA	104 W	T1S	10,648	3	0	3	102	11,434	3	0	3	110	11,506	3	0	3	111					
			T2S	10,979	3	0	3	106	11,789	3	0	3	113	11,863	3	0	3	114					
			T2M	10,727	3	0	3	103	11,519	3	0	3	111	11,591	3	0	3	111					
			T3S	10,714	3	0	3	103	11,505	3	0	3	111	11,577	3	0	3	111					
			T3M	10,812	3	0	3	104	11,610	4	0	4	112	11,682	4	0	4	112					
			T4M	10,958	4	0	4	105	11,767	4	0	4	113	11,841	4	0	4	114					
			TFTM	10,795	3	0	3	104	11,592	4	0	4	111	11,664	4	0	4	112					
			T5VS	11,404	3	0	0	110	12,245	3	0	1	118	12,322	3	0	1	118					
			T5S	11,487	3	0	1	110	12,336	3	0	1	119	12,413	3	0	1	119					
			T5M	11,508	4	0	2	111	12,357	4	0	2	119	12,434	4	0	2	120					
			T5W	11,339	4	0	2	109	12,176	4	0	2	117	12,252	4	0	2	118					
			BLC	7,981	3	0	3	77	8,570	3	0	3	82	8,624	3	0	3	83					
			LCCO	7,754	1	0	2	75	8,326	2	0	2	80	8,378	2	0	2	81					
			RCCO	7,754	1	0	2	75	8,326	2	0	2	80	8,378	2	0	2	81					

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) or optional 3000 K (70 minimum CRI) or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine(s) configurations consist of 20, 30 or 40 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L99/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an

expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV or 6kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.





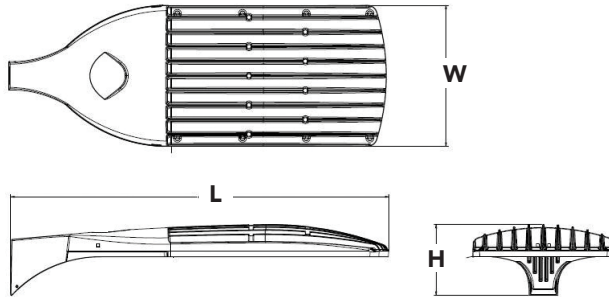
D-Series Size 2 LED Area Luminaire

d^{series}



Specifications

EPA:	1.1 ft ² (0.10 m ²)
Length:	40" (101.6 cm)
Width:	15" (38.1 cm)
Height:	7-1/4" (18.4 cm)
Weight (max):	36 lbs (16.3 kg)



Catalog
Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹
- This luminaire is part of an A+ Certified solution for ROAM®X or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a **shaded background**¹

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)



A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX2 LED 80C 1000 40K T4M MVOLT SPA DDBXD

DSX2 LED									
Series	LEDs	Drive current		Color temperature		Distribution		Voltage	Mounting
DSX2 LED	Forward optics	530	530 mA	30K	3000 K	T1S	Type I Short	TSVS	Type V Very Short
	80C 80 LEDs (four engine)	700	700 mA	40K	4000 K	T2S	Type II Short	T5S	Type V Short
		1000	1000 mA (1 A)	50K	5000 K	T2M	Type II Medium	T5M	Type V Medium
	100C 100 LEDs (four engines)	1200	1200 mA ^{2,3} (1.2 A)	AMBPC	Amber phosphor converted ^{3,4}	T3S	Type III Short	T5W	Type V Wide
	Rotated optics					T3M	Type III Medium	BLC	Backlight control ^{2,3,5}
	90C 90 LEDs ¹					T4M	Type IV Medium	LCCO	Left corner cutoff ^{2,3,5}
						TFTM	Forward Throw Medium	RCCO	Right corner cutoff ^{2,3,5}
									Shipped included
									SPA Square pole mounting
									RPA Round pole mounting
									WBA Wall bracket
									SPUMBA Square pole universal mounting adaptor ⁸
									RPUMBA Round pole universal mounting adaptor ⁸
									Ordered and shipped separately
									KMA8 DDBXD U Mast arm mounting bracket adaptor (See accessories) ⁹
Control options							Other options		Finish (required)
Shipped installed							Shipped installed		DDBXD Dark bronze
PER NEMA twist-lock receptacle only (controls ordered separate) ¹⁰							HS House-side shield ¹⁹		DBLXD Black
PER5 Five-wire receptacle only (controls ordered separate) ^{10,11}							SF Single fuse (120, 277, 347V) ⁷		DNAXD Natural aluminum
PER7 Seven-wire receptacle only (controls ordered separate) ^{10,11}							DF Double fuse (208, 240, 480V) ⁷		DWHXD White
DMG 0-10V dimming extend out back of housing for external control (leads exit fixture) ¹²							L90 Left rotated optics ¹		DDBTXD Textured dark bronze
DS Dual switching ^{13,14}							R90 Right rotated optics ¹		DBLBXD Textured black
PIRH Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enable at 5fc ¹⁵							BS Bird spikes		DNATXD Textured natural aluminum
PIRH1FC3V Bi-level, motion sensor, 15'-30' mounting height, ambient sensor enabled at 1fc ¹⁵									DWHGXD Textured white
BL30 Bi-level switched dimming, 30% ^{13,16}									
BL50 Bi-level switched dimming, 50% ^{13,16}									
PNMTDD3 Part night, dim till dawn ¹⁷									
PNMT5D3 Part night, dim 5 hrs ¹⁷									
PNMT6D3 Part night, dim 6 hrs ¹⁷									
PNMT7D3 Part night, dim 7 hrs ¹⁷									
FAO Field Adjustable Output ¹⁸									



One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • www.lithonia.com
© 2011-2017 Acuity Brands Lighting, Inc. All rights reserved.

DSX2-LED
Rev. 08/23/17
Page 1 of 7

Ordering Information Cont.

Accessories

Ordered and shipped separately.

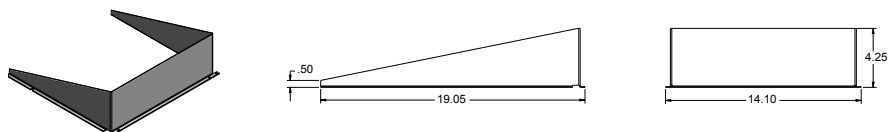
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ²⁰
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ²⁰
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ²⁰
DSHORT SBK U	Shorting cap ²⁰
DSX2EGS DDBXD U	External glare shield
DSX2HS 80C U	House-side shield for 80 LED unit ²
DSX2HS 90C U	House-side shield for 90 LED unit ²
DSX2HS 100C U	House-side shield for 100 LED unit ²
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish) ²¹
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ²¹

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

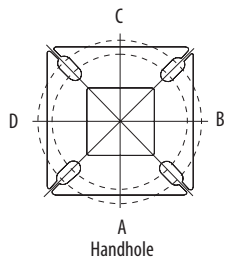
- 1 Rotated optics option (L90 or R90) required for 90C.
- 2 1200mA not available with AMBPC, BLC, LCCO, RCCO or HS.
- 3 Not available with HS.
- 4 AMBPC is not available with BLC, LCCO or RCCO.
- 5 Not available with 1200mA.
- 6 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- 7 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- 8 Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
- 9 Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- 10 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Not available with DS option. Shorting Cap be order for correct operation when photocontrol is present. Shorting Cap included.
- 11 If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Not available with DCR. Node with integral dimming. Shorting Cap included.
- 12 DMG option for 347V or 480V requires 1000mA.
- 13 Requires (2) separately switched circuits. See Outdoor Control Technical Guide for details.
- 14 Provides 50/50 fixture operation via (2) independent drivers. Not available with PER, PER5, PER7, PIR or PIRH.
- 15 Reference Motion Sensor table.
- 16 Not available with 347V, 480V, DS, PIR1FC3V or PIRH1FC3V. For PER5 or PER7 see PER Table on page 3.
- 17 Not available with 347V, 480V, DS, BL30, BL50, PIR1FC3V or PIRH1FC3V. For PER5 or PER7 see PER Table on page 3. Separate Dusk to Dawn required.
- 18 Not available with other controls options.
- 19 Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- 20 Requires luminaire to be specified with PER option. Ordered and shipped as a separate line item from Acuity Brands Controls.
- 21 For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter **

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290			
2-7/8"	AST25-190	AST25-280	AST25-290			
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

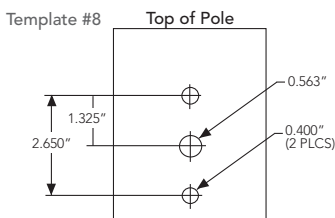
Pole drilling nomenclature: # of heads at degree from handhole (default side A)

DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, & D

Note: Review luminaire spec sheet for specific nomenclature

Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

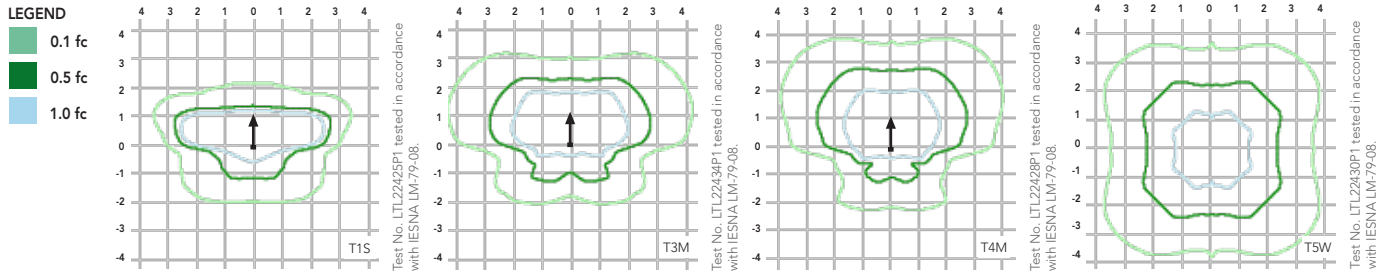
*3 fixtures @120 require round pole top/tenon.



Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [D-Series Area Size 2 homepage](#).

Isofootcandle plots for the DSX2 LED 80C 1000 40K. Distances are in units of mounting height (30').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	1.04
10°C	1.02
20°C	1.01
25°C	1.00
30°C	0.99
40°C	0.97

Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
80	530	137W	1.15	0.66	0.53	0.51	0.39	0.28
	700	188W	1.58	0.92	0.81	0.73	0.55	0.41
	1000	282W	2.37	1.35	1.18	1.04	0.83	0.61
100	530	175W	1.47	0.86	0.76	0.68	0.51	0.38
	700	232W	1.95	1.13	0.99	0.88	0.67	0.49
	1000	360W	3.03	1.72	1.49	1.3	1.05	0.77

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	DSX2 LED 80C 1200			
	1.0	0.98	0.95	0.90
	DSX2 LED 100C 1000			
	1.0	0.98	0.95	0.90
	DSX2 LED 100C 1200			
	1.0	0.97	0.94	0.88

Motion Sensor Default Settings

Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)	
		Wire 4/Wire5	Wire 4/Wire5	Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	✗	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	✗	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	✗	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	✗	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture



*Future-proof means: Ability to change controls in the future.



Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
80C (80 LEDs)	530 mA	137 W	T1S	15,779	3	0	3	115	16,599	3	0	3	121	16,701	3	0	3	122	10,578	2	0	2	77
			T2S	16,270	3	0	3	119	17,115	3	0	3	125	17,220	3	0	3	126	10,554	2	0	2	77
			T2M	15,897	3	0	3	116	16,723	3	0	3	122	16,826	3	0	3	123	10,571	2	0	2	77
			T3S	15,877	3	0	3	116	16,702	3	0	3	122	16,805	3	0	3	123	10,548	2	0	2	77
			T3M	16,021	3	0	3	117	16,854	3	0	3	123	16,958	3	0	3	124	10,569	2	0	3	77
			T4M	16,239	3	0	3	119	17,083	3	0	3	125	17,188	3	0	3	125	10,547	2	0	3	77
			TFTM	15,996	3	0	3	117	16,827	3	0	3	123	16,931	3	0	3	124	10,741	2	0	2	78
			T5VS	16,899	4	0	1	123	17,776	4	0	1	130	17,886	4	0	1	131	11,155	3	0	1	81
			T5S	17,024	4	0	1	124	17,908	4	0	1	131	18,019	4	0	1	132	11,149	3	0	1	81
			T5M	17,053	4	0	2	124	17,939	4	0	2	131	18,050	4	0	2	132	11,096	4	0	2	81
			T5W	16,802	5	0	3	123	17,675	5	0	3	129	17,784	5	0	3	130	10,957	4	0	2	80
			BLC	12,283	1	0	2	90	13,190	1	0	2	96	13,272	2	0	2	97					
			LCCO	11,933	2	0	3	87	12,814	2	0	3	94	12,894	2	0	3	94					
			RCCO	11,933	2	0	3	87	12,814	2	0	3	94	12,894	2	0	3	94					
	700 mA	188 W	T1S	20,018	3	0	3	106	21,058	3	0	3	112	21,188	3	0	3	113	13,147	3	0	3	70
			T2S	20,640	3	0	3	110	21,712	3	0	3	115	21,846	3	0	3	116	13,116	3	0	3	70
			T2M	20,167	3	0	3	107	21,215	3	0	3	113	21,346	3	0	3	114	13,138	3	0	3	70
			T3S	20,142	3	0	3	107	21,188	3	0	3	113	21,319	3	0	3	113	13,110	2	0	2	70
			T3M	20,325	3	0	4	108	21,381	3	0	4	114	21,513	3	0	4	114	13,135	3	0	3	70
			T4M	20,601	3	0	4	110	21,672	3	0	4	115	21,805	3	0	4	116	13,108	2	0	3	70
			TFTM	20,293	3	0	4	108	21,348	3	0	4	114	21,479	3	0	4	114	13,349	2	0	3	71
			T5VS	21,438	4	0	1	114	22,551	4	0	1	120	22,690	4	0	1	121	13,864	4	0	1	74
			T5S	21,596	4	0	1	115	22,718	4	0	1	121	22,859	4	0	1	122	13,856	3	0	1	74
			T5M	21,634	5	0	3	115	22,758	5	0	3	121	22,898	5	0	3	122	13,790	4	0	2	73
			T5W	21,316	5	0	3	113	22,423	5	0	3	119	22,561	5	0	3	120	13,617	4	0	2	72
			BLC	15,637	2	0	2	83	16,791	2	0	3	89	16,896	2	0	3	90					
			LCCO	15,192	2	0	3	81	16,313	2	0	3	87	16,415	2	0	3	87					
			RCCO	15,192	2	0	3	81	16,313	2	0	3	87	16,415	2	0	3	87					
	1000 mA	282 W	T1S	27,547	3	0	3	98	28,978	3	0	3	103	29,157	3	0	3	103	17,833	3	0	3	63
			T2S	28,403	3	0	3	101	29,879	4	0	4	106	30,063	4	0	4	107	17,791	3	0	3	63
			T2M	27,753	3	0	4	98	29,195	3	0	4	104	29,375	3	0	4	104	17,821	3	0	3	63
			T3S	27,718	3	0	4	98	29,158	3	0	4	103	29,338	3	0	4	104	17,782	3	0	3	63
			T3M	27,970	3	0	5	99	29,423	4	0	5	104	29,605	4	0	5	105	17,817	3	0	3	63
			T4M	28,350	3	0	4	101	29,823	3	0	5	106	30,007	3	0	5	106	17,779	3	0	3	63
			TFTM	27,927	3	0	4	99	29,377	3	0	4	104	29,559	3	0	4	105	18,107	3	0	3	64
			T5VS	29,501	5	0	1	105	31,034	5	0	1	110	31,225	5	0	1	111	18,805	4	0	1	67
			T5S	29,720	5	0	2	105	31,264	5	0	2	111	31,457	5	0	2	112	18,794	4	0	1	67
			T5M	29,772	5	0	3	106	31,318	5	0	3	111	31,512	5	0	3	112	18,705	4	0	2	66
			T5W	29,333	5	0	4	104	30,857	5	0	4	109	31,048	5	0	4	110	18,470	5	0	3	65
			BLC	20,649	2	0	3	73	22,174	2	0	3	79	22,313	2	0	3	79					
			LCCO	20,061	3	0	3	71	21,542	3	0	3	76	21,677	3	0	3	77					
			RCCO	20,061	3	0	3	71	21,542	3	0	3	76	21,677	3	0	3	77					
	1200 mA	322 W	T1S	30,431	3	0	3	95	32,011	4	0	4	99	32,209	4	0	4	100					
			T2S	31,376	4	0	4	97	33,006	4	0	4	103	33,210	4	0	4	103					
			T2M	30,658	4	0	4	95	32,251	4	0	4	100	32,450	4	0	4	101					
			T3S	30,620	3	0	4	95	32,210	3	0	4	100	32,409	3	0	4	101					
			T3M	30,898	4	0	5	96	32,503	4	0	5	101	32,703	4	0	5	102					
			T4M	31,318	3	0	5	97	32,945	3	0	5	102	33,148	3	0	5	103					
			TFTM	30,850	3	0	4	96	32,452	3	0	5	101	32,652	3	0	5	101					
			T5VS	32,589	5	0	1	101	34,282	5	0	1	106	34,494	5	0	1	107					
			T5S	32,830	5	0	2	102	34,536	5	0	2	107	34,749	5	0	2	108					
			T5M	32,888	5	0	4	102	34,596	5	0	4	107	34,810	5	0	4	108					
			T5W	32,404	5	0	4	101	34,087	5	0	4	106	34,297	5	0	4	107					

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics (continued)

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
100C (100 LEDs)	530 mA	175 W	T1S	19,856	3	0	3	113	20,887	3	0	3	119	21,016	3	0	3	120	12,889	3	0	3	74
			T2S	20,473	3	0	3	117	21,537	3	0	3	123	21,670	3	0	3	124	12,859	3	0	3	73
			T2M	20,004	3	0	3	114	21,043	3	0	3	120	21,173	3	0	3	121	12,881	3	0	3	74
			T3S	19,979	3	0	3	114	21,017	3	0	3	120	21,147	3	0	3	121	12,853	2	0	2	73
			T3M	20,161	3	0	4	115	21,208	3	0	4	121	21,339	3	0	4	122	12,878	3	0	3	74
			T4M	20,435	3	0	4	117	21,496	3	0	4	123	21,629	3	0	4	124	12,851	2	0	3	73
			TFTM	20,129	3	0	3	115	21,175	3	0	4	121	21,306	3	0	4	122	13,088	2	0	3	75
			TSVS	21,264	4	0	1	122	22,369	4	0	1	128	22,507	4	0	1	129	13,592	4	0	1	78
			T5S	21,422	4	0	1	122	22,535	4	0	1	129	22,674	4	0	1	130	13,584	3	0	1	78
			T5M	21,459	5	0	3	123	22,574	5	0	3	129	22,713	5	0	3	130	13,520	4	0	2	77
			TSW	21,143	5	0	3	121	22,242	5	0	3	127	22,379	5	0	3	128	13,350	4	0	2	76
			BLC	19,032	2	0	3	109	20,438	2	0	3	117	20,565	2	0	3	118					
			LCCO	18,490	2	0	3	106	19,856	3	0	3	113	19,980	3	0	3	114					
			RCCO	18,490	2	0	3	106	19,856	3	0	3	113	19,980	3	0	3	114					
	700 mA	232 W	T1S	25,219	3	0	3	109	26,529	3	0	3	114	26,692	3	0	3	115	16,176	3	0	3	70
			T2S	26,002	3	0	3	112	27,353	3	0	3	118	27,522	3	0	3	119	16,138	3	0	3	70
			T2M	25,407	3	0	4	110	26,727	3	0	4	115	26,892	3	0	4	116	16,165	3	0	3	70
			T3S	25,375	3	0	3	109	26,693	3	0	4	115	26,858	3	0	4	116	16,130	3	0	3	70
			T3M	25,606	3	0	4	110	26,936	3	0	4	116	27,102	3	0	4	117	16,161	3	0	3	70
			T4M	25,954	3	0	4	112	27,302	3	0	4	118	27,471	3	0	4	118	16,127	3	0	3	70
			TFTM	25,566	3	0	4	110	26,894	3	0	4	116	27,060	3	0	4	117	16,425	3	0	3	71
			TSVS	27,007	5	0	1	116	28,410	5	0	1	122	28,797	5	0	2	124	17,058	4	0	1	74
			T5S	27,207	5	0	2	117	28,621	5	0	2	123	28,797	5	0	2	124	17,048	4	0	1	73
			T5M	27,255	5	0	3	117	28,671	5	0	3	124	28,848	5	0	3	124	16,967	4	0	2	73
			TSW	26,854	5	0	4	116	28,249	5	0	4	122	28,423	5	0	4	123	16,754	5	0	3	72
			BLC	24,229	2	0	3	104	26,018	2	0	4	112	26,181	2	0	4	113					
			LCCO	23,539	3	0	4	101	25,277	3	0	4	109	25,435	3	0	4	110					
			RCCO	23,539	3	0	4	101	25,277	3	0	4	109	25,435	3	0	4	110					
	1000 mA	360 W	T1S	34,490	4	0	4	96	36,281	4	0	4	101	36,505	4	0	4	101	21,838	3	0	3	61
			T2S	35,561	4	0	4	99	37,409	4	0	4	104	37,640	4	0	4	105	21,787	3	0	3	61
			T2M	34,747	4	0	4	97	36,552	4	0	4	102	36,778	4	0	4	102	21,824	3	0	3	61
			T3S	34,704	3	0	4	96	36,507	4	0	4	101	36,732	4	0	4	102	21,776	3	0	3	60
			T3M	35,019	4	0	5	97	36,838	4	0	5	102	37,065	4	0	5	103	21,819	3	0	4	61
			T4M	35,495	4	0	5	99	37,339	4	0	5	104	37,569	4	0	5	104	22,175	3	0	4	62
			TFTM	34,964	3	0	5	97	36,781	3	0	5	102	37,008	3	0	5	103	21,773	3	0	4	60
			TSVS	36,936	5	0	1	103	38,855	5	0	1	108	39,095	5	0	1	109	23,029	4	0	1	64
			T5S	37,209	5	0	2	103	39,142	5	0	2	109	39,384	5	0	2	109	23,016	4	0	1	64
			T5M	37,274	5	0	4	104	39,211	5	0	4	109	39,453	5	0	4	110	22,906	5	0	3	64
			TSW	36,726	5	0	4	102	38,634	5	0	4	107	38,872	5	0	4	108	22,619	5	0	3	63
			BLC	31,996	3	0	4	89	34,358	3	0	4	95	34,573	3	0	4	96					
			LCCO	31,085	3	0	4	86	33,380	3	0	4	93	33,588	3	0	4	93					
			RCCO	31,085	3	0	4	86	33,380	3	0	4	93	33,588	3	0	4	93					
	1200 mA	400 W	T1S	37,667	4	0	4	94	39,623	4	0	4	99	39,868	4	0	4	100					
			T2S	38,837	4	0	4	97	40,855	4	0	4	102	41,107	4	0	4	103					
			T2M	37,948	4	0	5	95	39,919	4	0	5	100	40,166	4	0	5	100					
			T3S	37,901	4	0	4	95	39,869	4	0	4	100	40,116	4	0	4	100					
			T3M	38,244	4	0	5	96	40,231	4	0	5	101	40,480	4	0	5	101					
			T4M	38,765	4	0	5	97	40,778	4	0	5	102	41,030	4	0	5	103					
			TFTM	38,185	3	0	5	95	40,169	4	0	5	100	40,417	4	0	5	101					
			TSVS	40,338	5	0	1	101	42,434	5	0	1	106	42,696	5	0	1	107					
			T5S	40,637	5	0	2	102	42,748	5	0	2	107	43,012	5	0	2	108					
			T5M	40,708	5	0	4	102	42,823	5	0	4	107	43,087	5	0	4	108					
			TSW	40,109	5	0	5	100	42,192	5	0	5	105	42,453	5	0	5	106					

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

L90 and R90 Rotated Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
90C (90 LEDs)	530 mA	150 W	T1S	17,539	4	0	4	117	18,451	4	0	4	123	18,564	4	0	4	124	11,475	3	0	3	77
			T2S	18,084	4	0	4	121	19,024	4	0	4	127	19,141	4	0	4	128	11,448	3	0	3	76
			T2M	17,670	4	0	4	118	18,588	4	0	4	124	18,703	4	0	4	125	11,467	3	0	3	76
			T3S	17,648	4	0	4	118	18,565	4	0	4	124	18,680	4	0	4	125	11,442	3	0	3	76
			T3M	17,808	4	0	4	119	18,734	4	0	4	125	18,849	4	0	4	126	11,464	4	0	4	76
			T4M	18,051	4	0	4	120	18,988	4	0	4	127	19,106	4	0	4	127	11,440	4	0	4	76
			TFTM	17,781	4	0	4	119	18,704	4	0	4	125	18,820	4	0	4	125	11,651	4	0	4	78
			T5VS	18,783	4	0	1	125	19,759	4	0	1	132	19,881	4	0	1	133	12,288	3	0	1	82
			T5S	18,923	4	0	1	126	19,906	4	0	1	133	20,028	4	0	1	134	11,978	3	0	1	80
			T5M	18,956	4	0	2	126	19,940	4	0	2	133	20,063	4	0	2	134	12,301	4	0	2	82
			T5W	18,677	5	0	3	125	19,647	5	0	3	131	19,768	5	0	3	132	12,109	4	0	2	81
			BLC	16,949	4	0	4	113	18,200	4	0	4	121	18,314	4	0	4	122					
			LCCO	16,466	5	0	5	110	17,682	5	0	5	118	17,793	5	0	5	119					
			RCCO	16,466	3	0	3	110	17,682	3	0	3	118	17,792	3	0	3	119					
	700 mA	206 W	T1S	22,323	4	0	4	108	23,483	4	0	4	114	23,628	4	0	4	115	14,387	3	0	3	70
			T2S	23,017	4	0	4	112	24,213	4	0	4	118	24,362	4	0	4	118	14,354	3	0	3	70
			T2M	22,490	4	0	4	109	23,658	4	0	4	115	23,804	4	0	4	116	14,378	4	0	4	70
			T3S	22,462	4	0	4	109	23,629	4	0	4	115	23,774	4	0	4	115	14,347	4	0	4	70
			T3M	22,666	5	0	5	110	23,843	5	0	5	116	23,990	5	0	5	116	14,374	4	0	4	70
			T4M	22,974	5	0	5	112	24,167	5	0	5	117	24,317	5	0	5	118	14,344	4	0	4	70
			TFTM	22,630	4	0	4	110	23,806	5	0	5	116	23,953	5	0	5	116	15,408	4	0	1	75
			T5VS	23,906	5	0	1	116	25,148	5	0	1	122	25,304	5	0	1	123	15,019	4	0	1	73
			T5S	24,084	4	0	2	117	25,335	5	0	2	123	25,491	5	0	2	124	15,424	4	0	2	75
			T5M	24,126	5	0	3	117	25,379	5	0	3	123	25,536	5	0	3	124	14,609	4	0	4	71
			T5W	23,770	5	0	3	115	25,005	5	0	4	121	25,160	5	0	4	122	15,182	4	0	2	74
			BLC	21,577	4	0	4	105	23,170	4	0	4	112	23,315	4	0	4	113					
			LCCO	20,963	5	0	5	102	22,510	5	0	5	109	22,651	5	0	5	110					
			RCCO	20,962	3	0	3	102	22,510	3	0	3	109	22,650	3	0	3	110					
	1000 mA	320 W	T1S	30,621	4	0	4	96	32,212	5	0	4	101	32,411	5	0	4	101	19,288	4	0	4	60
			T2S	31,573	5	0	4	99	33,213	5	0	4	104	33,418	5	0	4	104	19,243	4	0	4	60
			T2M	30,850	5	0	5	96	32,453	5	0	5	101	32,653	5	0	5	102	19,275	4	0	4	60
			T3S	30,812	5	0	5	96	32,412	5	0	5	101	32,612	5	0	5	102	19,233	4	0	4	60
			T3M	31,091	5	0	5	97	32,706	5	0	5	102	32,908	5	0	5	103	19,270	4	0	4	60
			T4M	31,514	5	0	5	98	33,151	5	0	5	104	33,356	5	0	5	104	19,230	4	0	4	60
			TFTM	31,043	5	0	5	97	32,656	5	0	5	102	32,857	5	0	5	103	19,585	4	0	4	61
			T5VS	32,793	5	0	1	102	34,497	5	0	1	108	34,710	5	0	1	108	20,656	4	0	1	65
			T5S	33,036	5	0	2	103	34,752	5	0	2	109	34,967	5	0	2	109	20,134	4	0	1	63
			T5M	33,094	5	0	4	103	34,813	5	0	4	109	35,028	5	0	4	109	20,677	4	0	2	65
			T5W	32,607	5	0	4	102	34,301	5	0	4	107	34,512	5	0	4	108	20,354	5	0	3	64
			BLC	28,493	4	0	4	89	30,597	5	0	4	96	30,788	5	0	4	96					
			LCCO	27,682	3	0	4	87	29,726	5	0	5	93	29,912	5	0	5	93					
			RCCO	27,682	3	0	4	87	29,725	3	0	4	93	29,911	3	0	4	93					
	1200 mA	363 W	T1S	33,523	5	0	4	92	35,265	5	0	5	97	35,483	5	0	5	98					
			T2S	34,565	5	0	4	95	36,361	5	0	5	100	36,585	5	0	5	101					
			T2M	33,774	5	0	5	93	35,528	5	0	5	98	35,748	5	0	5	98					
			T3S	33,732	5	0	5	93	35,484	5	0	5	98	35,703	5	0	5	98					
			T3M	34,038	5	0	5	94	35,806	5	0	5	99	36,027	5	0	5	99					
			T4M	34,501	5	0	5	95	36,293	5	0	5	100	36,517	5	0	5	101					
			TFTM	33,985	5	0	5	94	35,750	5	0	5	98	35,971	5	0	5	99					
			T5VS	35,901	5	0	1	99	37,766	5	0	1	104	37,999	5	0	1	105					
			T5S	36,167	5	0	2	100	38,046	5	0	2	105	38,281	5	0	2	105					
			T5M	36,230	5	0	4	100	38,112	5	0	4	105	38,348	5	0	4	106					
			T5W	35,697	5	0	4	98	37,551	5	0	4	103	37,783	5	0	4	104					

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Area Size 2 reflects the embedded high performance LED technology. It is ideal for applications like car dealerships and large parking lots adjacent to malls, transit stations, grocery stores, home centers, and other big-box retailers.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.1 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K, or 5000 K (70 CRI) configurations. The D-Series Size 2 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine configurations consist of 80, 90 or 100 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L90/100,000 hrs at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily-serviceable surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 2 to withstand up to a 2.0 G vibration load rating per ANSI C136.31. The D-Series Size 2 utilizes the AERIS™ series pole drilling pattern (Template #8). NEMA photocontrol receptacle is available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D670,857 S. International patent pending.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.





D-Series Size 0 LED Area Luminaire



d#series

Specifications

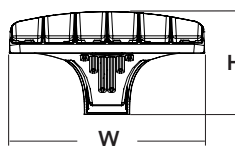
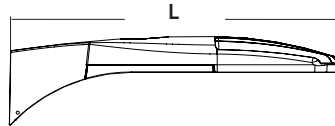
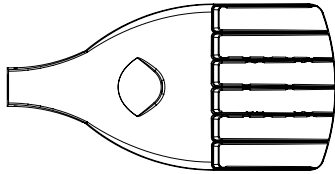
EPA: 0.95 ft²
(.09 m²)

Length: 26"
(66.0 cm)

Width: 13"
(33.0 cm)

Height: 7"
(17.8 cm)

Weight (max): 16 lbs
(7.25 kg)



A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED 40C 1000 40K T3M MVOLT SPA DDBXD

DSX0 LED											
Series	LEDs	Drive current		Color temperature		Distribution			Voltage	Mounting	
DSX0 LED	Forward optics	530	530 mA	30K	3000 K	T1S	Type I short	T5S	Type V short	MVOLT ⁴	Shipped included
	20C 20 LEDs (one engine)	700	700 mA	40K	4000 K	T2S	Type II short	T5M	Type V medium	120 ⁵	SPA Square pole mounting
	40C 40 LEDs (two engines)	1000	1000 mA (1 A)	50K	5000 K	T2M	Type II medium	T5W	Type V wide	208 ⁵	RPA Round pole mounting
	Rotated optics					T3S	Type III short	BLC	Backlight control ^{2,3}	240 ⁵	WBA Wall bracket
	30C 30 LEDs (one engine) ¹			AMBPC	Amber phosphor converted ²	T3M	Type III medium	LCCO	Left corner cutoff ^{2,3}	277 ⁵	SPUMBA Square pole universal mounting adaptor ⁷
						T4M	Type IV medium	RCCO	Right corner cutoff ^{2,3}	347 ^{5,6}	RPUMBA Round pole universal mounting adaptor ⁷
						TFTM	Forward throw medium			480 ^{5,6}	Shipped separately
					T5VS	Type V very short				KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁸	

Control options				Other options		Finish <i>(required)</i>	
Shipped installed				BL30	Bi-level switched dimming, 30% ^{14,15}	Shipped installed	DDBXD Dark bronze
PER	NEMA twist-lock receptacle only (control ordered separate) ⁹			BL50	Bi-level switched dimming, 50% ^{14,15}	HS House-side shield ¹⁸	DBLXD Black
PER5	Five-wire receptacle only (control ordered separate) ^{9,10}			PNMTDD3	Part night, dim till dawn ¹⁶	SF Single fuse (120, 277, 347V) ⁵	DNAXD Natural aluminum
PER7	Seven-wire receptacle only (control ordered separate) ^{9,10}			PNMT5D3	Part night, dim 5 hrs ¹⁶	DF Double fuse (208, 240, 480V) ⁵	DWHXD White
DMG	0-10V dimming extend out back of housing for external control (no controls)(leads exit fixture) ¹¹			PNMT6D3	Part night, dim 6 hrs ¹⁶	L90 Left rotated optics ¹	DDBTXD Textured dark bronze
PIR	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc ^{12,13}			PNMT7D3	Part night, dim 7 hrs ¹⁶	R90 Right rotated optics ¹	DBLBXD Textured black
PIRH	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc ^{12,13}			FAO	Field adjustable output ¹⁷	DDL Diffused drop lens ¹⁸	DNATXD Textured natural aluminum
PIR1FC3V	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc ^{12,13}					BS Bird spikes	DWHGXD Textured white
PIRH1FC3V	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc ^{12,13}						

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹
- This luminaire is part of an A+ Certified solution for ROAM®X or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a **shaded background**¹

To learn more about A+, visit www.acuitybrands.com/aplus.

- See ordering tree for details.
- A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)



Ordering Information Cont.

Accessories

Ordered and shipped separately.

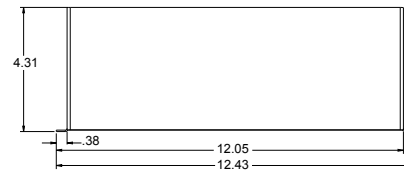
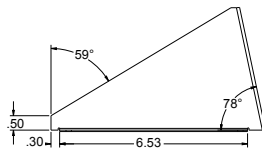
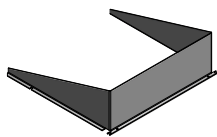
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ¹⁹
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ¹⁹
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ¹⁹
DSHORT SBK U	Shorting cap ¹⁹
DSXOEGS DDBXD U	External glare shield
DSXOHS 20C U	House-side shield for 20 LED unit ¹⁸
DSXOHS 30C U	House-side shield for 30 LED unit ¹⁸
DSXOHS 40C U	House-side shield for 40 LED unit ¹⁸
DSXODDL U	Diffused drop lens (polycarbonate) ¹⁸
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) ²⁰
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ⁴

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

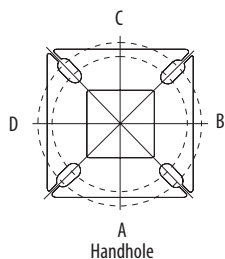
- 30 LEDs (30C option) and rotated options (L90 or R90) only available together.
- AMBPC is not available with BLC, LCCO or RCCO.
- Not available with HS or DDL.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Not available in 20C or 30C at 530mA. Not available with BL30, BL50 or PNMT options.
- Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
- Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories, Shorting Cap included.
- If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
- DMG option for 347V or 480V requires 1000mA.
- Reference Motion Sensor table on page 3.
- Reference PER Table on page 3 to see functionality.
- Requires (2) separately switched circuits.
- Not available with 347V, 480V, PNMT, PIR1FC3V or PIRH1FC3V. For PER5 or PER7 see PER Table on page 3.
- Not available with 347V, 480V, PNMT, PIR1FC3V or PIRH1FC3V. For PER5 or PER7 see PER Table on page 3. Separate Dusk to Dawn required.
- Not available with other controls options.
- Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- Requires luminaire to be specified with PER option. See PER Table.
- For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter **

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290			
2-7/8"	AST25-190	AST25-280	AST25-290			
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Pole drilling nomenclature: # of heads at degree from handhole (default side A)					
DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D

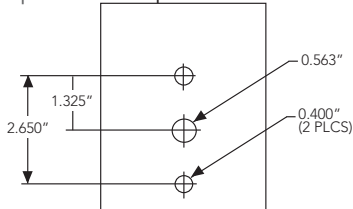
Note: Review luminaire spec sheet for specific nomenclature

Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

*3 fixtures @120 require round pole top/tenon.

Template #8

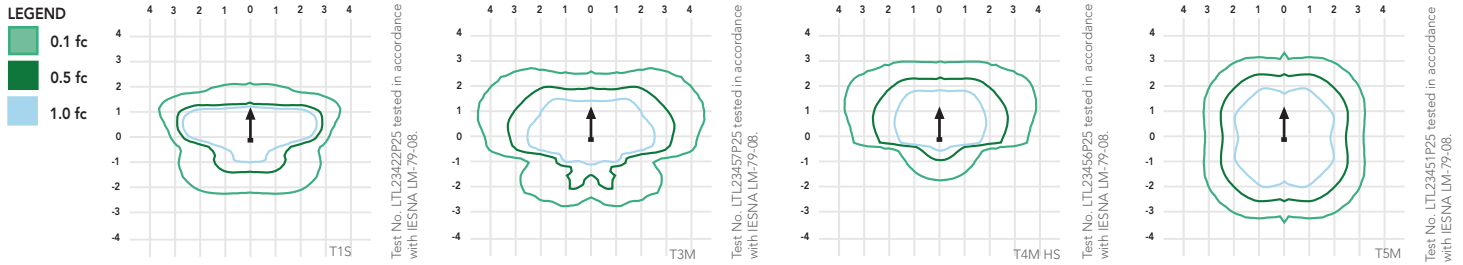
Top of Pole



Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [D-Series Area Size 0 homepage](#).

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	1.02
10°C	1.01
20°C	1.00
25°C	1.00
30°C	1.00
40°C	0.99

Electrical Load

Number of LEDs	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
20C	530	35	0.34	0.22	0.21	0.20	--	--
	700	45	0.47	0.28	0.24	0.22	0.18	0.14
	1000	72	0.76	0.45	0.39	0.36	0.36	0.26
30C	530	52	0.51	0.31	0.28	0.25	--	--
	700	70	0.72	0.43	0.37	0.34	0.25	0.19
	1000	104	1.11	0.64	0.56	0.49	0.47	0.34
40C	530	68	0.71	0.41	0.36	0.33	0.25	0.19
	700	91	0.94	0.55	0.48	0.42	0.33	0.24
	1000	138	1.45	0.84	0.73	0.64	0.69	0.50

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	DSX0 LED 20C 1000			
	1	0.98	0.96	0.93
	DSX0 LED 40C 1000			
	1	0.98	0.95	0.90
	DSX0 LED 40C 700			
	1	0.99	0.99	0.99

Motion Sensor Default Settings

Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)	
		Wire 4/Wire5	Wire 4/Wire5	Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	✗	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	✗	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	✗	Wired to dimming leads on driver	Wired to dimming leads on driver	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	✗	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture	Wires Capped inside fixture



*Future-proof means: Ability to change controls in the future.



One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • www.lithonia.com
© 2011-2017 Acuity Brands Lighting, Inc. All rights reserved.

DSX0-LED
Rev. 08/23/17
Page 3 of 6

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
20C (20 LEDs)	530 mA	35 W	T1S	4,079	1	0	1	117	4,380	1	0	1	125	4,408	1	0	1	126	2,541	1	0	1	73
			T2S	4,206	1	0	1	120	4,516	1	0	1	129	4,544	1	0	1	130	2,589	1	0	1	74
			T2M	4,109	1	0	1	117	4,413	1	0	1	126	4,440	1	0	1	127	2,539	1	0	1	73
			T3S	4,104	1	0	1	117	4,407	1	0	1	126	4,435	1	0	1	127	2,558	1	0	1	73
			T3M	4,142	1	0	1	118	4,447	1	0	2	127	4,475	1	0	2	128	2,583	1	0	1	74
			T4M	4,198	1	0	1	120	4,508	1	0	2	129	4,536	1	0	1	130	2,570	1	0	1	73
			TFTM	4,135	1	0	1	118	4,440	1	0	1	127	4,468	1	0	1	128	2,540	1	0	1	73
			TSVS	4,368	2	0	0	125	4,691	2	0	0	134	4,720	2	0	0	135	2,650	1	0	0	76
			TSS	4,401	2	0	2	126	4,725	2	0	0	135	4,755	2	0	0	136	2,690	1	0	0	77
			TSM	4,408	2	0	1	126	4,734	3	0	1	135	4,763	3	0	1	136	2,658	2	0	0	76
			TSW	4,344	3	0	1	124	4,664	3	0	1	133	4,693	3	0	1	134	2,663	2	0	1	76
			BLC	3,071	1	0	1	88	3,297	1	0	1	94	3,318	1	0	1	95					
			LCCO	2,983	1	0	1	85	3,204	1	0	1	92	3,224	1	0	1	92					
			RCCO	2,983	1	0	1	85	3,204	1	0	1	92	3,224	1	0	1	92					
			T1S	5,181	1	0	1	115	5,563	1	0	1	124	5,598	1	0	1	124	3,144	1	0	1	70
			T2S	5,342	1	0	1	119	5,736	1	0	1	127	5,772	1	0	1	128	3,203	1	0	1	71
			T2M	5,219	1	0	2	116	5,605	1	0	2	125	5,640	1	0	2	125	3,141	1	0	1	70
			T3S	5,213	1	0	1	116	5,598	1	0	1	124	5,633	1	0	1	125	3,165	1	0	1	70
			T3M	5,260	1	0	2	117	5,649	1	0	2	126	5,684	1	0	2	126	3,196	1	0	1	71
			T4M	5,332	1	0	2	118	5,725	1	0	2	127	5,761	1	0	2	128	3,179	1	0	1	71
			TFTM	5,252	1	0	2	117	5,640	1	0	2	125	5,675	1	0	2	126	3,143	1	0	1	70
	700 mA	45 W	TSVS	5,548	2	0	0	123	5,958	2	0	0	132	5,995	2	0	0	133	3,278	2	0	0	73
			TSS	5,589	2	0	0	124	6,002	2	0	0	133	6,039	2	0	0	134	3,328	2	0	0	74
			TSM	5,599	3	0	1	124	6,012	3	0	1	134	6,050	3	0	1	134	3,288	2	0	1	73
			TSW	5,517	3	0	1	123	5,924	3	0	1	132	5,961	3	0	2	132	3,295	2	0	1	73
			BLC	3,909	1	0	1	87	4,198	1	0	1	93	4,224	1	0	1	94					
			LCCO	3,798	1	0	1	84	4,078	1	0	1	91	4,104	1	0	1	91					
			RCCO	3,798	1	0	1	84	4,078	1	0	1	91	4,104	1	0	1	91					
			T1S	7,085	2	0	2	98	7,608	2	0	2	106	7,656	2	0	2	106					
			T2S	7,305	2	0	2	101	7,845	2	0	2	109	7,894	2	0	2	110					
			T2M	7,138	2	0	2	99	7,665	2	0	2	106	7,713	2	0	2	107					
			T3S	7,129	1	0	2	99	7,656	2	0	2	106	7,704	2	0	2	107					
			T3M	7,194	2	0	2	100	7,725	2	0	2	107	7,773	2	0	2	108					
			T4M	7,292	2	0	2	101	7,830	2	0	2	109	7,879	2	0	2	109					
			TFTM	7,183	1	0	2	100	7,713	2	0	2	107	7,761	2	0	2	108					
			TSVS	7,588	3	0	0	105	8,148	3	0	0	113	8,199	3	0	0	114					
			TSS	7,644	3	0	0	106	8,208	3	0	0	114	8,259	3	0	0	115					
			TSM	7,657	3	0	2	106	8,222	3	0	2	114	8,274	3	0	2	115					
			TSW	7,545	3	0	2	105	8,102	3	0	2	113	8,153	3	0	2	113					
			BLC	5,162	1	0	1	72	5,543	1	0	1	77	5,578	1	0	1	77					
			LCCO	5,015	1	0	2	70	5,386	1	0	2	75	5,419	1	0	2	75					
			RCCO	5,015	1	0	2	70	5,386	1	0	2	75	5,419	1	0	2	75					
	1000 mA	72 W	T1S	7,085	2	0	2	98	7,608	2	0	2	106	7,656	2	0	2	106					
			T2S	7,305	2	0	2	101	7,845	2	0	2	109	7,894	2	0	2	110					
			T2M	7,138	2	0	2	99	7,665	2	0	2	106	7,713	2	0	2	107					
			T3S	7,129	1	0	2	99	7,656	2	0	2	106	7,704	2	0	2	107					
			T3M	7,194	2	0	2	100	7,725	2	0	2	107	7,773	2	0	2	108					
			T4M	7,292	2	0	2	101	7,830	2	0	2	109	7,879	2	0	2	109					
			TFTM	7,183	1	0	2	100	7,713	2	0	2	107	7,761	2	0	2	108					
			TSVS	7,588	3	0	0	105	8,148	3	0	0	113	8,199	3	0	0	114					
			TSS	7,644	3	0	0	106	8,208	3	0	0	114	8,259	3	0	0	115					
			TSM	7,657	3	0	2	106	8,222	3	0	2	114	8,274	3	0	2	115					
			TSW	7,545	3	0	2	105	8,102	3	0	2	113	8,153	3	0	2	113					
			BLC	5,162	1	0	1	72	5,543	1	0	1	77	5,578	1	0	1	77					

Performance Data Cont.

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40C (40 LEDs)	530 mA	68 W	T1S	7,926	2	0	2	117	8,511	2	0	2	125	8,564	2	0	2	126	4,878	1	0	1	72
			T2S	8,172	2	0	2	120	8,775	2	0	2	129	8,830	2	0	2	130	4,969	1	0	1	73
			T2M	7,985	2	0	2	117	8,574	2	0	2	126	8,628	2	0	2	127	4,874	1	0	1	72
			T3S	7,975	2	0	2	117	8,564	2	0	2	126	8,617	2	0	2	127	4,910	1	0	1	72
			T3M	8,047	2	0	2	118	8,642	2	0	3	127	8,696	2	0	3	128	4,958	1	0	2	73
			T4M	8,157	2	0	2	120	8,759	2	0	2	129	8,813	2	0	2	130	4,932	1	0	2	73
			TFTM	8,035	2	0	2	118	8,628	2	0	2	127	8,682	2	0	2	128	4,876	1	0	2	72
			TSVS	8,488	3	0	0	125	9,115	3	0	1	134	9,172	3	0	1	135	5,086	2	0	0	75
			TSS	8,550	3	0	1	126	9,182	4	0	2	135	9,239	3	0	1	136	5,163	2	0	0	76
			TSM	8,565	3	0	2	126	9,198	3	0	2	135	9,255	3	0	2	136	5,102	3	0	1	75
			TSW	8,440	4	0	2	124	9,063	3	0	2	133	9,120	4	0	2	134	5,112	3	0	1	75
			BLC	6,142	1	0	2	90	6,595	1	0	2	97	6,636	1	0	2	98					
			LCCO	5,967	1	0	2	88	6,407	1	0	2	94	6,447	1	0	2	95					
			RCCO	5,967	1	0	2	88	6,407	1	0	2	94	6,447	1	0	2	95					
	700 mA	91 W	T1S	10,066	2	0	2	111	10,810	2	0	2	119	10,877	2	0	2	120	6,206	2	0	2	68
			T2S	10,379	2	0	2	114	11,145	2	0	2	122	11,215	2	0	2	123	6,322	2	0	2	69
			T2M	10,141	2	0	2	111	10,890	2	0	2	120	10,958	2	0	2	120	6,201	2	0	2	68
			T3S	10,129	2	0	2	111	10,877	2	0	2	120	10,945	2	0	2	120	6,247	1	0	2	69
			T3M	10,221	2	0	3	112	10,975	2	0	3	121	11,044	2	0	3	121	6,308	2	0	2	69
			T4M	10,359	2	0	3	114	11,124	2	0	3	122	11,194	2	0	3	123	6,275	1	0	2	69
			TFTM	10,205	2	0	2	112	10,958	2	0	2	120	11,027	2	0	2	121	6,203	1	0	2	68
			TSVS	10,781	3	0	1	118	11,576	3	0	1	127	11,649	3	0	1	128	6,671	2	0	0	73
			TSS	10,860	3	0	1	119	11,662	3	0	1	128	11,734	3	0	1	129	6,569	2	0	0	72
			TSM	10,879	4	0	2	120	11,682	4	0	2	128	11,755	4	0	2	129	6,491	3	0	1	71
			TSW	10,719	4	0	2	118	11,511	4	0	2	126	11,583	4	0	2	127	6,504	3	0	2	71
			BLC	7,819	1	0	2	86	8,396	1	0	2	92	8,448	1	0	2	93					
			LCCO	7,596	1	0	2	83	8,157	1	0	2	90	8,208	1	0	2	90					
			RCCO	7,596	1	0	2	83	8,157	1	0	2	90	8,208	1	0	2	90					
	1000 mA	138 W	T1S	13,767	3	0	3	100	14,783	3	0	3	107	14,876	3	0	3	108					
			T2S	14,194	3	0	3	103	15,242	3	0	3	110	15,338	3	0	3	111					
			T2M	13,869	3	0	3	101	14,893	3	0	3	108	14,986	3	0	3	109					
			T3S	13,852	2	0	2	100	14,875	3	0	3	108	14,968	3	0	3	108					
			T3M	13,978	3	0	3	101	15,028	3	0	3	109	15,104	3	0	3	109					
			T4M	14,168	3	0	3	103	15,214	3	0	3	110	15,309	3	0	3	111					
			TFTM	13,956	2	0	3	101	14,987	2	0	3	109	15,080	2	0	3	109					
			TSVS	14,744	4	0	1	107	15,832	4	0	1	115	15,931	4	0	1	115					
			TSS	14,852	4	0	1	108	15,948	4	0	1	116	16,048	4	0	1	116					
			TSM	14,878	4	0	2	108	15,976	4	0	2	116	16,076	4	0	2	116					
			TSW	14,660	4	0	2	106	15,742	4	0	2	114	15,840	4	0	2	115					
			BLC	10,325	1	0	2	75	11,087	1	0	2	80	11,156	1	0	2	81					
			LCCO	10,031	2	0	2	73	10,771	2	0	3	78	10,839	2	0	3	79					
			RCCO	10,031	2	0	2	73	10,771	2	0	3	78	10,839	2	0	3	79					

L90 and R90 Rotated Optics

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30C (30 LEDs)	530 mA	52 W	T1S	6,130	2	0	2	118	6,583	2	0	2	127	6,624	2	0	2	127	3,841	2	0	2	74
			T2S	6,321	2	0	2	122	6,787	2	0	2	131	6,830	2	0	2	131	3,912	2	0	2	75
			T2M	6,176	3	0	3	119	6,632	3	0	3	128	6,673	3	0	3	128	3,837	2	0	2	74
			T3S	6,168	3	0	3	119	6,624	3	0	3	127	6,665	3	0	3	128	3,866	2	0	2	74
			T3M	6,224	3	0	3	120	6,684	3	0	3	129	6,726	3	0	3	129	3,904	2	0	2	75
			T4M	6,309	3	0	3	121	6,775	3	0	3	130	6,817	3	0	3	131	3,884	2	0	2	75
			TFTM	6,215	3	0	3	120	6,673	3	0	3	128	6,715	3	0	3	129	3,839	2	0	2	74
			T5VS	6,565	2	0	0	126	7,050	3	0	0	136	7,094	3	0	0	136	4,005	2	0	0	77
			T5S	6,613	2	0	0	127	7,102	2	0	0	137	7,146	2	0	0	137	4,065	2	0	0	78
			T5M	6,625	3	0	1	127	7,114	3	0	1	137	7,159	3	0	1	138	4,017	2	0	1	77
			T5W	6,528	3	0	2	126	7,010	3	0	2	135	7,054	3	0	2	136	4,025	3	0	1	77
			BLC	4,747	2	0	2	91	5,098	2	0	2	98	5,130	2	0	2	99					
			LCCO	4,612	1	0	2	89	4,953	1	0	2	95	4,984	1	0	2	96					
			RCCO	4,612	1	0	2	89	4,953	1	0	2	95	4,984	1	0	2	96					
	700 mA	70 W	T1S	7,786	3	0	3	111	8,361	3	0	3	119	8,413	3	0	3	120	4,783	2	0	2	68
			T2S	8,028	3	0	3	115	8,620	3	0	3	123	8,674	3	0	3	124	4,873	2	0	2	70
			T2M	7,844	3	0	3	112	8,423	3	0	3	120	8,476	3	0	3	121	4,779	2	0	2	68
			T3S	7,834	3	0	3	112	8,413	3	0	3	120	8,465	3	0	3	121	4,815	2	0	2	69
			T3M	7,905	3	0	3	113	8,489	3	0	3	121	8,542	3	0	3	122	4,862	3	0	3	69
			T4M	8,013	3	0	3	114	8,604	3	0	3	123	8,658	3	0	3	124	4,837	3	0	3	69
			TFTM	7,893	3	0	3	113	8,476	3	0	3	121	8,529	3	0	3	122	4,781	3	0	3	68
			T5VS	8,338	3	0	0	119	8,954	3	0	0	128	9,010	3	0	0	129	4,988	2	0	0	71
			T5S	8,400	3	0	0	120	9,020	3	0	1	129	9,076	3	0	1	130	5,063	2	0	0	72
			T5M	8,414	3	0	2	120	9,036	3	0	2	129	9,092	3	0	2	130	5,003	3	0	1	71
			T5W	8,291	4	0	2	118	8,903	4	0	2	127	8,959	4	0	2	128	5,013	3	0	1	72
			BLC	6,044	2	0	2	86	6,490	3	0	3	93	6,530	3	0	3	93					
			LCCO	5,872	1	0	2	84	6,305	1	0	2	90	6,345	1	0	2	91					
			RCCO	5,872	1	0	2	84	6,305	1	0	2	90	6,345	1	0	2	91					
	1000 mA	104 W	T1S	10,648	3	0	3	102	11,434	3	0	3	110	11,506	3	0	3	111					
			T2S	10,979	3	0	3	106	11,789	3	0	3	113	11,863	3	0	3	114					
			T2M	10,727	3	0	3	103	11,519	3	0	3	111	11,591	3	0	3	111					
			T3S	10,714	3	0	3	103	11,505	3	0	3	111	11,577	3	0	3	111					
			T3M	10,812	3	0	3	104	11,610	4	0	4	112	11,682	4	0	4	112					
			T4M	10,958	4	0	4	105	11,767	4	0	4	113	11,841	4	0	4	114					
			TFTM	10,795	3	0	3	104	11,592	4	0	4	111	11,664	4	0	4	112					
			T5VS	11,404	3	0	0	110	12,245	3	0	1	118	12,322	3	0	1	118					
			T5S	11,487	3	0	1	110	12,336	3	0	1	119	12,413	3	0	1	119					
			T5M	11,508	4	0	2	111	12,357	4	0	2	119	12,434	4	0	2	120					
			T5W	11,339	4	0	2	109	12,176	4	0	2	117	12,252	4	0	2	118					
			BLC	7,981	3	0	3	77	8,570	3	0	3	82	8,624	3	0	3	83					
			LCCO	7,754	1	0	2	75	8,326	2	0	2	80	8,378	2	0	2	81					
			RCCO	7,754	1	0	2	75	8,326	2	0	2	80	8,378	2	0	2	81					

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) or optional 3000 K (70 minimum CRI) or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine(s) configurations consist of 20, 30 or 40 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L99/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an

expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV or 6kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



FEATURES & SPECIFICATIONS

INTENDED USE

Provides maintenance-free general illumination for outdoor use in residential and commercial applications such as retail, education, multi-unit housing and storage. Ideal for lighting building facades, parking areas, walkways, garages, loading areas and any other outdoor space requiring reliable security lighting.

CONSTRUCTION

Sturdy weather-resistant aluminum housing with a dark bronze finish.

High performance LEDs are powered by an MVOLT driver providing 2720 and 3970 delivered lumens at 5000K. 100,000 hours LED lifespan based on IESNA LM-80-08 results and calculated per IESNA TM-21-11 methodology. Fixture is maintenance-free.

Rated for outdoor installations -40°C minimum ambient.

Adjustable Dusk-to-Dawn, photocell standard automatically turns light on at dusk and off at dawn for convenience and energy savings.

Photocell can be disabled by rotating the photocell cover.

OPTICS

Precision-molded acrylic lenses provide optimal luminaire spacing with Type 3 distribution.

Nighttime Friendly™ full cutoff above 90° angle, standard.

INSTALLATION

Wall or arm mount (mounting arm sold separately).

All mounting hardware included.

LISTINGS

UL Certified to US safety standards. C-UL Certified to Canadian safety standards. Wet location listed.

Tested in accordance with IESNA LM-79 and LM-80 standards. DLC qualified product.

WARRANTY

5-year limited warranty. Complete warranty terms located at

www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

NOTE: Specifications are subject to change without notice.

Catalog Number
Notes
Type

Outdoor General Purpose

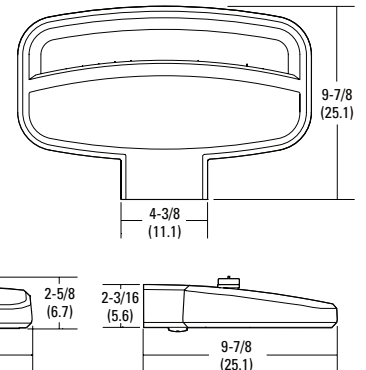
OLW

LED WALL PACK



Specifications

All dimensions are inches (centimeters)



ORDERING INFORMATION

For shortest lead times, configure products using **bolded options**.

Example: OLW 23

OLW				
Series	Lumens / Color temperature (CCT)	Voltage	Features	Finish
OLW LED Wall Light	23 2720 delivered lumens / 5000K ¹ 31 3970 delivered lumens / 5000K ¹	(blank) MVOLT (120V-277V)	(blank) Photocell included	(blank) DDB Dark Bronze

Accessories: Order as separate catalog number.

OMA 18 DDB U 18" Steel mounting arm

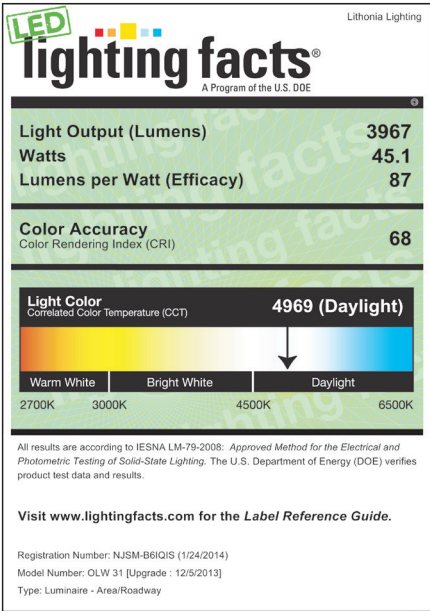
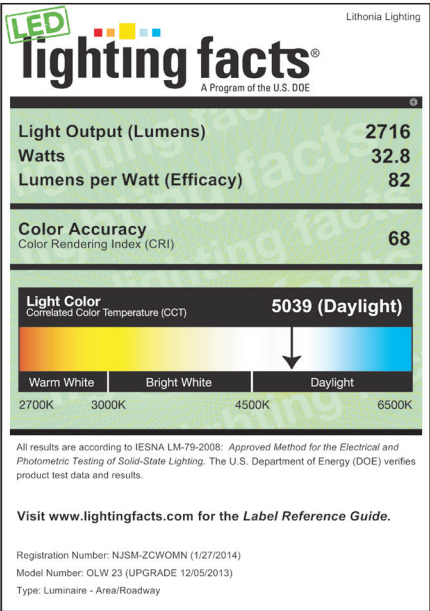
Notes

1 Correlated Color Temperature (CCT) shown is nominal per ANSI C78.377-2008.

OLW LED Wall Light

PHOTOMETRICS

Full photometric data report available within 2 weeks from request. Consult factory.
Tested in accordance with IESNA LM-79 and LM-80 standards.



PHILIPS LIGHTOLIER

Downlighting

SlimSurface LED

5" and 7" round aperture
surface mount downlight



Project: _____
Location: _____
Cat.No: _____
Type: _____
Lamps: _____ Qty: _____
Notes: _____

SlimSurface LED is a 5/8" thick surface mounted luminaire with the appearance of a recessed downlight. Easy to install into most standard j-boxes, the SlimSurface LED round apertures are available as a 5" 650lm & 7" 1000lm fixture.

Ordering guide

example: S5R830K7AL

Family	CRI	CCT	Lumens	Finish	Dimming
S5R SlimSurface 5" Round	8 80 9 90 ¹	27K 2700K	7 650lm	blank White	blank ELV / Triac (120V)
		30K 3000K		AL Aluminum	
		35K 3500K		BK Black	
		40K 4000K		W White	
S7R SlimSurface 7" Round	8 80 9 90 ¹	27K 2700K	10 1000lm	blank White	blank ELV / Triac (120V)
		30K 3000K		AL Aluminum	
		35K 3500K		BK Black	
		40K 4000K		W White	
				AL Aluminum	Z10U 0-10V (120V-277V)
				BK Black	

1. Configurations using 90 CRI are only available with 2700K and 3000K CCT.



White



Black



Aluminum

Features

- Flange:** One piece plastic flange. Injection molded white, applied aluminum or black.
- Lens:** High transmittance lens allowing for smooth, comfortable light pattern.
- Power supply:** Integral class 2 driver. Factory wired electronic LED driver (see Electrical section for specifications)
- LED Strip:** Utilizes Philips LEDs.
- Lifetime:** Expected lifetime 50,000 hours and backed by a 5-year warranty (see Philips.com/warranties for details).
- Compliance:** Non-conductive fixture for shower light application.

Electrical

Electronic power supply: RoHS compliant. Class 2 power unit. Unit tolerates sustained open circuit and short circuit output conditions without damage.

Dimming: Intended for ELV/Triac (120V) or 0-10V dimming (120V-277V) based on the configuration. Min 90°C supply conductors.

Electrical specifications	Dimming	Input volts	Input frequency	Input current	Input Power	THD Factor	Power Factor	Minimum Operating Temp.
Slim 5" 650lm	Triac	120V	50/60Hz	0.08A	9.5W	<15%	>0.9	-20°C
	0-10V	120V	50/60Hz	0.09A	10.1W	<20%	>0.9	-20°C
		277V	50/60Hz	0.04A	10.2W	<20%	>0.9	-20°C
Slim 7" 1000lm	Triac	120V	50/60Hz	0.13A	14.2W	<15%	>0.9	-20°C
	0-10V	120V	50/60Hz	0.12A	14.4W	<20%	>0.9	-20°C
		277V	50/60Hz	0.06A	14.7W	<20%	>0.9	-20°C

For more details, please see LED-Dim spec sheet.

Labels

cULus listed.
Wall-mounted: damp location only.
Ceiling-mounted: wet location.
Title 24 (JA8-2016) on 90CRI S7R models.
ENERGY STAR® certified.



S5R & S7R SlimSurface LED

5" and 7" round aperture surface mount downlight

Compatibility

Installs into standard J-box applications:



3 1/2" round (plastic)



4" square (plastic)
Not compatible with S5R



4" octagonal (metal)



4" square (metal)
Not compatible with S5R

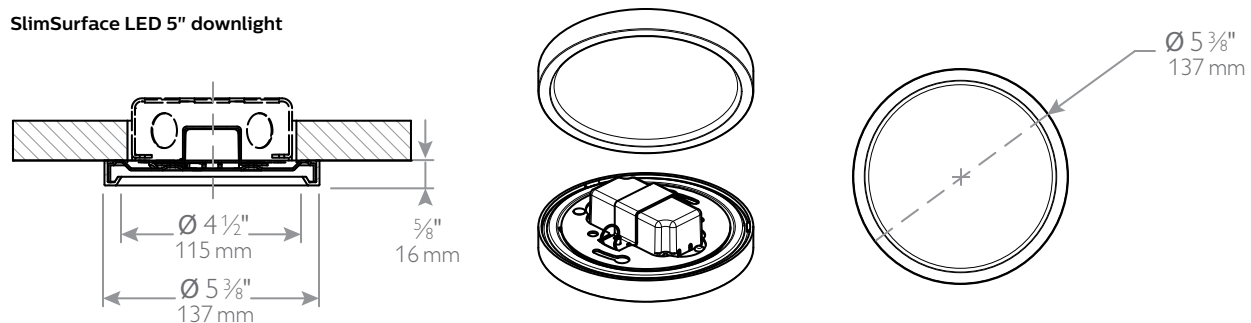


Fire rated J-box
Fire rated classification is per the ceiling and junction box ratings.

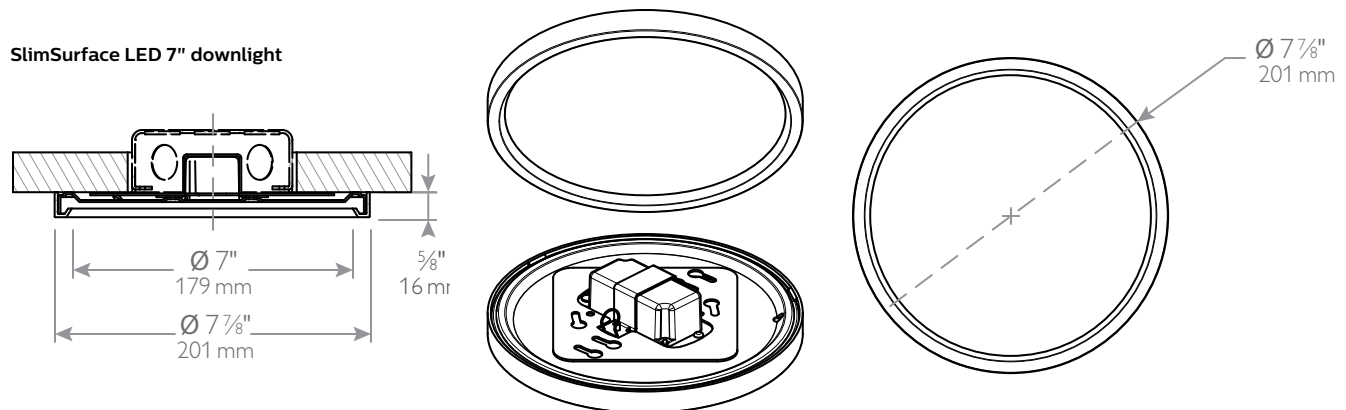
Note: A 2 1/8" deep octagon junction box is recommended for through circuit wiring applications.

Dimensions

SlimSurface LED 5" downlight



SlimSurface LED 7" downlight

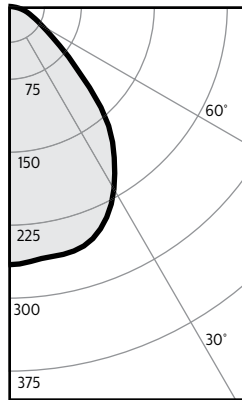


S5R & S7R SlimSurface LED

5" and 7" round aperture surface mount downlight

S5R927K7 • 10 W LED, 90CRI, 2700 K

Candela Curves



Report: 1053GFR

Output lumens: 523lm
Spacing Criterion: 1.2
Beam Angle: 87°
Input Watts: 9.1W

Angle	Mean CP	Lumens
0	266	
5	263	25
10	261	
15	260	736
20	254	
25	239	110
30	217	
35	190	118
40	160	
45	118	91
50	81	
55	55	51
60	40	
65	30	31
70	23	
75	18	18
80	11	
85	4	5
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	11	6.0'
6'	7	7.2'
7'	5	8.4'
8'	4	9.6'
9'	3	10.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	21.8	0.40
6'	14.2	0.26
7'	10.2	0.19
8'	8.5	0.16
9'	6.8	0.13

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	111	107	103	100	105	98	100	95	97	92	88
	2	102	96	90	85	94	84	90	82	87	80	77
	3	95	86	79	73	84	73	82	72	79	70	67
	4	88	78	70	64	76	64	74	63	72	62	60
	5	82	71	63	57	70	57	68	56	66	56	53
	6	76	64	57	51	64	51	62	50	60	50	48
	7	71	59	51	46	58	46	57	45	56	45	43
	8	67	54	47	42	54	41	53	41	51	41	39
	9	63	50	43	38	50	38	49	38	48	37	36
10	59	47	40	35	46	35	45	34	44	34	33	

Zonal lumens & percentages

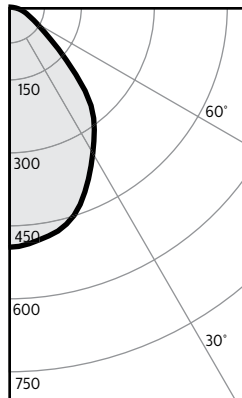
Zone	Lumens	%Luminaire
0-30	208	39.8%
0-40	326	62.5%
0-60	469	89.7%
0-90	522	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

S7R927K10 • 14 W LED, 90 CRI, 2700 K

Candela Curves



Report: 962GFR

Output lumens: 880lm
Spacing Criterion: 1.1
Beam Angle: 83°
Input Watts: 13.5W

Angle	Mean CP	Lumens
0	496	
5	490	46
10	479	
15	464	130
20	433	
25	391	180
30	348	
35	309	193
40	265	
45	197	152
50	135	
55	92	85
60	68	
65	51	52
70	40	
75	30	32
80	21	
85	9	10
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	20	5.5'
6'	14	6.6'
7'	10	7.7'
8'	8	8.8'
9'	6	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	21.8	2.89
6'	14.2	1.90
7'	10.2	1.35
8'	8.5	1.13
9'	6.8	0.90

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	111	107	103	100	104	98	100	95	96	92	88
	2	102	96	90	85	94	84	90	82	87	80	77
	3	95	86	79	74	85	73	82	72	79	71	67
	4	88	78	70	65	77	64	74	63	72	62	60
	5	82	71	63	57	70	57	68	56	66	56	53
	6	76	65	57	51	64	51	62	51	61	50	48
	7	71	59	52	46	59	46	57	46	56	45	43
	8	67	55	47	42	54	42	53	42	52	41	39
	9	63	51	43	38	50	38	49	38	48	38	36
10	59	47	40	35	47	35	46	35	45	35	33	

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	356	40.5%
0-40	549	62.4%
0-60	786	89.3%
0-90	880	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

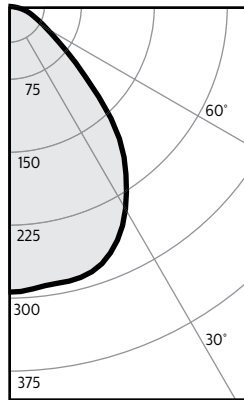
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

S5R & S7R SlimSurface LED

5" and 7" round aperture surface mount downlight

S5R827K7 • 10 W LED, 80 CRI, 2700 K

Candela Curves



Report #: 1054GFR

Output lumens: 581lm
Spacing Criterion: 1.2
Beam Angle: 87°
Input Watts: 9.3W

Angle	Mean CP	Lumens
0	294	
5	291	28
10	289	
15	288	81
20	281	
25	265	121
30	241	
35	211	131
40	178	
45	131	102
50	91	
55	62	57
60	45	
65	34	34
70	26	
75	20	21
80	13	
85	4	5
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	12	6.0'
6'	8	7.2'
7'	6	8.4'
8'	5	9.6'
9'	4	10.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	24.2	2.77
6'	15.8	1.82
7'	11.3	1.30
8'	9.5	1.08
9'	7.5	0.87

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	111	107	103	100	105	105	100	95	97	92	88
	2	102	96	90	85	94	94	90	82	87	80	77
	3	95	86	79	73	84	84	82	72	79	70	67
	4	88	78	70	64	76	76	74	63	72	62	60
	5	82	71	63	57	70	70	68	56	66	56	53
	6	76	64	57	51	64	64	62	50	60	50	48
	7	71	59	51	46	58	58	57	45	56	45	43
	8	67	54	47	42	54	54	53	41	51	41	39
	9	63	50	43	38	50	50	49	38	48	37	36
10	59	47	40	35	46	46	45	34	44	34	33	

Zonal lumens & percentages

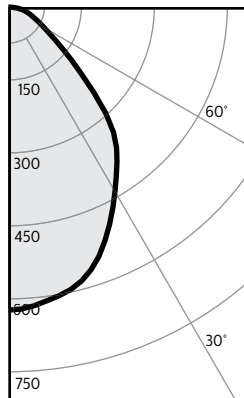
Zone	Lumens	%Luminaire
0-30	231	39.7%
0-40	362	62.3%
0-60	521	89.6%
0-90	581	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

S7R827K10 • 14 W LED, 80 CRI, 2700 K

Candela Curves



Report #: 964GFR

Output lumens: 1113lm
Spacing Criterion: 1.1
Beam Angle: 83°
Input Watts: 13.4W

Angle	Mean CP	Lumens
0	625	
5	618	59
10	604	
15	584	164
20	546	
25	494	227
30	440	
35	390	244
40	337	
45	250	193
50	170	
55	117	108
60	85	
65	65	65
70	51	
75	39	41
80	27	
85	12	13
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	25	5.5'
6'	17	6.6'
7'	13	7.7'
8'	10	8.8'
9'	8	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	24.2	3.68
6'	15.8	2.42
7'	11.3	1.73
8'	9.5	1.44
9'	7.5	1.15

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	111	107	103	100	104	98	100	95	96	92	88
	2	102	96	90	85	94	84	90	82	87	80	77
	3	95	86	79	74	85	73	82	72	79	71	67
	4	88	78	70	65	77	64	74	63	72	62	60
	5	82	71	63	57	70	57	68	56	66	56	53
	6	76	65	57	51	64	51	62	51	61	50	48
	7	71	59	52	46	59	46	57	46	56	45	43
	8	67	55	47	42	54	42	53	42	52	41	39
	9	63	51	43	38	50	38	49	38	48	38	36
10	59	47	40	35	47	35	46	35	45	35	33	

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	449	40.4%
0-40	693	62.3%
0-60	994	89.3%
0-90	1113	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

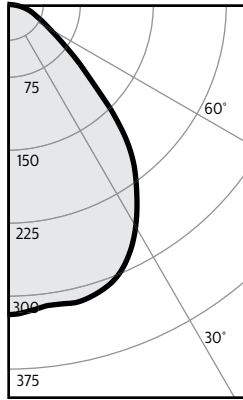
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

S5R & S7R SlimSurface LED

5" and 7" round aperture surface mount downlight

S5R830K7 • 10 W LED, 80 CRI, 3000 K

Candela Curves



Angle	Mean CP	Lumens
0	319	
5	315	30
10	313	
15	313	88
20	306	
25	290	131
30	264	
35	231	142
40	197	
45	146	109
50	100	
55	69	62
60	50	
65	38	37
70	29	
75	22	22
80	15	
85	6	6
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	13	6.0'
6'	9	7.2'
7'	7	8.4'
8'	5	9.6'
9'	4	10.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	26.2	3.06
6'	17.1	2.01
7'	12.2	1.43
8'	10.2	1.19
9'	8.1	0.96

38"x38"x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	111	107	103	100	105	98	100	95	97	92	88
	2	102	96	90	85	94	84	90	82	87	80	77
	3	95	86	79	73	84	73	82	72	79	70	67
	4	88	78	70	64	76	64	74	63	72	62	60
	5	82	71	63	57	70	57	68	56	66	56	53
	6	76	64	57	51	64	51	62	50	60	50	48
	7	71	59	51	46	58	46	57	45	56	45	43
	8	67	54	47	42	54	41	53	41	51	41	39
	9	63	50	43	38	50	38	49	38	48	37	36
10	59	47	40	35	46	35	45	34	44	34	33	

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	249	39.7%
0-40	391	62.3%
0-60	562	89.6%
0-90	628	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

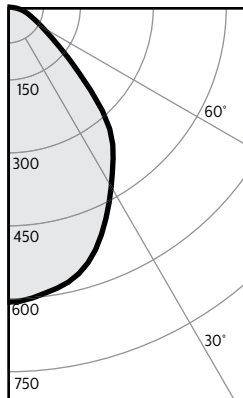
Report: 1055GFR

Output lumens: 628lm
Spacing Criterion: 1.2
Beam Angle: 87°
Input Watts: 9.1W

Efficacy: 69.0lm/w
CCT: 3000 K
CRI: 80min

S7R830K10 • 14 W LED, 80 CRI, 3000 K

Candela Curves



Angle	Mean CP	Lumens
0	607	
5	601	57
10	588	
15	568	159
20	531	
25	480	221
30	427	
35	379	237
40	328	
45	243	187
50	165	
55	113	105
60	83	
65	63	63
70	49	
75	37	39
80	26	
85	12	13
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	24	5.5'
6'	17	6.6'
7'	12	7.7'
8'	9	8.8'
9'	7	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	26.2	3.55
6'	17.1	2.33
7'	12.2	1.66
8'	10.2	1.39
9'	8.1	1.11

38"x38"x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	111	107	103	100	104	98	100	95	96	92	88
	2	102	96	90	85	94	84	90	82	87	80	77
	3	95	86	79	74	85	73	82	72	79	71	67
	4	88	78	70	65	77	64	74	63	72	62	60
	5	82	71	63	57	70	57	68	56	66	56	53
	6	76	65	57	51	64	51	62	51	61	50	48
	7	71	59	52	46	59	46	57	46	56	45	43
	8	67	55	47	42	54	42	53	42	52	41	39
	9	63	51	43	38	50	38	49	38	48	38	36
10	59	47	40	35	47	35	46	35	45	35	33	

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	437	40.4%
0-40	674	62.3%
0-60	966	89.4%
0-90	1081	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Report: 961GFR

Output lumens: 1081lm
Spacing Criterion: 1.1
Beam Angle: 83°
Input Watts: 13.5W

Efficacy: 80.0lm/w
CCT: 3000 K
CRI: 80min

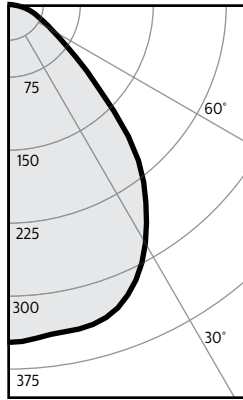
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

S5R & S7R SlimSurface LED

5" and 7" round aperture surface mount downlight

S5R835K7 • 10W LED, 80CRI, 3500K

Candela Curves



Report#: 1056GFR

Output lumens: 685lm
Spacing Criterion: 1.2
Beam Angle: 87°
Input Watts: 9.1W

Angle	Mean CP	Lumens
0	347	
5	344	
10	341	33
15	340	
20	332	96
25	312	
30	283	143
35	248	
40	209	155
45	154	
50	107	119
55	74	
60	53	68
65	41	
70	31	41
75	23	
80	15	25
85	5	
90	0	7

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	14	6.0'
6'	10	7.2'
7'	7	8.4'
8'	5	9.6'
9'	4	10.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	28.6	3.34
6'	18.7	2.19
7'	13.3	1.56
8'	11.2	1.30
9'	8.9	1.04

38"x38"x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	111	106
1	111	107	103	100	105	98	100	95	95	92	88
2	102	96	90	85	94	84	90	82	82	80	77
3	95	86	79	73	84	73	82	72	72	70	67
4	88	78	70	64	76	64	74	63	63	62	60
5	82	71	63	57	70	57	68	56	56	56	53
6	76	64	57	51	64	51	62	50	50	50	48
7	71	59	51	46	58	46	57	45	45	45	43
8	67	54	47	42	54	41	53	41	41	41	39
9	63	50	43	38	50	38	49	38	38	37	36
10	59	47	40	35	46	35	45	34	34	34	33

Zonal lumens & percentages

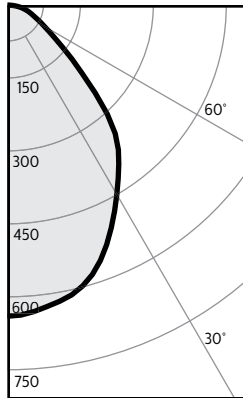
Zone	Lumens	%Luminaire
0-30	272	39.6%
0-40	426	62.2%
0-60	613	89.5%
0-90	685	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

S7R835K10 • 14W LED, 80CRI, 3500K

Candela Curves



Report#: 965GFR

Output lumens: 1139lm
Spacing Criterion: 1.1
Beam Angle: 83°
Input Watts: 13.5W

Angle	Mean CP	Lumens
0	639	
5	632	
10	618	60
15	597	
20	558	167
25	505	
30	449	232
35	399	
40	345	249
45	255	
50	174	197
55	120	
60	88	111
65	67	
70	52	67
75	40	
80	28	42
85	12	
90	0	13

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	26	5.5'
6'	18	6.6'
7'	13	7.7'
8'	10	8.8'
9'	8	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	28.6	3.74
6'	18.7	2.45
7'	13.3	1.75
8'	11.2	1.46
9'	8.9	1.17

38"x38"x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106
1	111	107	103	100	104	98	100	95	96	92	88
2	102	96	90	85	94	84	90	82	87	80	77
3	95	86	79	74	85	73	82	72	79	71	67
4	88	78	70	65	77	64	74	63	72	62	60
5	82	71	63	57	70	57	68	56	66	56	53
6	76	65	57	51	64	51	62	51	61	50	48
7	71	59	52	46	59	46	57	46	56	45	43
8	67	55	47	42	54	42	53	42	52	41	39
9	63	51	43	38	50	38	49	38	48	38	36
10	59	47	40	35	47	35	46	35	45	35	33

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	459	40.3%
0-40	708	62.2%
0-60	1016	89.2%
0-90	1139	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

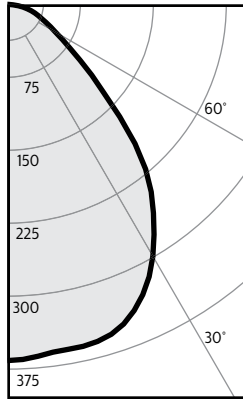
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

S5R & S7R SlimSurface LED

5" and 7" round aperture surface mount downlight

S5R840K7 • 10 W LED, 80 CRI, 4000 K

Candela Curves



Angle	Mean CP	Lumens
0	366	
5	363	35
10	360	
15	359	101
20	350	
25	329	151
30	299	
35	262	163
40	221	
45	163	126
50	113	
55	79	72
60	57	
65	44	44
70	34	
75	25	27
80	16	
85	6	7
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	15	6.0'
6'	10	7.2'
7'	7	8.4'
8'	6	9.6'
9'	5	10.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	30.3	3.54
6'	19.8	2.32
7'	14.1	1.66
8'	11.8	1.38
9'	9.4	1.10

38"x38"x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0

RCR Zonal cavity method - Effective floor reflectance = 20%

Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
1	111	107	103	100	105	98	100	95	97	92	88	88
2	102	96	90	85	94	84	90	82	87	80	77	77
3	95	86	79	73	84	73	82	72	79	70	67	67
4	88	78	70	64	76	64	74	63	72	62	60	60
5	82	71	63	57	70	57	68	56	66	56	53	53
6	76	64	57	51	64	51	62	50	60	50	48	48
7	71	59	51	46	58	46	57	45	56	45	43	43
8	67	54	47	42	54	41	53	41	51	41	39	39
9	63	50	43	38	50	38	49	38	48	37	36	36
10	59	47	40	35	46	35	45	34	44	34	33	33

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	286	39.5%
0-40	450	62.0%
0-60	648	89.3%
0-90	726	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

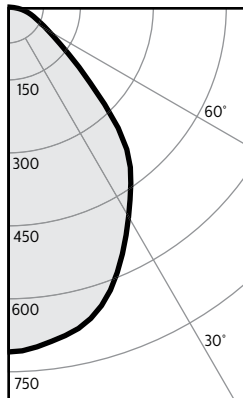
Report #: 1057GFR

Output lumens: 726lms
Spacing Criterion: 1.2
Beam Angle: 87°
Input Watts²: 9.1W

Efficacy: 79.8lm/w
CCT³: 4000K
CRI: 80min

S7R840K10 • 14 W LED, 90 CRI, 2700 K

Candela Curves



Angle	Mean CP	Lumens
0	710	
5	702	66
10	686	
15	663	186
20	620	
25	560	258
30	499	
35	443	276
40	382	
45	283	218
50	193	
55	133	122
60	97	
65	74	74
70	57	
75	44	46
80	30	
85	14	15
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	28	5.5'
6'	20	6.6'
7'	14	7.7'
8'	11	8.8'
9'	9	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	30.3	4.17
6'	19.8	2.74
7'	14.1	1.96
8'	11.8	1.63
9'	9.4	1.30

38"x38"x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0

RCR Zonal cavity method - Effective floor reflectance = 20%

Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
1	111	107	103	100	104	98	100	95	96	92	88	88
2	102	96	90	85	94	84	90	82	87	80	77	77
3	95	86	79	74	85	73	82	72	79	71	67	67
4	88	78	70	65	77	64	74	63	72	62	60	60
5	82	71	63	57	70	57	68	56	66	56	53	53
6	76	65	57	51	64	51	62	51	61	50	48	48
7	71	59	52	46	59	46	57	46	56	45	43	43
8	67	55	47	42	54	42	53	42	52	41	39	39
9	63	51	43	38	50	38	49	38	48	38	36	36
10	59	47	40	35	47	35	46	35	45	35	33	33

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	510	40.4%
0-40	786	62.3%
0-60	1127	89.3%
0-90	1262	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

Report #: 963GFR

Output lumens: 1262lms
Spacing Criterion: 1.1
Beam Angle: 83°
Input Watts²: 13.4W

Efficacy: 94.2lm/w
CCT³: 4000K
CRI: 80min

1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

© 2016 Philips Lighting Holding B.V. All rights reserved.
Philips reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.

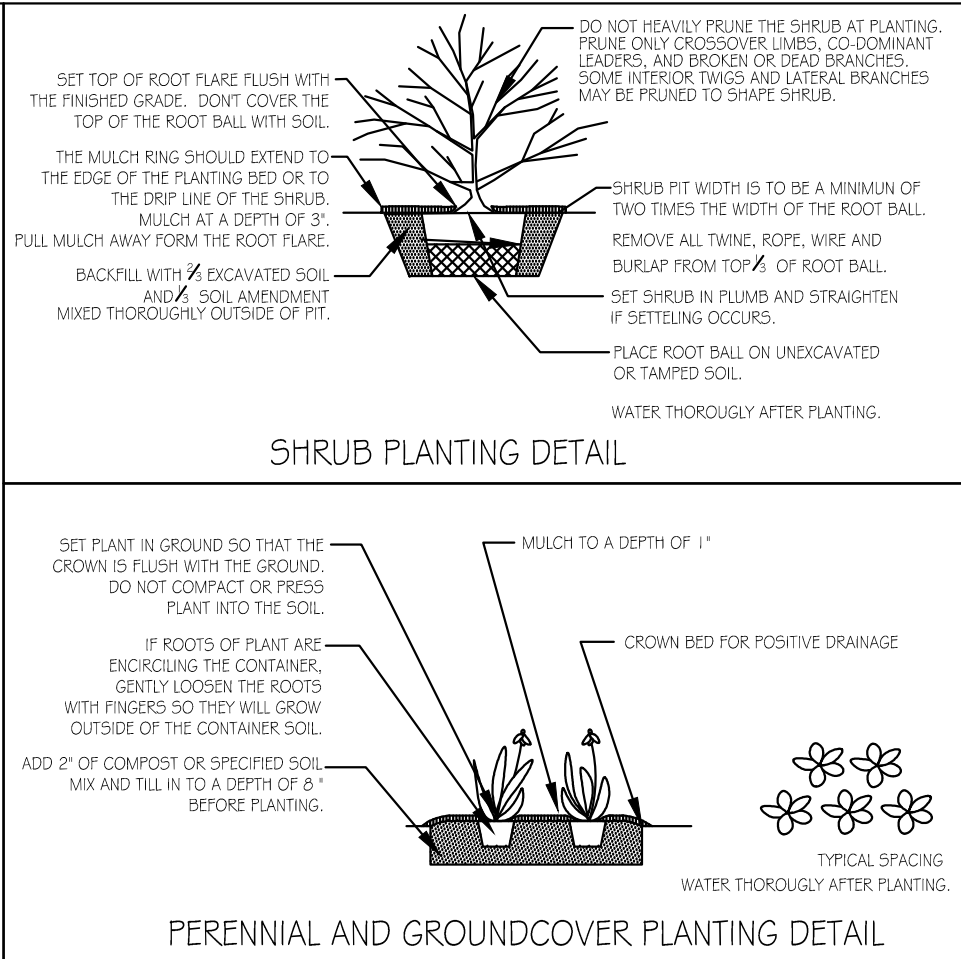
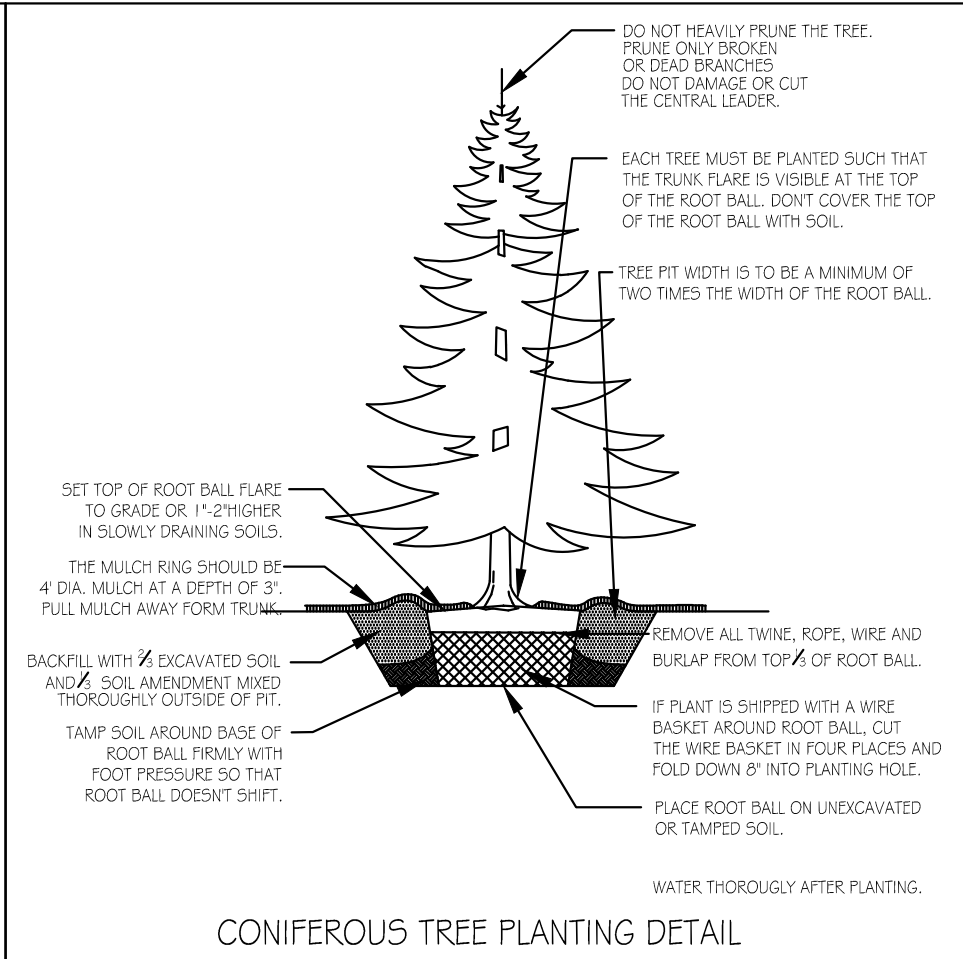
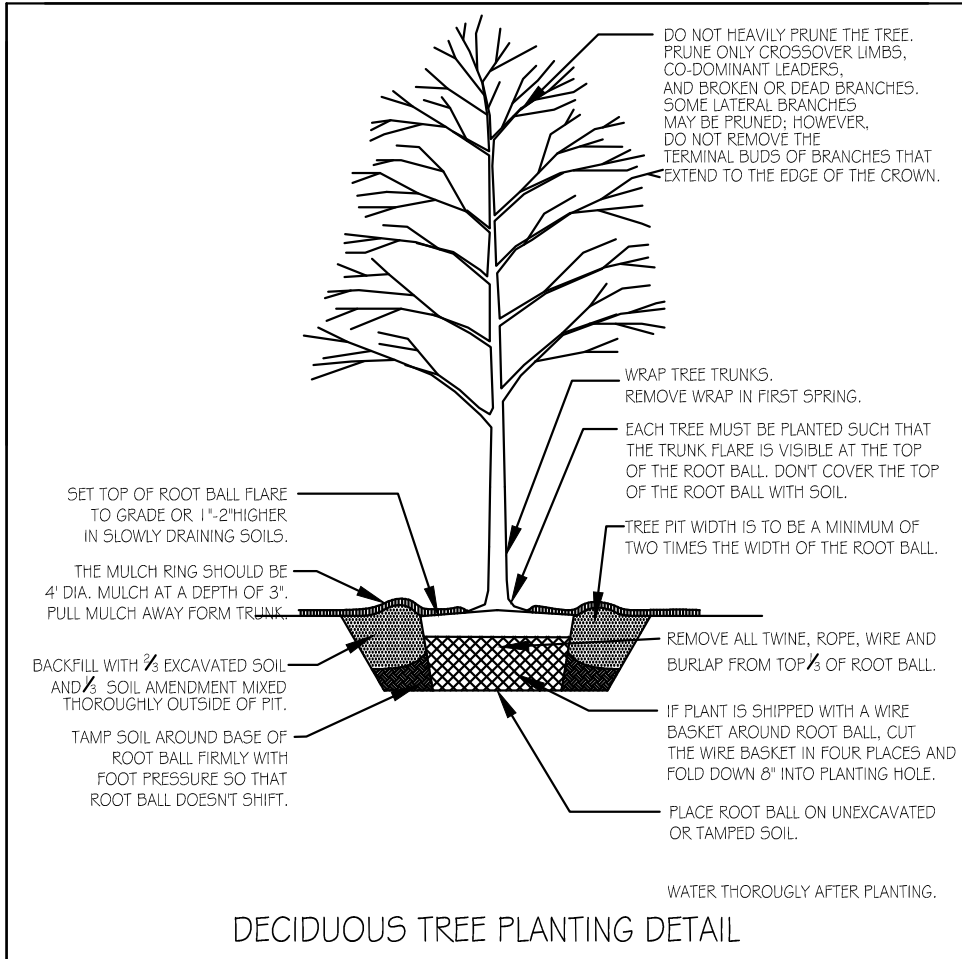
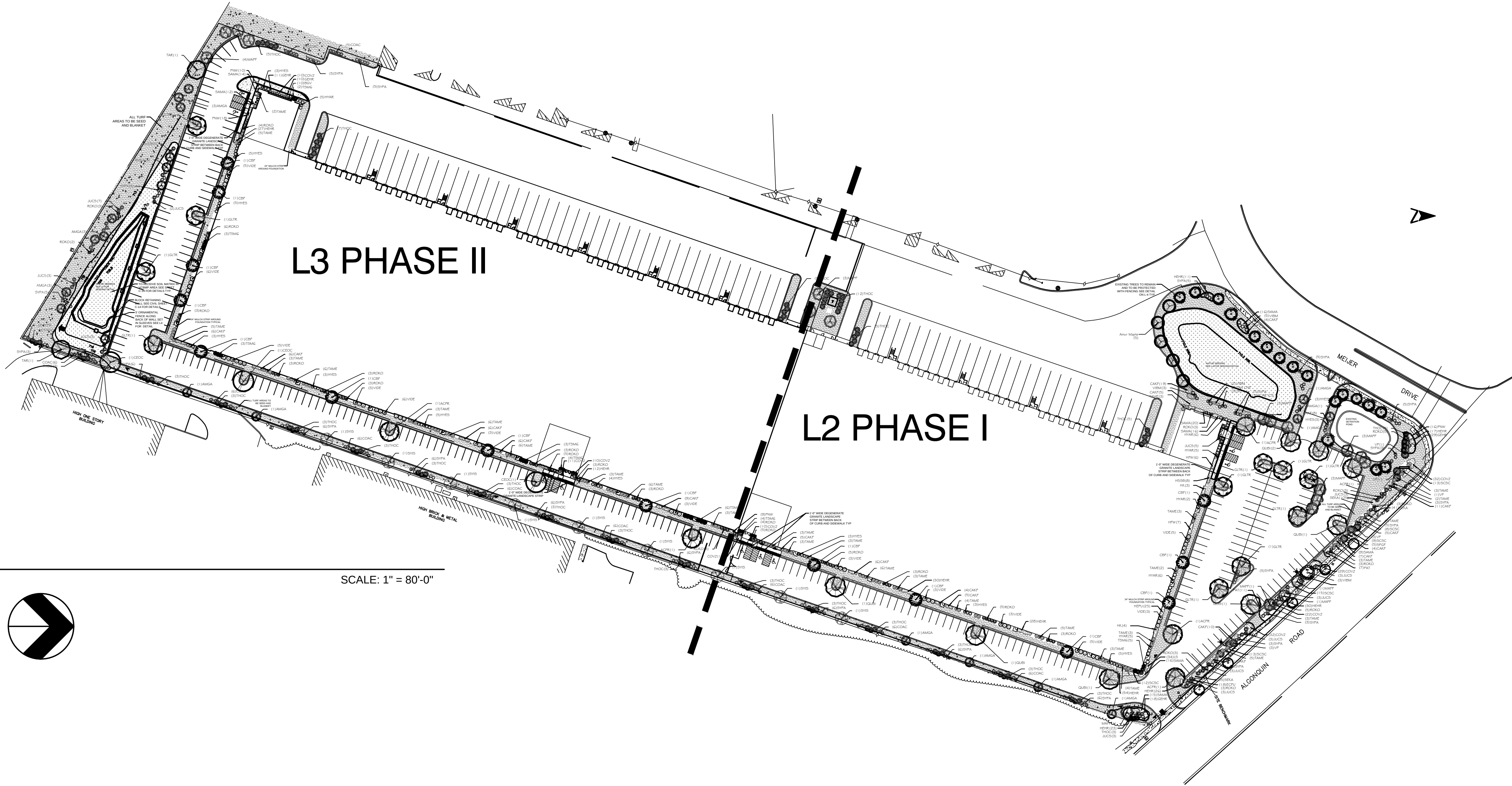
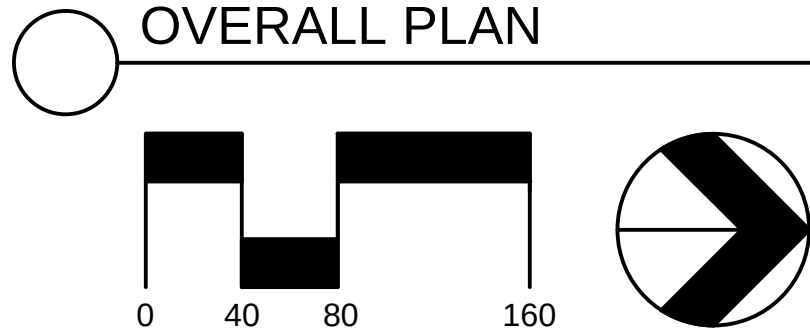


Philips Lighting North America Corporation
200 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

Philips Lighting Canada Ltd.
281 Hillmount Rd, Markham, ON, Canada L6C 2S3
Tel. 800-668-9008

All base information & dimensions are approximate only. All layout to be verified in the field.

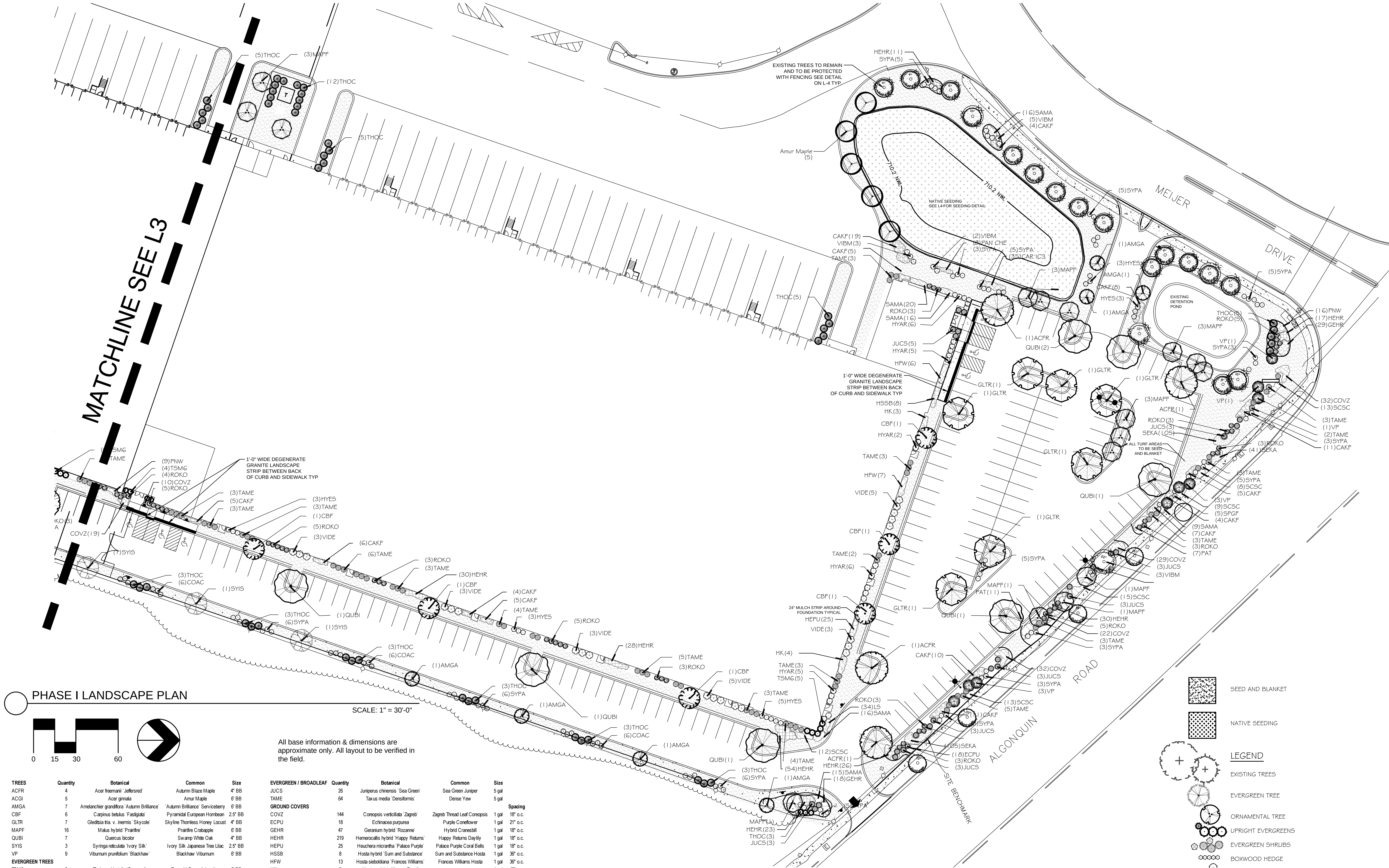
This plan is PRELIMINARY ONLY. It is subject to change pending final design and review with Owner.



- GENERAL NOTES
1. Species and sizes of plants listed in the plant list are subject to availability at time of installation. If substitutions are necessary, the landscape contractor shall submit all requests to the owner for approval.
 2. All underground utilities are to be located prior to digging. If utilities or other obstructions are discovered to conflict with grading or plant placement, notify the landscape architect so that adjustments can be made.
 3. Backfill trees and shrubs with amended topsoil mixed thoroughly outside of the planting pit. Mulch trees and shrubs with 3" hardwood mulch and pull mulch away from the base.
 4. Perennial and groundcover beds are to be amended with 2" planting mix and tilled in to a depth of 8". Perennials and groundcovers are to be top dressed with 1" mulch.
 5. Provide positive drainage flow. Do not obstruct the natural or engineered drainage flow patterns. Notify the landscape architect or owner of any drainage concerns.
 6. The landscape contractor shall take all precautions to protect existing plants, lawn, and paved areas to remain. Any damage to these areas shall be repaired or replaced by the landscape contractor. Damaged lawn areas are to be re-graded and restored with sod.
 7. All bed edges are to be well shaped 'spade cut' edges, 3" deep, formed in lines or curves as shown on the drawings.
 8. Apply a pre-emergent for grassy and broadleaf weeds to all shrub beds and tree rings. Do not apply pre-emergent to beds of groundcovers or annuals.
 9. The contractor is to provide finished grade to a tenth of a foot with sufficient quality top soil. Topsoil to be 4" min. in all lawn areas. The landscape contractor is to provide fine grade only.

ADDITIONAL NOTES

1. ALL TURF AREAS TO BE SEED AND BLANKET
2. ALL TREES SHALL NOT BE PLANTED WITHIN 10' OF UTILITY STRUCTURES.



PHASE I LANDSCAPE PLAN

SCALE: 1" = 30'-0"

All base information & dimensions are approximate only. All layout to be verified in the field.

TREES	Quantity	Botanical	Common	Size
ACFR	4	Acer freemanii 'Jeffersred'	Autumn Blaze Maple	4" BB
ACGI	5	Acer ginnala	Amur Maple	6" BB
AMGA	7	Amelanchier grandiflora 'Autumn Brilliance'	'Autumn Brilliance' Serviceberry	6" BB
CBF	6	Carpinus betulus 'Fastigiata'	Pyramidal European Hornbeam	2.5" BB
GLTR	7	Gleditsia tria. v. inermis 'Skycole'	Skyline Thornless Honey Locust	4" BB
MAPF	16	Malus hybrid 'Prairifire'	Prairifire Crabapple	6" BB
QUBI	7	Quercus bicolor	Swamp White Oak	4" BB
SYIS	3	Syringia reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	2.5" BB
VP	9	Viburnum prunifolium 'Blackhaw'	Blackhaw Viburnum	6" BB
EVERGREEN TREES				
TSMG	9	Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae	6" BB
THOC	48	Thuja occidentalis 'Techny'	Techny Arborvitae	6" BB
SHRUBS				
COAC	18	Cotoneaster acutifolius	Peking Cotoneaster	5 gal
HYAR	24	Hydrangea arborescens 'Annabelle'	Annabelle Smooth Hydrangea	5 gal
HYES	17	Hydrangea macrophylla 'Endless Summer'	Balmer Hydrangea	5 gal
ROKO	53	Rosa x 'Radaraz'	Knock Out Shrub Rose	3 gal
SPGF	5	Spiraea x bumalda 'Goldflame'	Goldflame Spirea	5 gal
SYPA	71	Syringia patula 'Miss Kim'	Miss Kim Lilac	5 gal
VIBM	13	Viburnum dentatum 'Blue Muffin'	Southern Arrowwood	5 gal
VIDE	22	Viburnum dentatum 'Chicago Luster'	Chicago Luster Arrowwood	5 gal

EVERGREEN / BROADLEAF	Quantity	Botanical	Common	Size
JUCS	26	Juniperus chinensis 'Sea Green'	Sea Green Juniper	5 gal
TAME	64	Taxus media 'Densiformis'	Dense Yew	5 gal
GROUND COVERS				
COVZ	144	Coreopsis verticillata 'Zagreb'	Zagreb Thread Leaf Coreopsis	1 gal
ECPU	18	Echinacea purpurea	Purple Coneflower	1 gal
GEHR	47	Geranium hybrid 'Rozanne'	Hybrid Cranebill	1 gal
HEHR	219	Hemerocallis hybrid 'Happy Returns'	Happy Returns Daylily	1 gal
HEPU	25	Heuchera micrantha 'Palace Purple'	Palace Purple Coral Bells	1 gal
HSSB	8	Hosta hybrid 'Sum and Substance'	Sum and Substance Hosta	1 gal
HPFW	13	Hosta sieboldiana 'Frances Williams'	Frances Williams Hosta	1 gal
HK	7	Hosta undulata 'Krossa Regal'	Krossa Regal Hosta	1 gal
LS	34	Leucanthemum superbum 'Snow cap'	Snow cap Shasta Daisy	flat
PAT	18	Perovskia atriplicifolia	Russian Sage	1 gal
SAMA	92	Salvia nemorosa 'May Night'	May Night Salvia	1 gal
SEKA	113	Sedum kamtschaticum	Little Bluestem Grass	flat
ORNAMENTAL GRASSES				
CAKF	104	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	1 gal
CAR IC3	35	Carex x 'Ice Dance'	Ice Dance Sedge	1 gal
PAN CHE	8	Panicum virgatum 'Cheyenne Sky'	Switch Grass	1 gal
PNW	25	Panicum virgatum 'Northwind'	Northwind Switch Grass	1 gal
SCSC	70	Schizachyrium scoparium	Little Bluestem Grass	1 gal

- SEED AND BLANKET
- NATIVE SEEDING
- LEGEND
- EXISTING TREES
- EVERGREEN TREE
- ORNAMENTAL TREE
- UPRIGHT EVERGREENS
- EVERGREEN SHRUBS
- BOXWOOD HEDGE
- DECIDUOUS SHRUBS
- SHRUB ROSES
- PERENNIALS, ORN. GRASSES
- GROUNDCOVERS + ANNUALS

DATE: 8.15.17
JOB: P-
SCALE: 1"=30'
BY: JZIEB
SHEET L2 OF 4

SHEET TITLE:
PHASE I
LANDSCAPE
PLAN

REVISIONS:
REVISED PER UPDATED PLAN 10.25.17
REVISED PER CITY COMMENTS
REVISED PER CITY COMMENTS
REVISED PER CITY COMMENTS
11.1.17

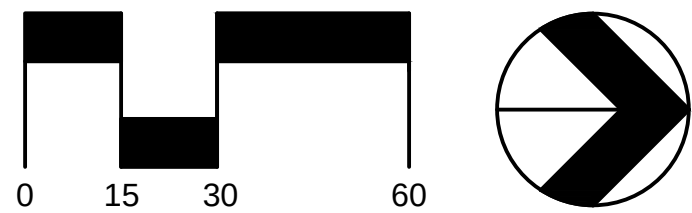
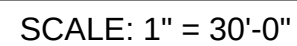
703-723 Algonquin Rd.
Arlington Heights, IL

Copyright Wingen Landscape, all
rights reserved. This plan is the
sole property of Wingen Landscape.
No part of this plan may be
reproduced or transmitted in any form
or by any means, electronic or
mechanical, including photocopying,
recording, or by any information
storage and retrieval system, without
the prior written consent of Wingen
Landscape is prohibited.

5126 Walnut Ave.
Downers Grove, IL 60515
TEL 630.759.8100
www.wingenlandscape.com

WINGEN LANDSCAPE
A L L E N T H I N G S O U T D O O R

This plan is PRELIMINARY ONLY. It is subject to change pending final design and review with Owner.



TREES	Quantity	Botanical	Common	Size	EVERGREEN SHRUBS	Quantity	Botanical	Common	Size	
ACFR	2	Acer freemanii 'Jeffersred'	Autumn Blaze Maple	4" BB	BGV	10	Buxus microphylla koreana 'Green Velvet'	Green Velvet Korean Boxwood	5 gal	
AMGA	14	Amelanchier grandiflora 'Autumn Brilliance'	'Autumn Brilliance' Serviceberry	6" BB	JUCS	20	Juniperus chinensis 'Sea Green'	Sea Green Juniper	5 gal	
CBF	8	Capinus betulus 'Fastigiatu'	Pyramidal European Hornbeam	2.5" BB	TAME	48	Taxus media 'Densiformis'	Dense Yew	5 gal	
CEOC	3	Celtis occidentalis	Common Hackberry	4" BB	GROUND COVERS					Spading
GLTR	4	Gleditsia tria. v. inermis 'Skyline'	Skyline Thornless Honey Locust	4" BB	COVZ	31	Conocarpus verticillata 'Zagreb'	Zagreb Thread Leaf Conocarpus	1 gal 18" o.c.	
MAPF	4	Malus hybrid 'Prairie Fire'	Prairie Crabapple	6" BB	GEHR	31	Geranium hybrid 'Rozanne' TM	Hybrid Cranesbill	1 gal 18" o.c.	
SYIS	6	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	2.5" BB	HEHR	29	Hemerocallis hybrid 'Happy Returns'	Happy Returns Daylily	1 gal 18" o.c.	
TAR	2	Tilia americana 'Redmond'	Redmond American Linden	2.5" BB	SAMA	26	Salvia nemorosa 'May Night'	May Night Salvia	1 gal 18" o.c.	
EVERGREEN TREES					ORNAMENTAL GRASSES					
TSM6	21	Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae	6" BB	CAKF	33	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	1 gal 30" o.c.	
THOC	50	Thuja occidentalis 'Tectron'	Tectron Arborvitae	6" BB	PNW	28	Panicum virgatum 'Northwind'	Northwind Switch Grass	1 gal 18" o.c.	
SHRUBS										
COAC	40	Cotoneaster acutifolius	Peking Cotoneaster	5 gal						
HYAR	5	Hydrangea aborescens 'Annabelle'	Annabelle Smooth Hydrangea	5 gal						
HYES	28	Hydrangea macrophylla 'Endless Summer'	Balmer Hydrangea	5 gal						
ROKO	44	Rosa x 'Radrazz'	Knock Out Shrub Rose	3 gal						
SYPA	56	Syringa patula 'Miss Kim'	Miss Kim Lilac	5 gal						
VIDE	31	Viburnum dentatum 'Chicago Luster'	Chicago Luster Arrowwood	5 gal						

SHEET TITLE:
PHASE III
LANDSCAPE
PLAN

REVISIONS:

REVISED PER UPDATE	
REVISED PER CITY CODE	
11-28-17	
REVISED PER CITY CODE	
12-6-17	
REVISED PER CITY CODE	

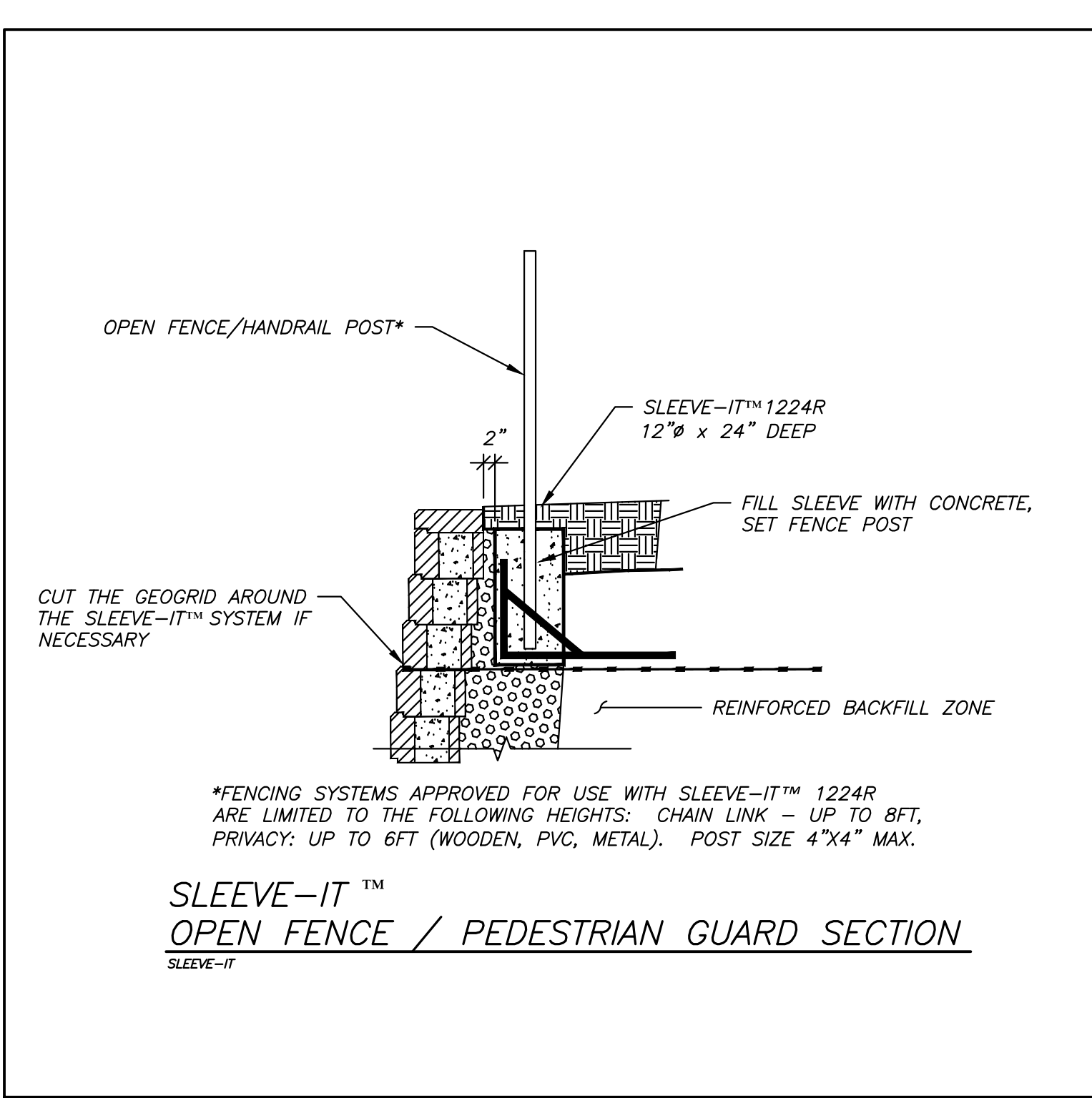
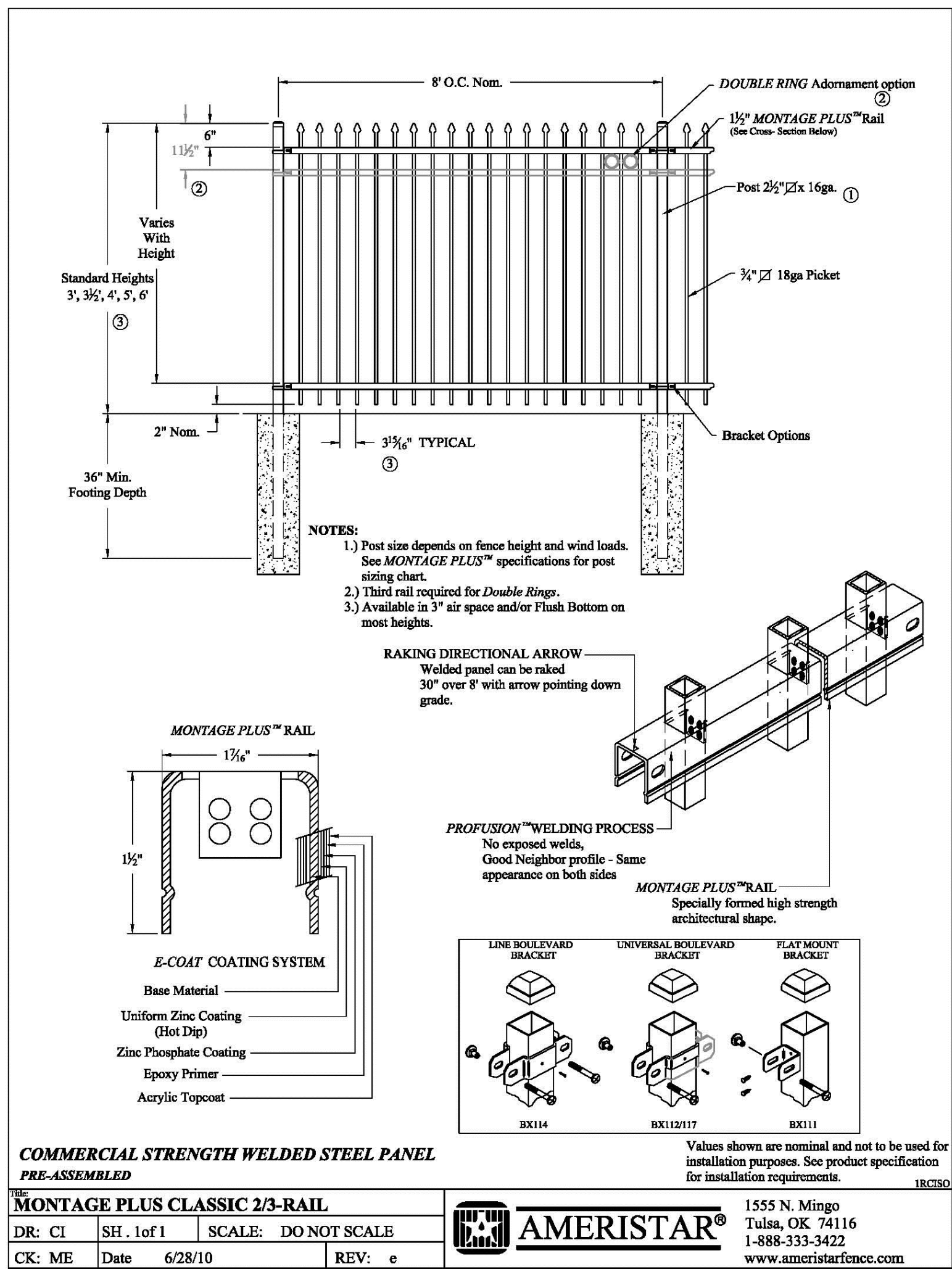
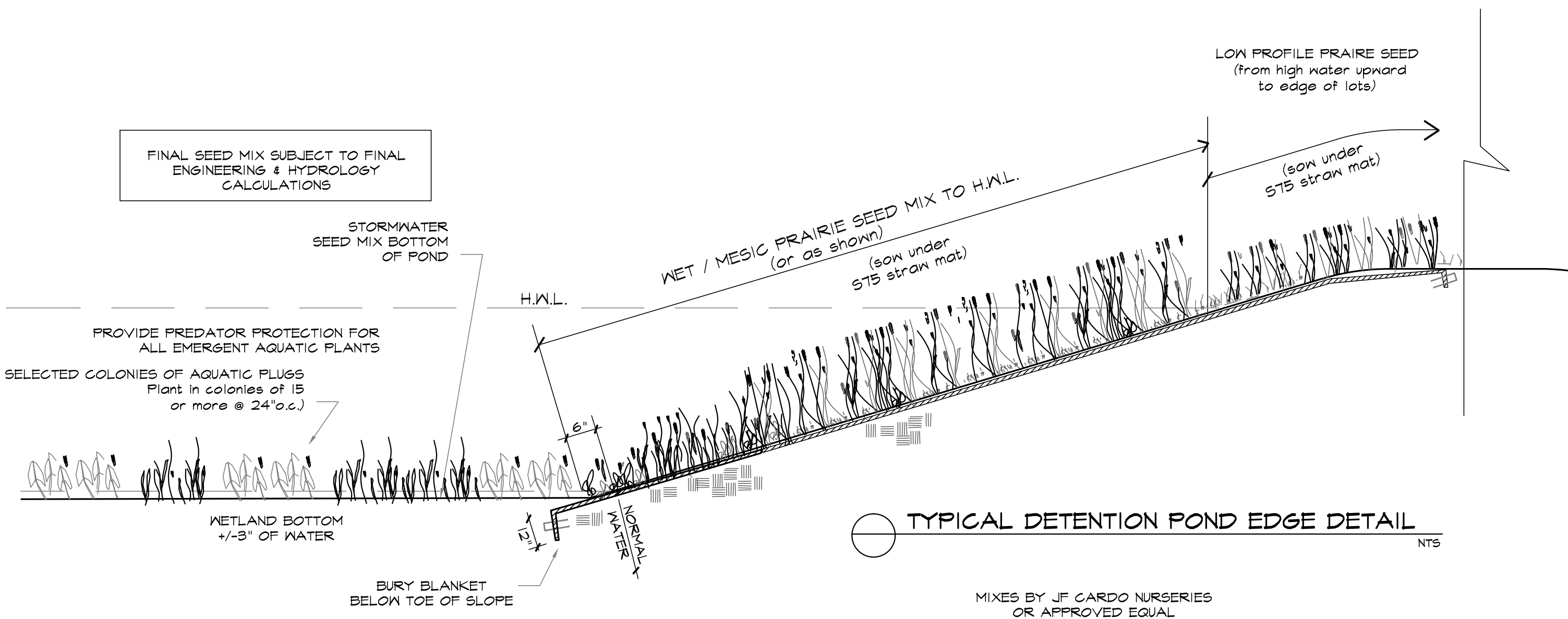
703-723 Algonquin Rd.
Arlington Heights, IL

Copyright Wingren Landscape, all rights reserved. The design and any and all ideas contained herein are the sole property of Wingren landscape. Reproduction of the design or concept reproduced herein in any form, in whole or in part, without the consent of Wingren

5126 Walnut Ave.
Downers Grove, IL 60515
TEL 630.759.8100
www.wingrenlandscape.com



WINGREN LANDSCAPE



Wet-To-Mesic Prairie

This prairie seed mix offers a broad spectrum of prairie grasses, sedges, and wildflower species for sites with medium-to-wet soils. This dynamic grouping of plants features a variety of colors and textures while tolerating a wide range of conditions with several *Silphium* and *Solidago* species to provide late-season food sources for native pollinators. This seed mix includes at least 8 of 10 native permanent grass and sedge species and 28 of 33 forb species. Apply at 38.88 PLS pounds per acre.

Botanical Name	Common Name	PLS Qz/Acre
Permanent Grasses/Sedges		
<i>Andropogon gerardi</i>	Big Bluestem	20.00
<i>Chamaecrista canadensis</i>	Bluejoint Grass	1.00
<i>Carex spp.</i>	Prairie Sedge Mix	4.00
<i>Carex lurida</i>	Bottlebrush Sedge	3.00
<i>Carex vulpinoidea</i>	Brown Fox Sedge	1.00
<i>Elymus virginicus</i>	Virginia Wild Rye	24.00
<i>Panicum virgatum</i>	Switch Grass	2.00
<i>Scirpus cyperinus</i>	Wool Grass	0.50
<i>Sorghastrum nutans</i>	Indian Grass	6.00
<i>Spartina pectinata</i>	Prairie Cord Grass	2.00
Total		64.50
Temporary Cover		
<i>Avena sativa</i>	Common Oat	360.00
<i>Lolium multiflorum</i>	Annual Rye	100.00
Total		460.00
Forbs		
<i>Asclepias syriaca</i>	Common Milkweed	2.00
<i>Baptisia alba</i>	White Wild Indigo	0.75
<i>Chamaecrista fasciculata</i>	Partridge Pea	12.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	3.50
<i>Coreopsis tripteris</i>	Tall Coreopsis	3.00
<i>Desmodium illinoense</i>	Illinois Tick Trefoil	0.50
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	3.50
<i>Eryngium yuccifolium</i>	Hairfennel Master	2.00
<i>Helenium autumnale</i>	Sneezeweed	2.50
<i>Helianthus grosseserratus</i>	Sawtooth Sunflower	0.50
<i>Lespedeza capitata</i>	Round-Headed Bush Clover	1.50
<i>Liatris spicata</i>	Marsh Blazing Star	1.00
<i>Monarda fistulosa</i>	Wild Bergamot	1.00
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	1.00
<i>Parthenium integrifolium</i>	Wild Quinine	1.00
<i>Physostegia virginiana</i>	Obedient Plant	0.25
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	1.00
<i>Ratibida pinnata</i>	Yellow Coneflower	4.00
<i>Rudbeckia hirta</i>	Black-Eyed Susan	1.00
<i>Rudbeckia laciniata</i>	Wild Golden Glow	1.00
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	0.50
<i>Senna hebecarpa</i>	Wild Senna	2.25
<i>Silphium integrifolium</i>	Roam Weed	1.00
<i>Silphium laciniatum</i>	Compass Plant	2.00
<i>Silphium perfoliatum</i>	Cup Plant	1.00
<i>Silphium terebinthaceum</i>	Prairie Dock	6.00
<i>Solidago juncea</i>	Early Goldenrod	0.25
<i>Solidago rigosa</i>	Rough Goldenrod	0.25
<i>Symphoricarum novae-angliae</i>	New England Aster	0.25
<i>Tradescantia ohnensis</i>	Common Spiderwort	1.25
<i>Veronica spp.</i>	Ironweed Mix	3.00
<i>Veronicastrum virginicum</i>	Culver's Root	0.25
<i>Zizia aurea</i>	Golden Alexanders	0.50
Total		65.50

Prairie Seed Mixes



Established Wet-To-Mesic Prairie Mix



Spartina pectinata, Prairie Cord Grass



Echinacea purpurea, Broad-Leaved Purple Coneflower

For current pricing, availability, and information on our full installation and management services, visit cardnonativeplantnursery.com

Low-Profile Prairie

This prairie seed mix provides a wide range of shorter prairie grass, sedge, and wildflower species. Most species will grow to 4 feet or less, making this an ideal mix for areas where taller forbs and grasses are not appropriate. Once established, this wildflower community displays a variety of colors, blooming from early spring to fall, creating a diverse habitat for birds, butterflies, moths, and other pollinators. This seed mix is suitable for medium-to-dry sites. This seed mix includes at least 5 of 6 native permanent grass and sedge species and 29 of 34 native forb species. Apply at 38.87 PLS pounds per acre.

Botanical Name	Common Name	PLS Qz/Acre
Permanent Grasses/Sedges		
<i>Bouteloua curtipendula</i>	Side Oats Grama	16.00
<i>Carex spp.</i>	Prairie Sedge Mix	4.00
<i>Elymus canadensis</i>	Canada Wild Rye	32.00
<i>Koeleria pyramidata</i>	June Grass	1.00
<i>Panicum virgatum</i>	Switch Grass	1.00
<i>Schizanthium cespitosum</i>	Little Bluestem	36.00
Total		90.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	360.00
<i>Lolium multiflorum</i>	Annual Rye	100.00
Total		460.00
Forbs		
<i>Amorpha canescens</i>	Lead Plant	0.50
<i>Anemone cylindrica</i>	Thimbleweed	0.50
<i>Asclepias syriaca</i>	Common Milkweed	2.00
<i>Asclepias tuberosa</i>	Butterfly Weed	2.00
<i>Baptisia alba</i>	White Wild Indigo	2.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	12.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	5.00
<i>Coreopsis palmata</i>	Prairie Coreopsis	1.00
<i>Dalea candida</i>	White Prairie Clover	1.50
<i>Dalea purpurea</i>	Purple Prairie Clover	1.50
<i>Desmanthus illinoensis</i>	Illinois Sensitive Plant	3.00
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	7.00
<i>Eryngium yuccifolium</i>	Rattlesnake Master	3.00
<i>Lespedeza capitata</i>	Round-Head Bush Clover	2.00
<i>Liatris aspera</i>	Rough Blazing Star	0.50
<i>Lupinus perennis</i>	Wild Lupine	4.00
<i>Monarda fistulosa</i>	Wild Bergamot	0.75
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	1.00
<i>Parthenium integrifolium</i>	Wild Quinine	1.00
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	0.50
<i>Penstemon hybridus</i>	Hairy Beard Tongue	0.50
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	1.00
<i>Ratibida pinnata</i>	Yellow Coneflower	4.00
<i>Rudbeckia hirta</i>	Black-Eyed Susan	5.00
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	1.00
<i>Silphium terebinthaceum</i>	Prairie Dock	0.50
<i>Solidago speciosa</i>	Shiny Goldenrod	0.50
<i>Symphoricarum encicoides</i>	Heath Aster	0.25
<i>Symphoricarum laeve</i>	Smooth Blue Aster	1.00
<i>Symphoricarum novae-angliae</i>	New England Aster	0.50
<i>Tradescantia ohnensis</i>	Common Spiderwort	0.75
<i>Verbena stricta</i>	Hairy Vervain	1.00
<i>Veronica spp.</i>	Ironweed Mix	1.75
<i>Veronicastrum virginicum</i>	Culver's Root	0.25
Total		66.75

Prairie Seed Mixes



Dalea purpurea, Purple Prairie Clover



Oligoneuron rigidum, Stiff Goldenrod



Tradescantia ohnensis, Common Spiderwort

For current pricing, availability, and information on our full installation and management services, visit cardnonativeplantnursery.com

Stormwater

A wetland seed mix for saturated soils in a detention pond or for seeding a saturated basin, this mix will tolerate highly fluctuating water levels and poor water quality associated with urban stormwater wetlands and ponds. For detention basins that experience long, dry periods, use the Economy Prairie seed mix in the upper third to half of the basin area in combination with this mix. This seed mix includes at least 10 of 12 native permanent grass and sedge species and 12 of 16 native forb species. Apply at 32.81 PLS pounds per acre.

Botanical Name	Common Name	PLS Qz/Acre
Permanent Grasses/Sedges		
<i>Bouteloua curtipendula</i>	River Bulrush	0.25
<i>Carex cristatella</i>	Crested Oval Sedge	2.00
<i>Carex lurida</i>	Bottlebrush Sedge	3.00
<i>Carex vulpinoidea</i>	Brown Fox Sedge	6.00
<i>Elymus virginicus</i>	Virginia Wild Rye	13.50
<i>Glyceria striata</i>	Frost Manna Grass	1.25
<i>Juncus effusus</i>	Common Rush	2.00
<i>Leersia oryzoides</i>	Rice Cut Grass	1.00
<i>Panicum virgatum</i>	Switch Grass	2.00
<i>Sclerostictus holmianus</i>	Schlotheimia Bulrush	3.00
<i>Scirpus atrovirens</i>	Dark Green Rush	2.00
<i>Scirpus cyperinus</i>	Wool Grass	1.00
Total		37.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	360.00
<i>Lolium multiflorum</i>	Annual Rye	100.00
Total		460.00
Forbs		
<i>Alisma spp.</i>	Water Plantain Mix	4.25
<i>Asclepias incarnata</i>	Sweet Milkweed	1.50
<i>Bidens spp.</i>	Bidens Mix	2.00
<i>Helenium autumnale</i>	Sneezeweed	2.00
<i>Iris virginica</i>	Blue Flag	4.00
<i>Lyssopus americanus</i>	Common Water Horsehound	0.25
<i>Mimulus ringens</i>	Monkey Flower	1.00
<i>Oligoneuron rigidum</i>	Riddell's Goldenrod	0.50
<i>Penthorum sedoides</i>	Ditch Stonecrop	0.50
<i>Polygonum spp.</i>	Pinkweed Mix	4.00
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	1.00
<i>Rudbeckia triloba</i>	Brown-Eyed Susan	1.50
<i>Sagittaria latifolia</i>	Common Arrowhead	1.00
<i>Senna hebecarpa</i>	Wild Senna	1.00
<i>Symphoricarum novae-angliae</i>	New England Aster	1.50
<i>Thalictrum dasycarpum</i>	Purple Meadow Rue	2.00
Total		28.50

Specialty Seed Mixes



Carex cristatella, Crested Oval Sedge



Mimulus ringens, Monkey Flower



Rudbeckia subtomentosa, Sweet Black-Eyed Susan

For current pricing, availability, and information on our full installation and management services, visit cardnonativeplantnursery.com

TREE PRESERVATION NOTES

ALL WORK MUST BE PERFORMED ACCORDING TO THE APPROVED TREE PRESERVATION PLAN.

AN APPROVED TREE PRESERVATION PLAN MUST BE AVAILABLE ON THE BUILDING SITE.

NO TRENCHING SHALL BE DONE WITHIN THE TREE PROTECTION ZONES FOR INSTALLATION OF SILT FENCING. THE SILT FENCE SHOULD BE SECURED WITH SAND BAGS OR HAY BALES WITHIN THE TPZ.

INSTALL TREE PROTECTION FENCE AND PERFORM ROOT PRUNING PER PLAN FOR ALL PROTECTED TREES PRIOR TO ANY CONSTRUCTION ACTIVITY.

SHOULD IT BE NECESSARY TO TRENCH WITHIN THE TPZ FOR UTILITIES, INCLUDING DISCONNECTION OR CAPPING OF EXISTING UTILITIES, ALL TRENCHES SHALL BE HAND DUG. NO ROOTS LARGER THAN TWO INCHES (2") SHALL BE CUT UNLESS NO OTHER ALTERNATIVE IS FEASIBLE. ALL SMALLER ROOTS THAT REQUIRE CUTTING SHALL BE CUT WITH PRUNING SAWS. CUTS SHALL BE MADE FLUSH WITH THE SIDE OF THE TRENCH. IF AT ANY TIME TWENTY-FIVE PERCENT (25%) OF THE AREA WITHIN THE TPZ IS BEING SEPARATED FROM THE TREE BY A TRENCH, THEN THE LINE SHALL EITHER BE RELOCATED OR INSTALLED BY USING TRENCHLESS METHODS.

REMOVAL OF ANY HARDSCAPE AND/OR EXCAVATION WITHIN THE TREE PROTECTION ZONE(S) WILL BE DONE BY HAND. ALL ROOTS LARGER THAN 2" WILL NOT BE CUT UNLESS THERE IS NO ALTERNATIVE. CUTS WILL BE MADE WITH A SHARP PRUNING SAW TO AVOID TEARING AND WILL BE FLUSH WITH THE TREE SIDE OF THE TRENCH.

TREE PROTECTION ZONE(S) SHOULD BE MULCHED DURING CONSTRUCTION TO IMPROVE THE GROWING CONDITIONS FOR TREE ROOTS BY REDUCING COMPACTION, IMPROVE AERATION, ENHANCE MOISTURE RETENTION, AND REDUCE TEMPERATURE EXTREMES.

NO TRENCHING SHALL BE DONE WITHIN THE TREE PROTECTION ZONES FOR ANY CONSTRUCTION ACTIVITY UNLESS PRE-APPROVED BY BUILDING DEPARTMENT AND FORESTRY STAFF.

NO GRADE CHANGES SHOULD BE DONE WITHIN THE TREE PROTECTION ZONES OF PARKWAY TREES FOR ANY CONSTRUCTION ACTIVITY.

LOCATE THE PROPOSED WATER AND SEWER LINES OUTSIDE OF THE TREE PROTECTION ZONE OR INSTALL THE SEWER AND WATER UTILITIES USING TRENCH-LESS METHODS. AUGER THROUGH THE ENTIRE TREE PROTECTION ZONE, LOCATE PITS OUTSIDE OF THE TREE PROTECTION ZONE.

NO MECHANIZED EQUIPMENT, MATERIALS, OR SUPPLIES SHOULD BE ALLOWED WITHIN THE TREE PROTECTION ZONES OF PROTECTED TREES IN ORDER TO MINIMIZE DAMAGE THROUGHOUT THE CONSTRUCTION PROCESS (IF APPLICABLE).

NO EQUIPMENT SHALL BE DRIVEN OVER OR MATERIAL STORED ON THE CRITICAL ROOT ZONES OF PROTECTED TREES.

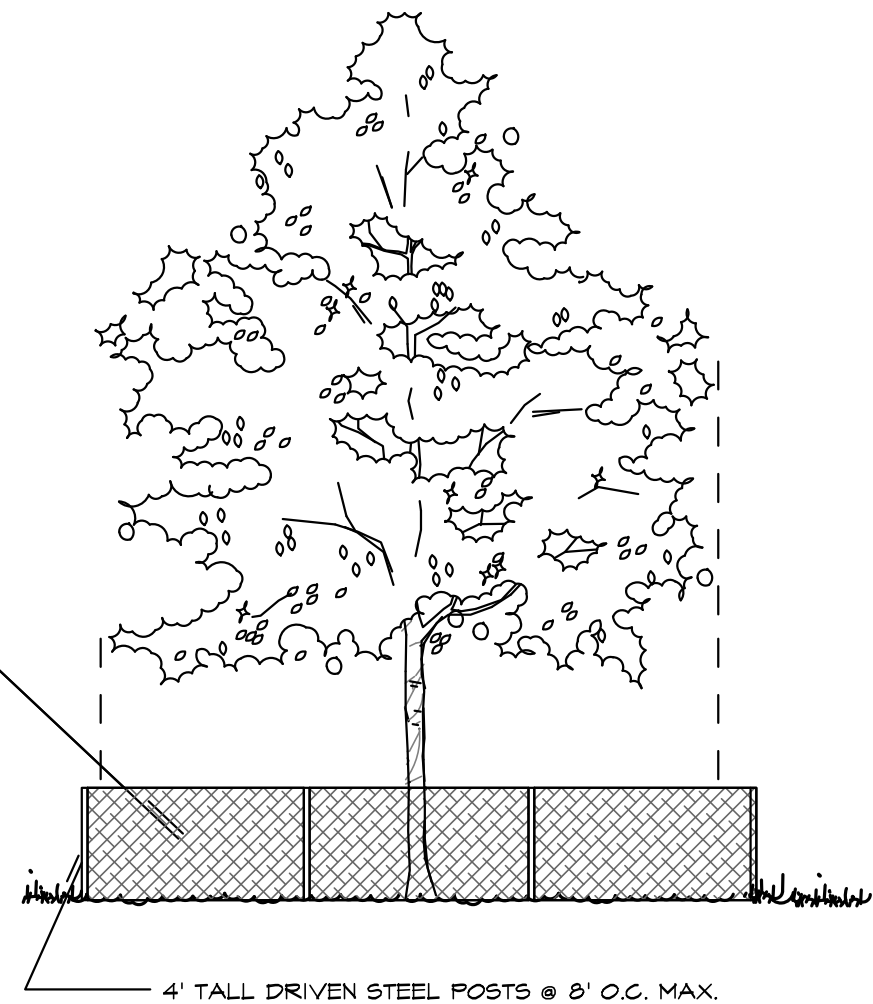
ALL REQUIRED TREE PRESERVATION FENCING SHALL REMAIN IN PLACE UNTIL THE TIME OF FINISH GRADING AND LANDSCAPING.

SEE DRAWINGS FOR LOCATIONS

SEE DRAWINGS FOR LOCATION OF TREE PROTECTIVE FENCING
PLASTIC SAFETY FENCING SHALL BE 4' HIGH AND ATTACHED TO STEEL DRIVEN POSTS SET NO FARTHER THAN 8' O.C.
IF POSSIBLE IT SHALL BE INSTALLED AT THE PERIPHERY OF THE DRIP LINE OF EXISTING PLANT MATERIAL OR BEYOND TO PREVENT STORAGE OF VEHICLES OR MATERIALS AND THE ENCROACHMENT OF GRADING AND CONSTRUCTION

CONSTRUCTION FENCING SHALL BE ERECTED PRIOR TO ANY GRADING OR CONSTRUCTION ACTIVITIES-PREVENTING COMPACTION OF ROOT SYSTEMS OF EXISTING TREES AND SHRUBS. THE FENCING SHALL ENCLOSE THE AREA BENEATH THE DRIPLINE OF THE TREE CANOPY AND SHALL REMAIN IN PLACE UNTILL ALL CONSTRUCTION IS COMPLETED. NO PARKING, MATERIAL STORAGE OR CONSTRUCTION ACTIVITIES SHALL BE PERMITTED WITHIN THE FENCED AREA.

ORANGE POLYETHYLENE SAFETY FENCING
PLACED AT OR BEYOND DRIP-LINE



TREE PRESERVATION DETAIL
NTS

Tree #	Common Name	Scientific Name	Dia./Size	Condition	Action
1	Norway Maple	Acer platanoides	14"	Poor	REMOVE
2	Norway Maple	Acer platanoides	14"	Poor	REMOVE
3	Bradford Pear	Pyrus calleryana	6"	Poor	REMOVE
4	Locust	Gleditsia triacanthos	2"	Good	REMOVE
5	Locust	Gleditsia triacanthos	2"	Good	REMOVE
6	Locust	Gleditsia triacanthos	2"	Good	REMOVE
7	Red Maple	Acer rubrum	6"	Poor	REMOVE
8	Locust	Gleditsia triacanthos	2"	Good	REMOVE
9	Locust	Gleditsia triacanthos	4"	Good	REMOVE
10	Red Maple	Acer rubrum	6"	Good	REMOVE
11	Locust	Gleditsia triacanthos	2"	Fair	REMOVE
12	Locust	Gleditsia triacanthos	2"	Poor	REMOVE
13	Locust	Gleditsia triacanthos	2"	Poor	REMOVE
14	Scots Pine	Pinus sylvestris	10"	Dead	REMOVE
15	Austrian Pine	Pinus nigra	10"	Fair	REMOVE
16	Austrian Pine	Pinus nigra	8"	Fair	REMOVE
17	Servicberry	Amelanchier grandiflora	2"	Dead	REMOVE
18	Austrian Pine	Pinus nigra	10"	Poor	REMOVE
19	Austrian Pine	Pinus nigra	10"	Poor	REMOVE
20	Locust	Gleditsia triacanthos	16"	Fair	REMOVE
21	Colorado Spruce	Picea pungens	6"	Poor	REMOVE
22	Colorado Spruce	Picea pungens	8"	Fair	REMOVE
23	Servicberry	Amelanchier grandiflora	2"	Poor	REMOVE
24	Servicberry	Amelanchier grandiflora	4"	Poor	REMOVE
25	Servicberry	Amelanchier grandiflora	4"	Poor	REMOVE
26	Servicberry	Amelanchier grandiflora	4"	Poor	REMOVE
27	Servicberry	Amelanchier grandiflora	4"	Fair	SAVE
28	Servicberry	Amelanchier grandiflora	4"	Fair	SAVE
29	Red Maple	Acer rubrum	6"	Fair	SAVE
30	Green Ash	Fraxinus pennsylvanica	10"	Dead	REMOVE
31	Freeman Maple	Acer x freemanii	8"	Fair	SAVE
32	Freeman Maple	Acer x freemanii	8"	Fair	SAVE
33	Swamp White Oak	Quercus bicolor	6"	Good	SAVE
34	Swamp White Oak	Quercus bicolor	8"	Good	SAVE
35	Red Maple	Acer rubrum	6"	Good	SAVE
36	Swamp White Oak	Quercus bicolor	4"	Good	REMOVE
37	Swamp White Oak	Quercus bicolor	8"	Good	REMOVE
38	Locust	Gleditsia triacanthos	2"	Fair	REMOVE
39	Colorado Spruce	Picea pungens	4"	Poor	REMOVE
40	Washington Hawthorn	Crataegus phaenopyrum	14"	Poor	REMOVE
41	Austrian Pine	Pinus nigra	12"	Poor	REMOVE
42	Norway Maple	Acer platanoides	10"	Fair	REMOVE
43	Austrian Pine	Pinus nigra	10"	Poor	REMOVE

44	Austrian Pine	Pinus nigra	12"	Poor	REMOVE
45	Washington Hawthorn	Crataegus phaenopyrum	12"	Poor	REMOVE
46	Colorado Spruce	Picea pungens	8"	Poor	REMOVE
47	Colorado Spruce	Picea pungens	8"	Poor	REMOVE
48	Austrian Pine	Pinus nigra	10"	Poor	REMOVE
49	Austrian Pine	Pinus nigra	12"	Poor	REMOVE
50	Austrian Pine	Pinus nigra	12"	Poor	REMOVE
51	Norway Maple	Acer platanoides	12"	Good	SAVE
52	Red Maple	Acer rubrum	6"	Good	SAVE
53	Red Maple	Acer rubrum	4"	Good	SAVE
54	Red Maple	Acer rubrum	6"	Good	SAVE
55	Swamp White Oak	Quercus bicolor	6"	Good	SAVE
56	Swamp White Oak	Quercus bicolor	6"	Good	SAVE
57	Colorado Spruce	Picea pungens	10"	Fair	SAVE
58	Colorado Spruce	Picea pungens	8"	Fair	SAVE
59	Colorado Spruce	Picea pungens	8"	Fair	REMOVE
60	Locust	Gleditsia triacanthos	24"	Good	REMOVE
61	Green Ash	Fraxinus pennsylvanica	20"	Dead	REMOVE
62	Locust	Gleditsia triacanthos	16"	Fair	SAVE
63	Locust	Gleditsia triacanthos	22"	Fair	SAVE
64	Locust	Gleditsia triacanthos	18"	Fair	SAVE
65	Locust	Gleditsia triacanthos	20"	Fair	SAVE
66	Locust	Gleditsia triacanthos	20"	Fair	SAVE
67	Amur Maple	Acer ginnata	10"	Poor	REMOVE
68	Amur Maple	Acer ginnata	6"	Poor	REMOVE
69	Amur Maple	Acer ginnata	6"	Poor	REMOVE
70	Amur Maple	Acer ginnata	20"	Poor	REMOVE
71	Amur Maple	Acer ginnata	12"	Poor	REMOVE
72	Amur Maple	Acer ginnata	10"	Poor	REMOVE
73	Amur Maple	Acer ginnata	6"	Poor	REMOVE
74	Amur Maple	Acer ginnata	6"	Poor	REMOVE
75	Amur Maple	Acer ginnata	6"	Poor	REMOVE
76	Amur Maple	Acer ginnata	6"	Poor	REMOVE
77	Amur Maple	Acer ginnata	6"	Poor	REMOVE
78	Amur Maple	Acer ginnata	4"	Poor	REMOVE
79	Amur Maple	Acer ginnata	4"	Poor	REMOVE
80	Amur Maple	Acer ginnata	8"	Poor	REMOVE
81	Amur Maple	Acer ginnata	12"	Poor	REMOVE
82	Amur Maple	Acer ginnata	12"	Poor	REMOVE
83	Amur Maple	Acer ginnata	14"	Poor	REMOVE
84	Burr Oak	Quercus macrocarpa	24"	Good	REMOVE
85	Burr Oak	Quercus macrocarpa	28"	Good	REMOVE
86	Burr Oak	Quercus macrocarpa	24"	Good	REMOVE

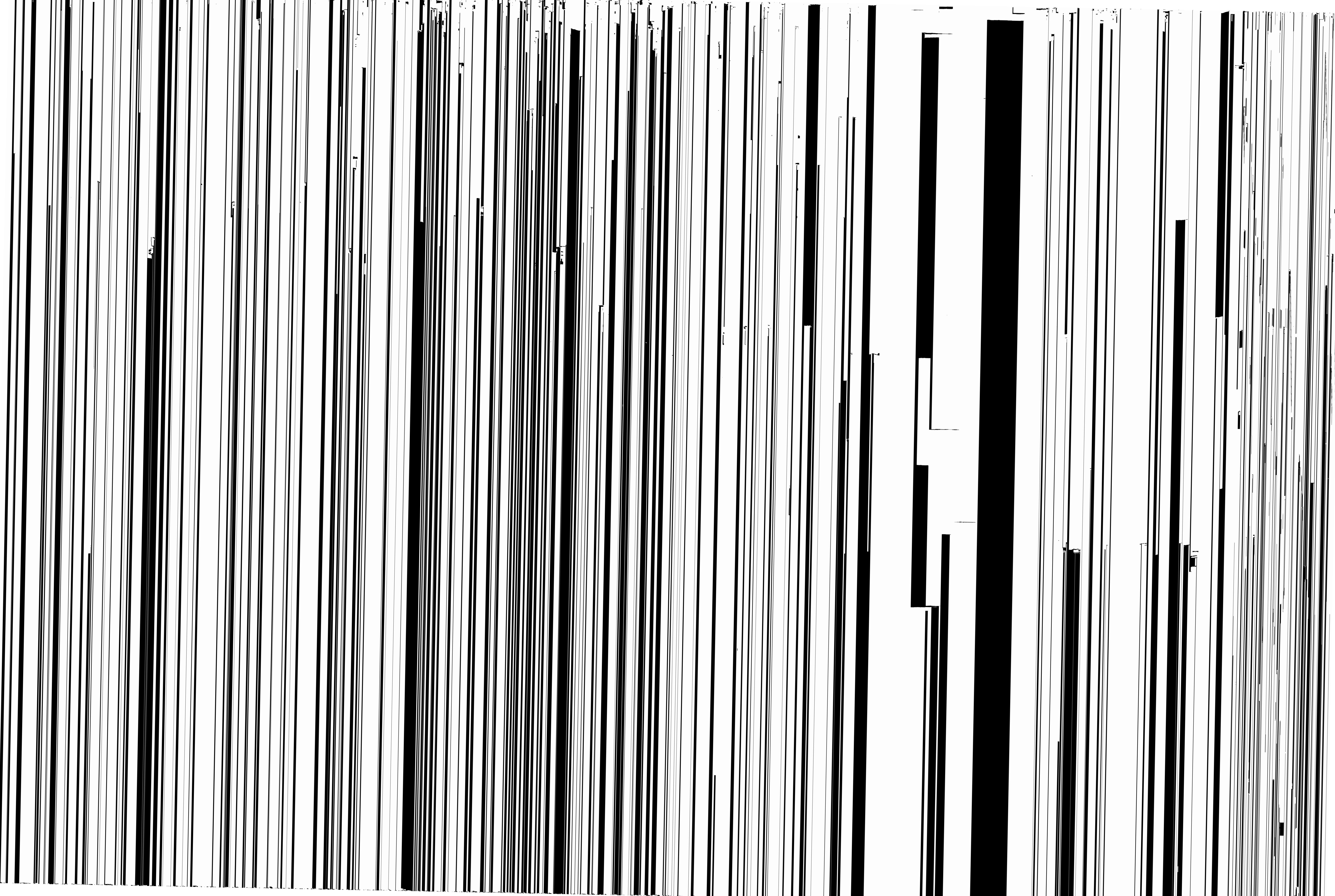
87	Burr Oak	Quercus macrocarpa	32"	Good	REMOVE
88	Burr Oak	Quercus macrocarpa	42"	Good	REMOVE
89	Red Maple	Acer rubrum	6"	Poor	REMOVE
90	Red Maple	Acer rubrum	6"	Poor	REMOVE
91	Locust	Gleditsia triacanthos	4"	Fair	REMOVE
92	Locust	Gleditsia triacanthos	2"	Fair	REMOVE
93	Locust	Gleditsia triacanthos	2"	Fair	REMOVE
94	Locust	Gleditsia triacanthos	6"	Dead	REMOVE
95	Washington Hawthorn	Crataegus phaenopyrum	12"	Poor	REMOVE
96	Norway Spruce	Picea abies	20"	Poor	REMOVE
97	Norway Maple	Acer platanoides	10"	Dead	REMOVE
98	Norway Maple	Acer platanoides	14"	Poor	REMOVE
99	European Alder	Alnus glutinosa	12"	Poor	REMOVE
100	Norway Maple	Acer platanoides	14"	Fair	REMOVE
101	Locust	Gleditsia triacanthos	2"	Fair	REMOVE
102	Locust	Gleditsia triacanthos	2"	Fair	REMOVE
103	Locust	Gleditsia triacanthos	4"	Good	REMOVE
104	Locust	Gleditsia triacanthos	4"	Good	REMOVE
105	Norway Maple	Acer platanoides	10"	Poor	REMOVE
106	Locust	Gleditsia triacanthos	4"	Fair	REMOVE
107	Horse Chestnut	Aesculus hippocastanum	10"	Fair	REMOVE
108	Norway Maple	Acer platanoides	16"	Good	REMOVE
109	Locust	Gleditsia triacanthos	4"	Fair	REMOVE
110	Locust	Gleditsia triacanthos	2"	Fair	REMOVE
111	Locust	Gleditsia triacanthos	4"	Fair	REMOVE
112	Locust	Gleditsia triacanthos	4"	Fair	REMOVE
113	Locust	Gleditsia triacanthos	4"	Fair	REMOVE
114	Norway Maple	Acer platanoides	18"	Fair	REMOVE
115	Norway Maple	Acer platanoides	20"	Fair	REMOVE
116	Locust	Gleditsia triacanthos	2"	Poor	REMOVE
117	Locust	Gleditsia triacanthos	4"	Poor	REMOVE
118	Locust	Gleditsia triacanthos	4"	Poor	REMOVE
119	Locust	Gleditsia triacanthos	2"	Poor	REMOVE
120	Locust	Gleditsia triacanthos	2"	Poor	REMOVE
121	Locust	Gleditsia triacanthos	16"	Fair	REMOVE
122	European Alder	Alnus glutinosa	10"	Poor	REMOVE
123	Locust	Gleditsia triacanthos	4"	Good	REMOVE
124	Locust	Gleditsia triacanthos	2"	Good	REMOVE
125	Locust	Gleditsia triacanthos	4"	Good	REMOVE
126	Locust	Gleditsia triacanthos	4"	Good	REMOVE
127	Locust	Gleditsia triacanthos	4"	Good	REMOVE
128	Locust	Gleditsia triacanthos	4"	Good	REMOVE
129	Locust	Gleditsia triacanthos	4"	Fair	REMOVE

Sample Material List

1. Petitioner Name: Joshua Spinks, Morgan/Harbour Construction LLC
2. Date: 12/06/2017
3. Project: Hamilton Partners 703-723 W. Algonquin Road Industrial Building
4. Location: 703-723 W. Algonquin Road, Arlington Heights, IL

Commercial/Industrial Building:

- | | |
|---------------------------------|--|
| A. Precast Concrete Panels: | 12' and 13' wide insulated load bearing panels, painted finish |
| B. Composite Wood Siding: | TruGrain 6" planks in color stain Mahogany C64 |
| C. Glazing: | 1" insulated low-e with grey tint |
| D. Aluminum Storefront Framing: | Clear anodized finish |



ALTA/NSPS LAND TITLE SURVEY

Table "A" Notes

- 1. MONUMENTS HAVE BEEN PLACED, AS SHOWN HERON.
- 2. SITE ADDRESS: 703, 705, 707 AND 709 ALGONQUIN ROAD, ARLINGTON HTS, IL. 60005.
- 3. THIS PROPERTY IS LOCATED WITHIN ZONE "X", AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO MAP NUMBER 1700560211J, HAVING AN EFFECTIVE DATE OF AUGUST 19TH, 2008.
- 4. AREA OF PROPERTY SURVEYED: 306,870 SQ. FT., 7.04 ACRES
- 6. PROPERTY IS ZONED M-2, LIMITED HEAVY MANUFACTURING DISTRICT SETBACKS PER VILLAGE OF ARLINGTON HEIGHTS ZONING OFFICE FRONT: 15' SIDE: 10' REAR: 30' MAX BUILDING HEIGHT=17' PARKING REQUIREMENTS: 1 SPACE PER 2 EMPLOYEES PLUS ONE PER COMPANY VEHICLE.
- 7(a): EXTERIOR DIMENSIONS OF BUILDING SHOWN HEREON
- 7(b): SQUARE FOOTAGE OF BUILDING = 98,726 SQ. FT.
- 7(c): BUILDING HEIGHT = 17 FEET
- 8: SUBSTANTIAL VISIBLE IMPROVEMENTS SHOWN HEREON
- 9: PARKING SUMMARY = 309 REGULAR SPACES AND 8 HANDICAP SPACES.
- 11. VISIBLE UTILITIES AND UNDERGROUND UTILITIES MARKED BY JULIE, HAVE BEEN SHOWN HEREON.
- 13: NAMES OF ADJOINING OWNERS SHOWN HEREON
- 14: NEAREST INTERSECTING STREET SHOWN HEREON
- 16: THERE IS NO EVIDENCE OF RECENT EARTH MOVING WORK OR BUILDING CONSTRUCTION
- 17: THERE ARE NO PROPOSED CHANGES TO STREET RIGHT OF WAY LINES PER DEPARTMENT OF TRANSPORTATION, DISTRICT 1, ARLINGTON HEIGHTS AREA PROGRAMMER (847)-705-4000 OPTION 7.
- 18: NO FIELD DELINEATION OF WETLANDS WERE PERFORMED.

PARCEL 1:
"A":
A PORTION OF LOT 2 IN CAUDILL'S SUBDIVISION OF PART OF THE NORTHWEST ¼ OF SECTION 16, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS, DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE SOUTHWESTERLY LINE OF ALGONQUIN ROAD, AS DEDICATED BY INSTRUMENT RECORDED FEBRUARY 2, 1933 AS DOCUMENT 11195785; AND THE NORTHERLY LINE OF LOT 10 IN THE DIVISION OF THE EAST ½ OF SAID NORTHWEST ¼; THENCE NORTHWESTERLY ON SAID NORTHERLY LINE, BEING IDENTICAL WITH A BOUNDARY LINE OF SAID LOT 2, 36.36 FEET TO THE WESTERLY LINE OF SAID LOT 10; BEING ALSO THE EASTERLY LINE OF SAID LOT 2; THENCE SOUTHWESTERLY ON SAID LINE AND CONTINUING ALONG THE WESTERLY LINE OF LOT 11 IN SAID DIVISION, 784.12 FEET; THENCE NORTHWESTERLY ALONG A LINE, THAT FORMS AN ANGLE OF 90 DEGREES, 09 MINUTES WITH THE LAST DESCRIBED COURSE, AS MEASURED FROM NORTHEAST TO NORTHWEST, 8.50 FEET; THENCE NORTHEASTERLY 812.46 FEET TO SAID SOUTHWESTERLY LINE OF ALGONQUIN ROAD; THENCE SOUTHEASTERLY ON SAID LINE, BEING CURVED AND CONVEX TO THE NORTH AND HAVING A RADIUS OF 9499.34 FEET, A DISTANCE OF 50.04 FEET TO THE PLACE OF BEGINNING, IN COOK COUNTY, ILLINOIS (EXCEPTING THEREFROM THAT PORTION DEDICATED FOR ROAD PURPOSES, DESCRIBED BELOW)
"B":
A PORTION OF LOTS 10 AND 11 IN THE DIVISION OF THE EAST ½ OF THE NORTHWEST ¼ OF SECTION 16, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, AND ALSO, A PORTION OF LOT 7 IN JOSEPH A. BARNES' FARM IN SECTION 9, 15, AND 16 TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF LOT 1 IN ENGELHARDT'S SUBDIVISION OF PART OF SAID LOT 7; THENCE SOUTHWESTERLY ON THE WESTERLY LINE OF SAID LOT, 580.24 FEET; THENCE NORTHWESTERLY AT RIGHT ANGLES TO SAID LINE, 433.08 FEET TO THE WESTERLY LINE OF AFORESAID LOT 11; THENCE NORTHEASTERLY ON SAID LINE AND CONTINUING ON THE WESTERLY LINE OF SAID LOT 10, 784.12 FEET TO THE NORTHERLY LINE OF SAID LOT 10; THENCE SOUTHEASTERLY ON SAID LINE, 36.36 FEET TO THE SOUTHEASTERLY LINE OF ALGONQUIN ROAD AS DEDICATED BY INSTRUMENT RECORDED FEBRUARY 2, 1933, AS DOCUMENT 11195785; THENCE SOUTHEASTERLY ON SAID LINE, BEING CURVED AND CONVEX TO THE NORTH AND HAVING A RADIUS OF 9499.34 FEET, A CHORD DISTANCE OF 447.46 FEET, TO THE PLACE OF BEGINNING, IN COOK COUNTY, ILLINOIS. (EXCEPTING FROM SAID PARCELS "A" AND "B" THAT PORTION DEDICATED FOR ROAD PURPOSES BY PLAT OF DEDICATION RECORDED JANUARY 16, 2003 AS DOCUMENT 0030079992, DESCRIBED AS FOLLOWS: THAT PART OF LOT 10 IN COUNTY CLERKS DIVISION, BEING A SUBDIVISION OF THE EAST ½ OF THE NORTHWEST ¼ OF SECTION 16, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, AND THAT PART OF LOT 2 IN CAUDILL'S SUBDIVISION, BEING A SUBDIVISION IN THAT PART OF THE NORTHWEST ¼ OF SAID SECTION 16; DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWESTERLY CORNER OF WEBER ATRIUM SUBDIVISION, BEING A SUBDIVISION IN THAT PART OF THE NORTHWEST ¼ OF SAID SECTION 16; THENCE SOUTHEASTERLY ALONG THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF ALGONQUIN ROAD (IL. ROUTE 62) AS RECORDED FEBRUARY 2, 1933 AS DOCUMENT 11195785 AND 1119782, SAID SOUTHWESTERLY RIGHT-OF-WAY LINE BEING A TANGENTIAL CURVE CONCAVE TO THE NORTHEAST RADIUS 9499.34 FEET, CENTRAL ANGLE 01 DEGREES 02 MINUTES, 14 SECONDS, 171.96 FEET (THE CHORD BEARS A ILLINOIS EAST GRID BEARING OF SOUTH 45 DEGREES 31 MINUTES 18 SECONDS WEST 171.96 FEET) TO THE NORTHEASTERLY CORNER OF LOT "B" IN WEBER ATRIUM SUBDIVISION, SAID NORTHEASTERLY CORNER, BEING THE POINT OF BEGINNING; THENCE SOUTH 18 DEGREES 41 MINUTES 30 SECONDS WEST 46.26 FEET ALONG SAID EASTERLY LINE; THENCE SOUTH 72 DEGREES 30 MINUTES 08 SECONDS EAST TO A POINT OF INTERSECTION WITH THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF SAID ALGONQUIN ROAD (IL. ROUTE 62); THENCE NORTHWESTERLY ALONG SAID SOUTHWESTERLY RIGHT-OF-WAY LINE BEING A TANGENTIAL CURVE CONCAVE TO THE NORTHEAST RADIUS 9499.34 FEET, CENTRAL ANGLE 00 DEGREES 15 MINUTES 13 SECONDS, 42.04 FEET, (THE CHORD BEARS NORTH 44 DEGREES 52 MINUTES 35 SECONDS WEST 42.04 FEET) TO THE POINT OF BEGINNING).
"C":
PERPETUAL EASEMENT FOR THE BENEFIT OF PARCELS "A" AND "B", FOR INGRESS AND EGRESS, CREATED BY GRANT MADE BY WEBER MARKING SYSTEMS, INC., A CORPORATION OF ILLINOIS TO CENTRAL NATIONAL BANK IN CHICAGO, AS TRUSTEE UNDER TRUST NUMBER 22481 AND WEBER ADDRESSING MACHINE COMPANY, INC., A CORPORATION OF ILLINOIS DATED OCTOBER 20, 1977 AND RECORDED NOVEMBER 2, 1977 AS DOCUMENT 24176555 AND MODIFIED BY EASEMENT MODIFICATION RECORDED MARCH 26, 1982 AS DOCUMENT 26183698 OVER, UNDER, ACROSS THE FOLLOWING LAND: THE EAST 22 FEET OF THE FOLLOWING DESCRIBED LAND: THAT PART OF LOT 2 IN CAUDILL'S SUBDIVISION OF PART OF THE NORTHWEST ¼ OF SECTION 16, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, LYING WESTERLY OF THE SOUTHWESTERLY LINE OF ALGONQUIN ROAD, AS WIDENED, EXCEPT THAT PART THEREOF DEDICATED FOR PUBLIC STREET BY DOCUMENT 19756910 AND ALSO EXCEPT THAT PART LYING SOUTHERLY OF THE FOLLOWING DESCRIBED LINE: BEGINNING AT A POINT IN THE EASTERLY LINE OF THE NORTHERLY PART OF SAID LOT 2, 784.12 FEET SOUTHWESTERLY OF THE NORTHERLY CORNER THEREOF; THENCE NORTHWESTERLY ALONG A LINE THAT FORMS AN ANGLE OF 90 DEGREES, 09 MINUTES WITH THE LAST DESCRIBED COURSE (AS MEASURED FROM NORTH TO WEST) TO THE WESTERLY LINE OF SAID LOT 2; ALSO EXCEPTING THAT PART OF SAID LOT DESCRIBED AS FOLLOWS: BEGINNING AT SAID POINT IN THE EASTERLY LINE OF THE NORTHERLY PART OF SAID LOT 2, 784.12 FEET SOUTHWESTERLY OF THE NORTHERLY CORNER THEREOF; THENCE NORTHWESTERLY ALONG SAID LINE, THAT FORMS AN ANGLE OF 90 DEGREES, 09 MINUTES, AFORESAID, A DISTANCE OF 8.50 FEET; THENCE NORTHWESTERLY 812.46 FEET TO A POINT IN THE SAID SOUTHWESTERLY LINE OF ALGONQUIN ROAD; THENCE SOUTHEASTERLY ON SAID LINE, BEING CURVED AND CONVEX TO THE NORTH AND HAVING A RADIUS OF 9499.34 FEET, A DISTANCE OF 50.04 FEET TO A POINT IN THE NORTHERLY LINE OF LOT 10 IN THE DIVISION OF THE EAST 1/2 OF SAID NORTHWEST ¼; THENCE NORTHWESTERLY ON SAID LINE, BEING IDENTICAL WITH A BOUNDARY LINE OF SAID LOT 2, 36.36 FEET TO THE NORTHERLY CORNER OF THE SAID EASTERLY LINE OF THE NORTHERLY PART OF SAID LOT; THENCE SOUTHWESTERLY ON SAID LINE, 784.12 FEET TO THE POINT OF BEGINNING, ALL IN COOK COUNTY, ILLINOIS.
"D":
NON-EXCLUSIVE EASEMENT FOR THE BENEFIT OF PARCELS A AND B FOR STORM WATER DRAINAGE, DETENTION AND RETENTION IN, OVER, UNDER, ACROSS, ALONG, THROUGH AND UPON OUTLOT A IN THE FINAL WEBER'S RESUBDIVISION RECORDED AS DOCUMENT 0030435526.
"E":
NON-EXCLUSIVE EASEMENT FOR THE BENEFIT OF PARCELS A AND B FOR INGRESS AND EGRESS OVER AND UPON OUTLOT B AND A PORTION OF LOT 2 AS CREATED AND DEPICTED ON THE FINAL WEBER'S RESUBDIVISION RECORDED AS DOCUMENT 0030435526 AND AS GRANTED IN THE EASEMENT AGREEMENT RECORDED AS DOCUMENT 0608244082.

THIS SURVEY ADDRESSES ONLY THOSE MATTERS OF RECORD AS DISCLOSED IN CHICAGO TITLE INSURANCE COMPANY COMMITMENT NO. 17006767NS, HAVING AN EFFECTIVE DATE OF APRIL 18TH, 2017.

Schedule "B" Notes

- 20 — RESERVATION OF AN EASEMENT FOR THE USE OF SANITARY SEWERS PRESENTLY LOCATED ON PARCEL "A" TO WEBER MARKING SYSTEMS, INC., GRANTOR IN THE WARRANTY DEED TO JOHN E. ROBERTS, RECORDED NOVEMBER 2, 1977 AS DOCUMENT 24176551, AS DISCLOSED BY SAID DEED OF CONVEYANCE. (BLANKET IN NATURE OVER EXISTING SANITARY SEWER LOCATED ON PARCEL A)
- 21 — EASEMENT RECORDED NOVEMBER 2, 1977 AS DOCUMENT 24176554 MADE BY CENTRAL NATIONAL BANK IN CHICAGO, AS TRUSTEE UNDER TRUST NUMBER 22481 TO WEBER ADDRESSING MACHINE COMPANY, INC., TO WEBER MARKING SYSTEMS, INC., OF A PERPETUAL EASEMENT FOR INGRESS AND EGRESS OVER, UNDER AND ACROSS THE EAST 25 FEET OF PARCEL "B" AND THE CONDITIONS CONTAINED THERE IN. (AS SHOWN)
- 22 — EASEMENT RECORDED NOVEMBER 2, 1977 AS DOCUMENT 24176553 MADE BY CENTRAL NATIONAL BANK IN CHICAGO, AS TRUSTEE UNDER TRUST NUMBER 22481 TO WEBER MARKING SYSTEMS, INC., AND WEBER ADDRESSING MACHINE COMPANY, INC., OF AN EASEMENT FOR INGRESS AND EGRESS OVER, UNDER AND ACROSS THE WEST 22 FEET OF PARCELS "A" AND "B", AS A TRACT AND THE CONDITIONS AND RESTRICTIONS CONTAINED THERE IN. (AS SHOWN)
- 23 — EASEMENT IN FAVOR OF THE ILLINOIS BELL TELEPHONE COMPANY AND THE COMMONWEALTH EDISON COMPANY, AND THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE AND MAINTAIN ALL EQUIPMENT NECESSARY FOR THE PURPOSE OF SERVING THE LAND AND OTHER PROPERTY, TOGETHER WITH THE RIGHT OF ACCESS TO SAID EQUIPMENT, AND THE PROVISIONS RELATING THERETO CONTAINED IN THE GRANT RECORDED AS DOCUMENT 24339866, AFFECTING THE NORTH 10 FEET OF THE SOUTH 30 FEET (EXCEPT THE EAST 79 FEET THEREOF) AND; ALSO THE WEST 10 FEET OF THE EAST 89 FEET OF THE SOUTH 191 FEET (EXCEPT THE SOUTH 30 FEET THEREOF) AND; ALSO THE NORTH 10 FEET OF THE SOUTH 191 FEET OF THE EAST 79 FEET (EXCEPT THE EAST 25 FEET THEREOF) AND; ALSO THE WEST 10 FT OF THE EAST 25 FEET (EXCEPT THE NORTH 67.5 FEET, AS MEASURED ON THE EAST LINE OF SAID PROPERTY) AND; ALSO A STRIP OF LAND 10 FEET IN WIDTH, THE EAST LINE BEGINNING AT A POINT MEASURED 15 FEET WEST OF THE EAST LINE AND 67.5 FEET SOUTH OF THE NORTHEAST CORNER; THENCE EXTENDING IN A NORTHWESTERLY DIRECTION TO A POINT IN THE NORTHERLY LINE 50 FEET NORTHWESTERLY OF THE NORTHEAST CORNER OF THE LAND. (AS SHOWN)
- 24 — EASEMENT IN FAVOR IF THE ILLINOIS BELL TELEPHONE COMPANY AND THE COMMONWEALTH EDISON COMPANY, AND THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE AND MAINTAIN ALL EQUIPMENT NECESSARY FOR THE PURPOSE OF SERVING THE LAND AND OTHER PROPERTY, TOGETHER WITH THE RIGHT OF ACCESS TO SAID EQUIPMENT, AND THE PROVISIONS RELATING THERETO CONTAINED IN THE GRANT RECORDED AS DOCUMENT 24391507, AFFECTING A STRIP OF LAND 5 FEET IN WIDTH ADJACENT TO PARALLEL WITH AND LYING SOUTHWESTERLY OF THE SOUTHWESTERLY RIGHT OF WAY LINE OF ALGONQUIN ROAD. (AS SHOWN)
- 25 — EASEMENT IN FAVOR OF NORTHERN ILLINOIS GAS COMPANY, AND ITS SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE AND MAINTAIN ALL EQUIPMENT NECESSARY FOR THE PURPOSE OF SERVING THE LAND AND OTHER PROPERTY, TOGETHER WITH THE RIGHT OF ACCESS TO SAID EQUIPMENT, AND THE PROVISIONS RELATING THERETO CONTAINED IN THE GRANT RECORDED AS DOCUMENT 24413979, AFFECTING THE SOUTHERLY 10 FEET OF PARCEL "A" AND THE SOUTHERLY 10 FEET AND THE EASTERLY 10 FEET OF PARCEL "B" OF THE LAND. (AS SHOWN)
- 26 — EASEMENT RECORDED AUGUST 16, 1966 AS DOCUMENT 19917611 AS CONTAINED IN THE PLAT OF SURVEY OVER: THAT PART OF LOT 2 IN CAUDULL'S SUBDIVISION AFORESAID LYING NORTH OF THE NORTH LINE OF ILLINOIS TOLL HIGHWAY AND WESTERLY OF THE WEST LINE OF ALGONQUIN ROAD, STATE ROUTE NO. 62, WIDENED PER DOCUMENT 11195782, BEGINNING AT A POINT ON THE NORTH LINE OF LOT 2 WITH THE INTERSECTION OF THE SOUTHWESTERLY LINE OF ALGONQUIN ROAD, AS WIDENED; THENCE SOUTHEASTERLY ALONG SAID SOUTHWESTERLY LINE OF ALGONQUIN ROAD, A DISTANCE OF 126.40 FEET FOR A POINT OF BEGINNING; THENCE CONTINUING SOUTHEASTERLY ALONG SAID SOUTHWESTERLY LINE OF ALGONQUIN ROAD A DISTANCE OF 44.27 FEET TO THE EASTERLY LINE OF SAID LOT 2, EXTENDED NORTH, THENCE SOUTHWESTERLY ALONG SAID EASTERLY LINE OF LOT 2 A DISTANCE OF 1335.07 FEET TO AN ANGLE POINT IN SAID LOT, THENCE NORTHWESTERLY ALONG A LINE PARALLEL WITH THE SOUTHEASTERLY LINE OF SAID LOT 2 A DISTANCE OF 1335.07 FEET TO THE POINT OF BEGINNING; THENCE SOUTHEASTERLY 7 FEET (MEASURED AT RIGHT ANGLES) OF DESCRIBED LAND TO BE AN EASEMENT FOR GAS AND SEWERS, THE NORTHWESTERLY 22 FEET OF THE SOUTHEASTERLY 29 FEET (BOTH MEASURED AT RIGHT ANGLES) OF DESCRIBED LAND TO BE AN EASEMENT FOR INGRESS AND EGRESS AND NORTHWESTERLY 11 FEET (MEASURED AT RIGHT ANGLES) OF DESCRIBED LAND TO BE AN EASEMENT FOR WATER AND ELECTRIC. (AS SHOWN)
- 27 — EASEMENTS, TERMS, PROVISIONS AND CONDITIONS CONTAINED IN THE EASEMENT AGREEMENT EXECUTED BY AND BETWEEN JOSEPH A. WEBER, JR., TRUSTEE OF THE JOSEPH A. WEBER, JR. DECLARATION OF TRUST DATED MAY 1, 1975, AS AMENDED; ARLINGTON OAK POINTE L.L.C., AN ILLINOIS LIMITED LIABILITY COMPANY; WEBER MARKING SYSTEMS, INC., AN ILLINOIS CORPORATION AND LASALLE BANK NATIONAL ASSOCIATION, AS SUCCESSOR TRUSTEE TO AMERICAN NATIONAL BANK AND TRUST COMPANY OF CHICAGO, AS TRUSTEE KNOWN AS TRUST NUMBER 795, RECORDED MARCH 23, 2006 AS DOCUMENT 0608244082. (AS SHOWN)

Statement of encroachments

- A WALL FALLS ON PROPERTY BY AT MOST 2.3'.
- B SIDEWALK CROSSES ONTO PROPERTY BY AT MOST 1.2'.

STATE OF ILLINOIS }
COUNTY OF KENDALL }SS DTS PROPERTIES, LLC, AN ILLINOIS LIMITED LIABLITY COMPANY, ARLINGTON HEIGHTS 1, LLC, AN ILLINOIS LIMITED LIABILITY COMPANY AND CHICAGO TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6A, 7A, 7B, 7C, 8, 9, 11, 13, 14, 16, 17 AND 18 OF TABLE A THEREOF. FIELDWORK WAS COMPLETED ON MAY 11TH, 2017.

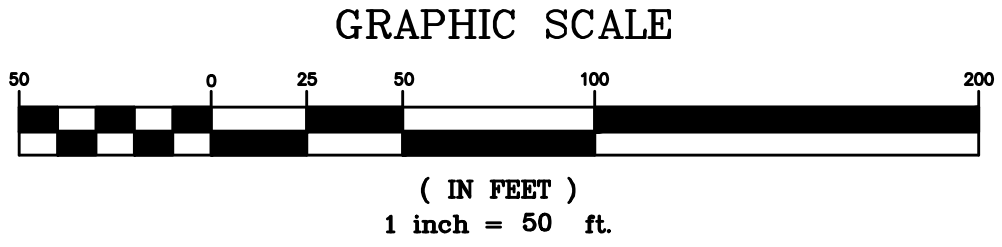
WITNESS MY HAND AND SEAL AT OSWEGO, ILLINOIS THIS 7TH DAY OF JUNE, 2017.

LESLIE AARON DOOGS
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3833
LICENSE EXPIRATION DATE: NOVEMBER 30TH, 2018



BOUNDARY AND
TOPOGRAPHIC SURVEY

BY
GENTILE AND ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS



PARCEL 1:
"A":
A PORTION OF LOT 2 IN CAUDILL'S SUBDIVISION OF PART OF THE NORTHWEST 1/4 OF SECTION 16, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS, DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE SOUTHWESTERLY LINE OF ALGONQUIN ROAD, AS DEDICATED BY INSTRUMENT RECORDED FEBRUARY 2, 1933 AS DOCUMENT 11195785; AND THE NORTHERLY LINE OF LOT 10 IN THE DIVISION OF THE EAST 1/2 OF SAID NORTHWEST 1/4; THENCE NORTHWESTERLY ON SAID NORTHERLY LINE, BEING IDENTICAL WITH A BOUNDARY LINE OF SAID LOT 2, 36.36 FEET TO THE WESTERLY LINE OF SAID LOT 10; BEING ALSO THE EASTERLY LINE OF SAID LOT 2; THENCE SOUTHWESTERLY ON SAID LINE AND CONTINUING ALSO THE WESTERLY LINE OF LOT 11 IN SAID DIVISION, 784.12 FEET; THENCE NORTHWESTERLY ALONG A LINE, THAT FORMS AN ANGLE OF 90 DEGREES,09 MINUTES WITH THE LAST DESCRIBED COURSE, AS MEASURED FROM NORTHWEST, 8.50 FEET; THENCE NORTHEASTERLY 812.46 FEET TO SAID SOUTHWESTERLY LINE OF ALGONQUIN ROAD; THENCE SOUTHEASTERLY ON SAID LINE, BEING CURVED AND CONVEX TO THE NORTH AND HAVING A RADIUS OF 9499.34 FEET, A DISTANCE OF 50.04 FEET TO THE PLACE OF BEGINNING, IN COOK COUNTY, ILLINOIS (EXCEPTING THEREFROM THAT PORTION DEDICATED FOR ROAD PURPOSES).

"B":
A PORTION OF LOTS 10 AND 11 IN THE DIVISION OF THE EAST 1/2 OF THE NORTHWEST 1/4 OF SECTION 16, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, AND ALSO, A PORTION OF LOT 7 IN JOSEPH A. BARNES' FARM IN SECTIONS 9, 15, AND 16, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF LOT 1 IN ENGELHARDT'S SUBDIVISION OF PART OF SAID LOT 7; THENCE SOUTHWESTERLY ON THE WESTERLY LINE OF SAID LOT, 580.24 FEET; THENCE NORTHWESTERLY AT RIGHT ANGLES TO SAID LINE, 433.08 FEET TO THE WESTERLY LINE OF AFORESAID LOT 11; THENCE NORTHEASTERLY ON SAID LINE AND CONTINUING ON THE WESTERLY LINE OF SAID LOT 10, 784.12 FEET TO THE NORTHERLY LINE OF SAID LOT 10; THENCE SOUTHEASTERLY ON SAID LINE, 36.36 FEET TO THE SOUTHEASTERLY LINE OF ALGONQUIN ROAD AS DEDICATED BY INSTRUMENT RECORDED FEBRUARY 2, 1933 AS DOCUMENT 11195785; THENCE SOUTHEASTERLY ON SAID LINE, BEING CURVED AND CONVEX TO THE NORTH AND HAVING A RADIUS OF 9499.34 FEET, A CHORD DISTANCE OF 447.46 FEET, TO THE PLACE OF BEGINNING, IN COOK COUNTY, ILLINOIS. (EXCEPTING FROM SAID PARCEL "A" AND "B" THAT PORTION DEDICATED FOR ROAD PURPOSES BY PLAT OF DEDICATION RECORDED JANUARY 16, 2003 AS DOCUMENT 0030078992, DESCRIBED AS FOLLOWS: THAT PART OF LOT 10 IN COUNTY CLERK'S DIVISION, BEING A SUBDIVISION OF THE EAST 1/2 OF THE NORTHWEST 1/4 OF SECTION 16, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, AND THAT PART OF LOT 2, IN CAUDILL'S SUBDIVISION, BEING A SUBDIVISION IN THAT PART OF THE NORTHWEST 1/4 OF SAID SECTION 16; DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWESTERLY CORNER OF WEBER ATRIUM SUBDIVISION, BEING A SUBDIVISION IN THAT PART OF THE NORTHWEST 1/4 OF SAID SECTION 16; THENCE SOUTHEASTERLY ALONG THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF ALGONQUIN ROAD (IL ROUTE 62) AS RECORDED FEBRUARY 2, 1933 AS DOCUMENT 11195785 AND 1119782, SAID SOUTHWESTERLY RIGHT-OF-WAY LINE BEING A TANGENTIAL CURVE CONVEX TO THE NORTHEAST RADIUS 9499.34 FEET, CENTRAL ANGLE 01 DEGREES 02 MINUTES, 14 SECONDS 171.96 FEET (THE CHORD BEARS A ILLINOIS EAST GRID BEARING OF SOUTH 45 DEGREES 31 MINUTES 18 SECONDS WEST 171.96 FEET) TO THE NORTHEASTERLY CORNER OF LOT "B" IN WEBER ATRIUM SUBDIVISION, SAID NORTHEASTERLY CORNER, BEING THE POINT OF BEGINNING; THENCE SOUTH 18 DEGREES 41 MINUTES 30 SECONDS WEST 46.26 FEET ALONG SAID EASTERLY LINE; THENCE SOUTH 72 DEGREES 30 MINUTES 06 SECONDS EAST TO A POINT OF INTERSECTION WITH THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF SAID ALGONQUIN ROAD (IL ROUTE 62); THENCE NORTHWESTERLY ALONG SAID SOUTHWESTERLY RIGHT-OF-WAY LINE BEING A TANGENTIAL CURVE CONVEX TO THE NORTHEAST RADIUS 9499.34 FEET, CENTRAL ANGLE 00 DEGREES 13 SECONDS, 42.04 FEET, (THE CHORD BEARS NORTH 44 DEGREES 52 MINUTES 35 SECONDS WEST 42.04 FEET) TO THE POINT OF BEGINNING).

PARCEL 2:
LOT "A" IN WEBER ATRIUM RESUBDIVISION IN THE EAST 1/2 OF THE NORTHWEST 1/4 OF SECTION 16, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY ILLINOIS.

CONTAINING: 671,461.46 sq. ft. (15.41 acres)

LEGEND

- TREE WITH TRUNK DIAM. SIZE
- UTILITY POLE
- LIGHT POLE
- SIGN POST
- UTILITY PEDESTAL
- CLOSED COVER DRAINAGE STRUCTURE
- FIRE HYDRANT
- OPEN COVER DRAINAGE STRUCTURE
- SANITARY SEWER MANHOLE
- WATER SHUTOFF VALVE
- WITH 8" CASING
- CURB INLET/CATCH BASIN
- GAS SERVICE SHUTOFF VALVE
- TELEPHONE SERVICE VAULT
- TRAFFIC SIGNAL LIGHT
- TRAFFIC SIGNAL CONTROL VAULT
- GUY WIRE (ANCHOR)
- BOLLARD
- SOIL BORING
- OVERHEAD WIRES (# OF WIRES)
- UNDERGROUND ELECTRIC
- STORM SEWER
- SANITARY SEWER
- WATER MAIN
- GROUND ELEVATION
- PAVEMENT ELEVATION
- FIN/FL = FINISHED FLOOR ELEVATION
- T/FDN = TOP OF FOUNDATION ELEVATION
- T/W = TOP OF WALL
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 11' EASEMENT FOR WATER & ELECTRICAL PER DOC. NO. 19977407, COMED & ILLINOIS BEL. TELEPHONE PER DOC. NO. 20063955 & 10' EASEMENT FOR WATERMAIN PER DOC. NO. 20922014
- NON-EXCLUSIVE INGRESS & EGRESS EASEMENT PER DOC. NO. 30435526 & 0606244082
- 7' EASEMENT FOR GAS & SEWER PER DOC. NO. 19917611
- 22' INGRESS & EGRESS EASEMENT PER DOC. NO. 24176553
- 22' INGRESS & EGRESS EASEMENT PER DOC. NO. 24738091 & 0606244082
- 10' TELEPHONE EASEMENT PER DOC. NO. 24339865
- 20' INGRESS & EGRESS EASEMENT PER DOC. NO. 24176554
- 22' INGRESS & EGRESS EASEMENT PER DOC. NO. 24738091 & 0606244082
- STORM WATER DRAINAGE & DETENTION EASEMENT PER DOC. NO. 30435526 (OUTLOT "A")

STATE OF ILLINOIS S.S.
COUNTY OF DuPAGE

WE, GENTILE AND ASSOCIATES, INC., HEREBY CERTIFY THAT A SURVEY HAS BEEN MADE AT AND UNDER MY DIRECTION, OF THE PROPERTY DESCRIBED ABOVE, AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID SURVEY. THIS PLAT CONFORMS TO THE MINIMUM STANDARD REQUIREMENTS FOR A BOUNDARY SURVEY.

JULY 27, A.D. 2017

BY :
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 2925
MY LICENSE EXPIRES NOVEMBER 30, 2018
ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184.002870

NO.	DATE	DESCRIPTION	BY
3	8/09/2017	WATER MAIN, GAS & TELE. LINES ADDED (SHEET 2 AND 3 ONLY)	MMG
2	8/04/2017	STRUCTURES NUMBERING REVISED ON DETAIL OF THE NE ENTRANCE (SHEET 2 OF 3 ONLY)	MMG
1	8/03/2017	CATCH BASIN #28 CHANGED TO #38 (TYPO) (SHEET 3 OF 3 ONLY)	MMG

BASE SCALE : 1 INCH = 50 FEET
DISTANCES ARE MARKED IN FEET AND DECIMAL PARTS THEREOF
ORDERED BY : RWG ENGINEERING LLC
DRAWN BY : MMG
CHECKED BY :
SURVEYED BY : LR-RB-JG

COMPARE ALL POINTS BEFORE BUILDING BY SAME AND AT ONCE REPORT ANY DIFFERENCE. FOR BUILDING LINE AND OTHER RESTRICTIONS NOT SHOWN HEREON REFER TO YOUR ABSTRACT DEED, CONTRACT AND ZONING ORDINANCE.

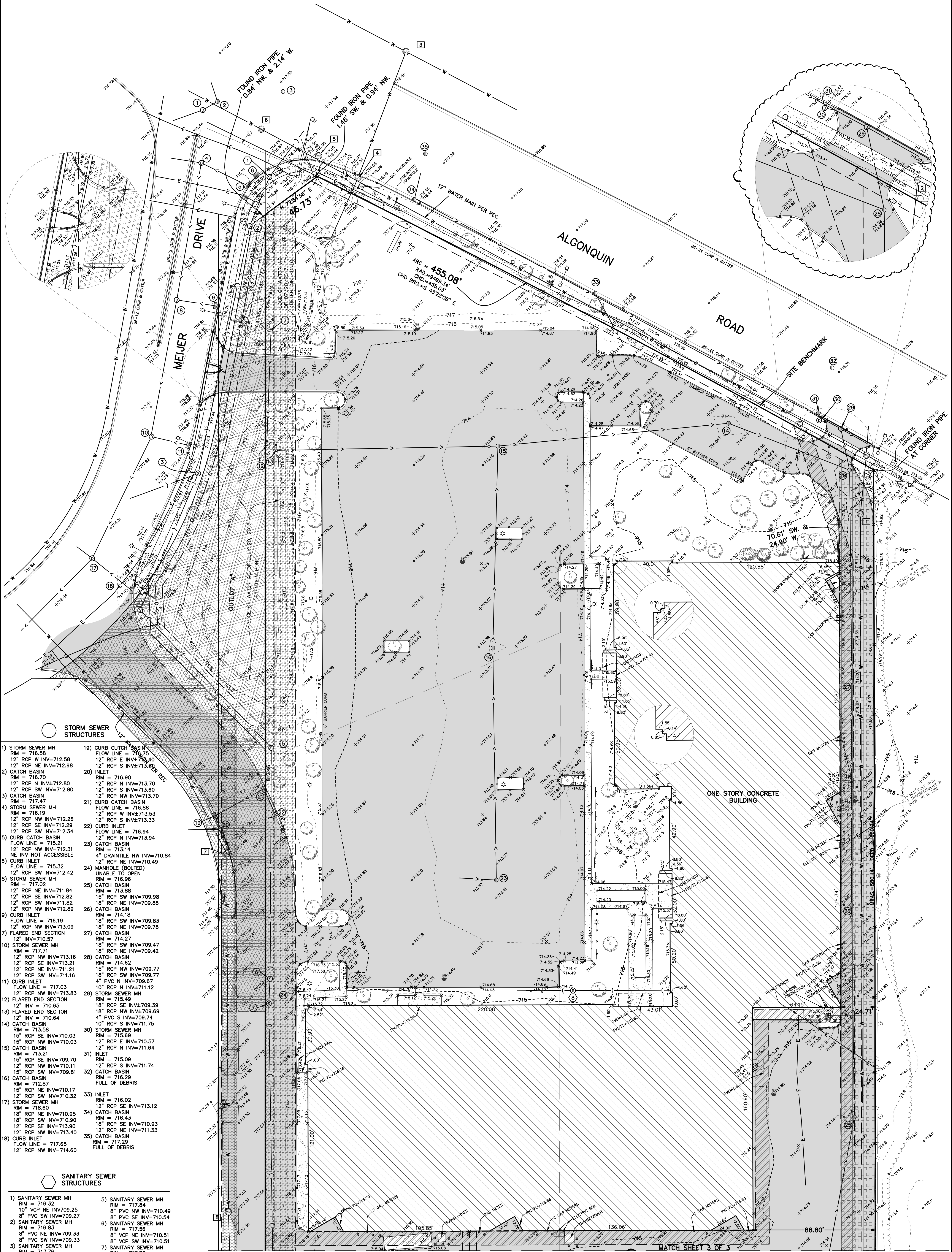
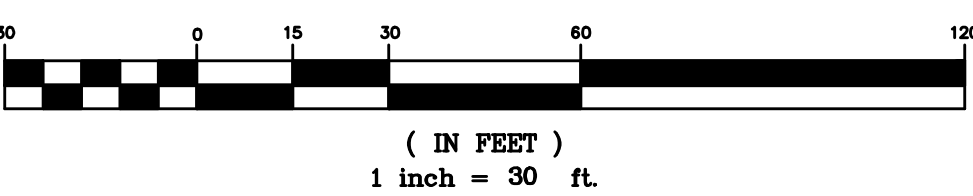
ORDER NO. 17-20813- REV 3
SHEET 1 OF 3

BOUNDARY AND
TOPOGRAPHIC SURVEY

BY
GENTILE AND ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

550 E. ST. CHARLES PLACE
LOMBARD, ILLINOIS 60148
PHONE : (630) 916-6262

GRAPHIC SCALE



- 1) STORM SEWER MH
RIM = 716.58
12" RCP W INV=712.58
12" RCP NE INV=712.98
- 2) CATCH BASIN
RIM = 716.70
12" RCP N INV=712.80
12" RCP SW INV=712.80
12" RCP NW INV=713.70
RIM = 717.47
- 3) STORM SEWER MH
RIM = 716.19
12" RCP NW INV=712.26
12" RCP SE INV=712.29
12" RCP SW INV=712.34
12" RCP NW INV=712.31
NE INV NOT ACCESSIBLE
- 4) CURB INLET
FLOW LINE = 715.32
12" RCP SW INV=712.42
- 5) STORM SEWER MH
RIM = 717.02
12" RCP NE INV=711.84
12" RCP SE INV=712.82
12" RCP SW INV=711.82
12" RCP NW INV=712.89
- 6) CURB INLET
FLOW LINE = 716.19
12" RCP NW INV=713.09
- 7) FLARED END SECTION
12" INV=710.57
- 8) STORM SEWER MH
RIM = 717.71
12" RCP NW INV=713.16
12" RCP SE INV=713.21
12" RCP NE INV=711.21
12" RCP SW INV=711.16
- 9) CURB INLET
FLOW LINE = 717.03
12" RCP NW INV=713.83
- 10) FLARED END SECTION
12" INV = 710.65
- 11) FLARED END SECTION
12" INV = 710.64
- 12) CATCH BASIN
RIM = 713.58
15" RCP SE INV=710.03
15" RCP NW INV=710.03
RIM = 713.21
- 13) 15" RCP SE INV=709.70
12" RCP NW INV=710.11
15" RCP SW INV=709.81
- 14) CATCH BASIN
RIM = 712.87
15" RCP NE INV=710.17
12" RCP SW INV=710.32
- 15) STORM SEWER MH
RIM = 718.60
18" RCP NE INV=710.95
18" RCP SW INV=710.90
12" RCP SE INV=713.90
12" RCP NW INV=713.40
- 16) CURB INLET
FLOW LINE = 717.65
12" RCP NW INV=714.60
- 17) CURB CATCH BASIN
FLOW LINE = 716.75
12" RCP E INV=710.40
12" RCP S INV=713.80
12" RCP NW INV=713.70
- 18) CURB INLET
FLOW LINE = 716.94
12" RCP NW INV=713.94
- 19) CATCH BASIN
RIM = 714.18
18" RCP SW INV=709.83
18" RCP NE INV=709.78
- 20) CATCH BASIN
RIM = 714.27
18" RCP SW INV=709.47
18" RCP NE INV=709.42
- 21) CATCH BASIN
RIM = 714.62
15" RCP NW INV=709.77
15" RCP SW INV=709.77
4" PVC N INV=709.67
10" RCP N INV=711.12
- 22) STORM SEWER MH
RIM = 716.24
18" RCP SE INV=709.39
18" RCP NW INV=709.69
4" PVC S INV=709.74
10" RCP S INV=711.75
- 23) STORM SEWER MH
RIM = 715.69
12" RCP E INV=710.57
12" RCP N INV=711.64
- 24) INLET
RIM = 715.09
12" RCP S INV=711.74
- 25) CATCH BASIN
RIM = 716.29
FULL OF DEBRIS
- 26) INLET
RIM = 716.02
12" RCP SE INV=713.12
- 27) CATCH BASIN
RIM = 716.43
18" RCP SE INV=710.93
12" RCP NE INV=711.33
- 28) CATCH BASIN
RIM = 717.29
FULL OF DEBRIS
- 29) SANITARY SEWER MH
RIM = 717.84
8" PVC NW INV=710.49
8" PVC SE INV=710.54
- 30) SANITARY SEWER MH
RIM = 716.56
8" PVC NE INV=710.51
8" PVC SW INV=710.51
- 31) SANITARY SEWER MH
RIM = 717.70
8" PVC NE INV=710.55
8" PVC SW INV=710.55
- 32) SANITARY SEWER MH
RIM = 714.47
8" VCP NE INV=711.37
8" VCP SW INV=711.37
- 33) SANITARY SEWER MH
RIM = 717.84
8" PVC NW INV=710.49
8" PVC SE INV=710.54
- 34) SANITARY SEWER MH
RIM = 716.56
8" PVC NE INV=710.51
8" PVC SW INV=710.51
- 35) SANITARY SEWER MH
RIM = 717.70
8" PVC NE INV=710.55
8" PVC SW INV=710.55
- 36) SANITARY SEWER MH
RIM = 714.47
8" VCP NE INV=711.37
8" VCP SW INV=711.37

- 1) SANITARY SEWER MH
RIM = 716.32
10" VCP NE INV=709.25
8" PVC SE INV=709.27
- 2) SANITARY SEWER MH
RIM = 716.83
8" PVC NE INV=709.33
8" PVC SW INV=709.33
- 3) SANITARY SEWER MH
RIM = 717.76
8" PVC NE INV=709.71
8" PVC SW INV=709.71
- 4) SANITARY SEWER MH
RIM = 718.20
8" PVC NE INV=709.90
8" PVC SE INV=709.90
- 5) SANITARY SEWER MH
RIM = 717.84
8" PVC NW INV=710.49
8" PVC SE INV=710.54
- 6) SANITARY SEWER MH
RIM = 716.56
8" PVC NE INV=710.51
8" PVC SW INV=710.51
- 7) SANITARY SEWER MH
RIM = 717.70
8" PVC NE INV=710.55
8" PVC SW INV=710.55
- 8) SANITARY SEWER MH
RIM = 714.47
8" VCP NE INV=711.37
8" VCP SW INV=711.37

ORDER NO. 17-20813- REV 3
SHEET 2 OF 3

NO.	DATE	DESCRIPTION	BY
3	8/09/2017	WATER MAIN, GAS & TELE. LINES ADDED (SHEET 2 AND 3 ONLY)	MMG
2	8/04/2017	STRUCTURES NUMBERING REVISD ON DETAIL OF THE NE ENTRANCE (SHEET 2 OF 3 ONLY)	MMG
1	8/03/2017	CATCH BASIN #28 CHANGED TO #38 (TYPED) (SHEET 3 OF 3 ONLY)	MMG

WATER VALVE VAULT

- 1) WATER VALVE VAULT
RIM = 712.72
TOP OF PIPE ± 706.57
- 2) WATER VALVE VAULT
RIM = 715.56
TOP OF PIPE = 710.66
- 3) WATER VALVE VAULT
(FULL OF WATER)
RIM = 715.19
TOP OF PIPE = 708.99
- 4) WATER VALVE VAULT
(FULL OF WATER)
RIM = 716.93
TOP OF PIPE = 711.83
- 5) WATER VALVE VAULT
(FULL OF WATER)
RIM = 716.56
TOP OF PIPE = 711.19
- 6) WATER VALVE VAULT
RIM = 715.57
TOP OF PIPE = 712.75
- 7) WATER VALVE VAULT
RIM = 717.45
TOP OF PIPE = 712.75
- 8) WATER VALVE VAULT
RIM = 717.14
TOP OF PIPE = 711.84

NOTES:

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE GROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR. LOCATIONS OF UNDERGROUND UTILITIES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. BEFORE ANY EXCAVATION BEGINS ALL UTILITY COMPANIES SERVING THE PROPERTY SHOULD BE CONTACTED FOR VERIFICATION OF FIELD LOCATION.

BASIS OF BEARING:
ILLINOIS STATE PLANE COORDINATE SYSTEM EAST ZONE.

BENCHMARK: NGS PID DM3900

SURVEY DISK SET ON THE TOP OF THE SOUTH END OF THE EAST ABUTMENT OF THE GOLF ROAD BRIDGE NO 016-0349 OVER SALT CREEK, APPROXIMATELY 0.3 MI (0.5 KM) WEST OF THE INTERSECTION OF GOLF ROAD WITH NEW WALK ROAD, 3 FT (0.9 M) SOUTH OF A CHAIN LINK FENCE. THE STATION IS LOCATED ABOUT 7.4 MI (11.9 KM) SOUTHWEST OF WHEELING, 4.3 MI (6.9 KM) SOUTH-SOUTHWEST OF PALATINE AND 3.0 MI (4.8 KM) SOUTH-SOUTHWEST OF ARLINGTON HEIGHTS. OWNERSHIP—ROAD RIGHT-OF-WAY.

ELEV. ±695.85 (NAVD 88 DATUM)

SITE BENCHMARK:

CROSS CUT IN WALK ON THE SOUTH SIDE OF ALGONQUIN ROAD IN FRONT OF SUBJECT PROPERTY.

ELEV. ± 616.17

BOUNDARY AND TOPOGRAPHIC SURVEY

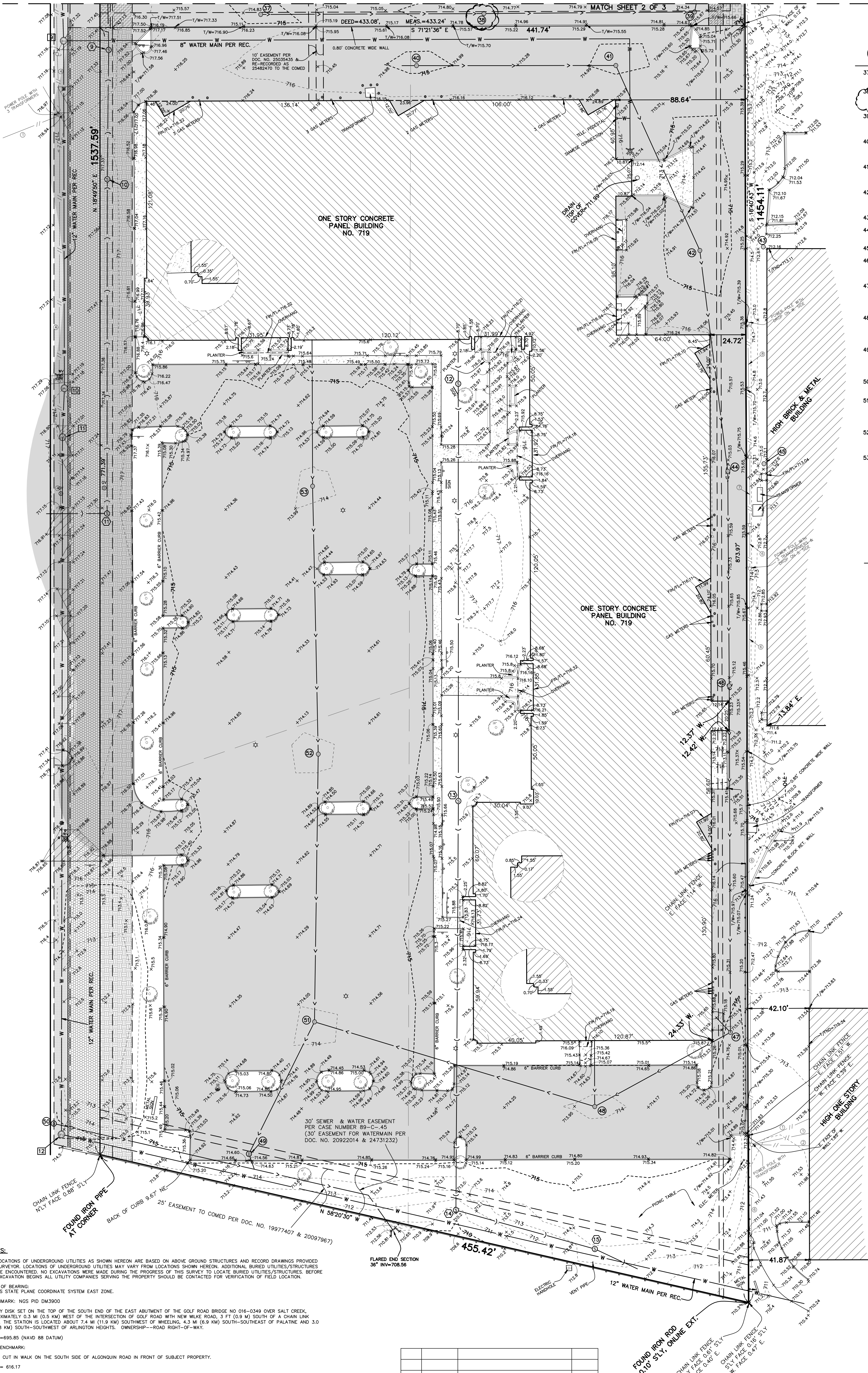
BY
GENTILE AND ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

550 E. ST. CHARLES PLACE
LOMBARD, ILLINOIS 60148
PHONE : (630) 916-6262

GRAPHIC SCALE



(IN FEET)
1 inch = 30 ft.



STORM SEWER STRUCTURES

- 37) CATCH BASIN
RIM = 714.48
12" RCP SE INV=710.88
- 38) CATCH BASIN
RIM = 714.27
NW INV NOT ACCESSIBLE
15" RCP SE INV=710.82
- 39) CATCH BASIN
RIM = 714.23
15" RCP NW INV=710.18
15" RCP NE INV=709.88
- 40) CATCH BASIN
RIM = 714.66
6" PVC NW INV=711.56
15" RCP SE INV=711.11
- 41) CATCH BASIN
RIM = 714.66
15" RCP NW INV=711.01
15" RCP S INV=711.21
- 42) CATCH BASIN
RIM = 714.11
18" RCP NW INV=710.51
18" RCP SW INV=710.51
- 43) CATCH BASIN
RIM = 712.21
- 44) CATCH BASIN
RIM = 714.88
FULL OF DEBRIS
- 45) CATCH BASIN
RIM = 712.09
- 46) CATCH BASIN
RIM = 714.91
18" RCP NE INV=709.71
18" RCP SW INV=709.86
- 47) CATCH BASIN
RIM = 714.69
18" RCP NE INV=709.84
18" RCP SW INV=709.89
4" DUCTILE NW INV=712.09
- 48) CATCH BASIN
RIM = 714.75
18" RCP NE INV=710.15 (WITH DEBRIS)
21" RCP NW INV=710.30
18" RCP NE INV=710.10
- 49) CATCH BASIN
(RESTRICTOR MH)
RIM = 714.57
18" RCP SE INV=709.75
18" RCP NE INV=709.75
- 50) STORM SEWER MH
RIM = 715.82
36" RCP SE INV=709.02
- 51) CATCH BASIN
RIM = 713.62
18" RCP SW INV=709.62
21" RCP SE INV=709.52
18" RCP NE INV=709.52
- 52) CATCH BASIN
RIM = 713.72
18" RCP NE INV=709.97
18" RCP SW INV=709.90
- 53) CATCH BASIN
RIM = 713.70
18" RCP SW INV=710.10
(PIPE COLLAPSED)
12" RCP NE INV=710.30

SANITARY SEWER STRUCTURES

- 9) SANITARY SEWER MH
RIM = 717.19
8" VCP NE INV=711.04
8" VCP SE INV=711.04
6" VCP NW INV=711.69
- 10) SANITARY SEWER MH
RIM = 717.29
8" VCP NE INV=711.37
8" VCP SW INV=711.37
- 11) SANITARY SEWER MH
RIM = 717.22
8" VCP NE INV=712.02
8" VCP NW INV=712.02
- 12) SANITARY SEWER MH
RIM = 715.63
8" VCP NE INV=710.14
6" VCP SW INV=710.11
- 13) SANITARY SEWER MH
RIM = 715.49
8" VCP NE INV=707.69
8" VCP SW INV=707.69
- 14) SANITARY SEWER MH
RIM = 710.69
8" VCP NE INV=703.84
8" VCP SE INV=703.79
- 15) SANITARY SEWER MH
RIM = 713.90
8" VCP NW INV=699.87
8" VCP SE INV=699.17

WATER VALVE VAULT

- 9) WATER VALVE VAULT
RIM = 717.12
TOP OF PIPE = 712.12
- 10) WATER VALVE VAULT
RIM = 717.00
TOP OF PIPE = 709.70
- 11) WATER VALVE VAULT
RIM = 717.05
TOP OF PIPE = 709.40
- 12) WATER VALVE VAULT
RIM = 715.24
TOP OF PIPE = 707.24

NOTES:

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE GROUND STRUCTURES AND RECORD DRAWINGS PROVIDED BY THE SURVEYOR. LOCATIONS OF UNDERGROUND UTILITIES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. BEFORE ANY EXCAVATION BEGINS ALL UTILITY COMPANIES SERVING THE PROPERTY SHOULD BE CONTACTED FOR VERIFICATION OF FIELD LOCATION.

BASIS OF BEARING:
ILLINOIS STATE PLANE COORDINATE SYSTEM EAST ZONE.
BENCHMARK: NGS PID DM3900

SURVEY DISK SET ON THE TOP OF THE SOUTH END OF THE EAST ABUTMENT OF THE GOLF ROAD BRIDGE NO 016-0349 OVER SALT CREEK, APPROXIMATELY 0.3 MI (0.5 KM) WEST OF THE INTERSECTION OF GOLF ROAD WITH NEW MILK ROAD, 3 FT (0.9 M) SOUTH OF A CHAIN LINK FENCE. THE STATION IS LOCATED ABOUT 7.4 MI (11.9 KM) SOUTHWEST OF WHEELING, 4.3 MI (6.9 KM) SOUTH-SOUTHEAST OF PALATINE AND 3.0 MI (4.8 KM) SOUTH-SOUTHWEST OF ARLINGTON HEIGHTS. OWNERSHIP--ROAD RIGHT-OF-WAY.

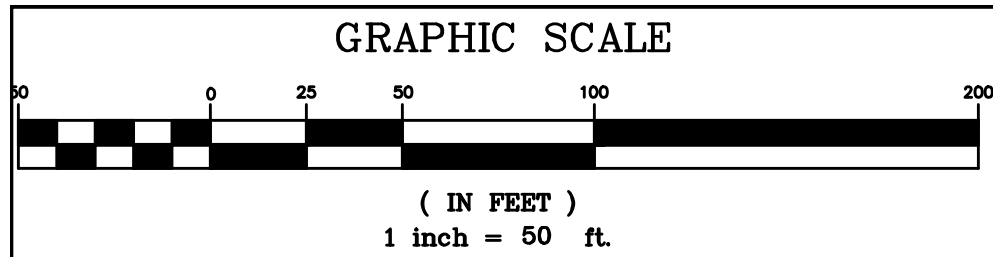
ELEV. =695.85 (NAVD 88 DATUM)

SITE BENCHMARK:
CROSS CUT IN WALK ON THE SOUTH SIDE OF ALGONQUIN ROAD IN FRONT OF SUBJECT PROPERTY.

ELEV. = 616.17

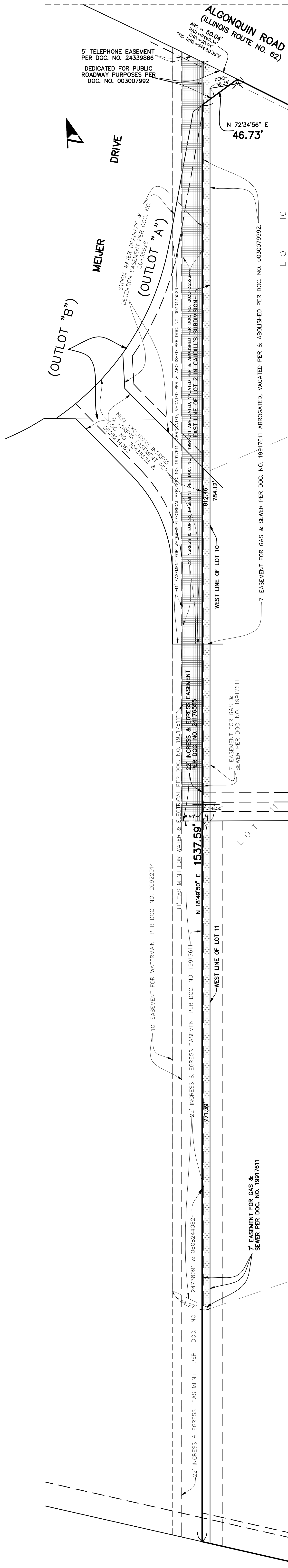
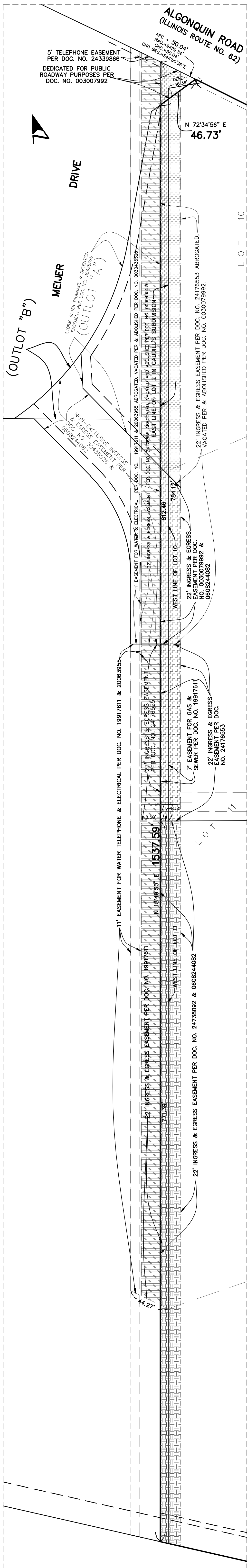
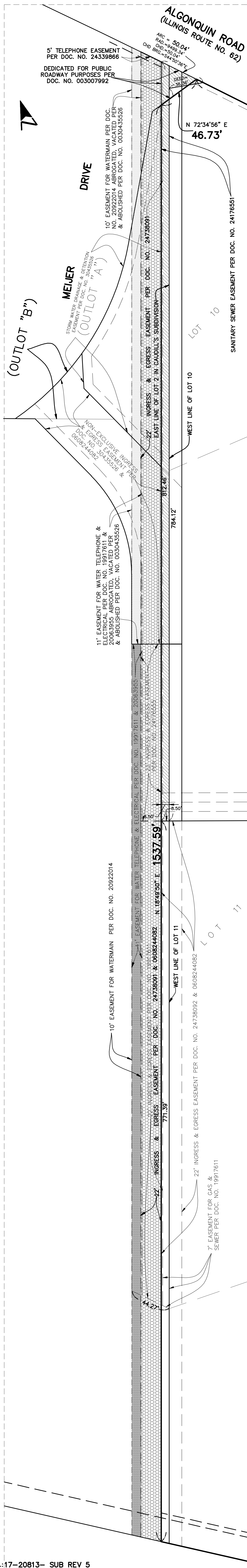
ORDER NO. 17-20813- REV 3
SHEET 3 OF 3

NO.	DATE	DESCRIPTION	BY
3	8/09/2017	WATER MAIN, GAS & TELE. LINES ADDED (SHEET 2 AND 3 ONLY)	MMG
2	8/04/2017	STRUCTURES NUMBERING REVISED ON DETAIL OF THE NE ENTRANCE (SHEET 2 OF 3 ONLY)	MMG
1	8/03/2017	CATCH BASIN #28 CHANGED TO #38 (TYPG) (SHEET 3 OF 3 ONLY)	MMG



PRELIMINARY PLAT
HAMILTON PARTNERS-ARLINGTON
HEIGHTS SUBDIVISION

P.I.N.: 08-16-102-008-0000
-026-0000
-027-0000
-028-0000
-030-0000





Engineering, LLC

**PROJECT NARRATIVE
AND
STORM DRAINAGE ANALYSIS
FOR**

**ARLINGTON HEIGHTS INDUSTRIAL
703-723 ALGONQUIN ROAD
ARLINGTON HEIGHTS, IL**

PREPARED FOR:

**MORGAN/HARBOUR CONSTRUCTION LLC
7510 SOUTH MADISON STREET
WILLOWBROOK, IL 60527
630-734-7737**

PREPARED BY:

RWG Engineering, LLC

975 E. 22nd Street
Suite 400
Wheaton, Illinois 60189
(630) 480-7889

**JOB# 322-127-17-301
OCTOBER 18, 2017**

Table of Contents

- Narrative Description of Proposed Development (2 pages)
- Table 1 – Drainage Summary Sheet (1 page)
- Restrictive Culvert Worksheet-Existing Storm Outfalls (3 pages)
- Orifice Worksheet-Proposed Orifice Size for Phase 1 & 2 (2 pages)
- Arlington Heights Storage Volume Calculation Sheets With Allowable Release Rate -- Ph 1 Temporary, Ph 1 Build-Out & Ph 2 (3 pages)
- Arlington Heights Storage Volume Calculation Sheets With Design Release Rate -- Ph 1 Temporary, Ph 1 Build-Out & Ph 2 (3 pages)
- MWRD Runoff Curve Number, Adjustment Calculator & Detention Volume Vs Reduced Curve Number Sheets – Ph 1 Temp Cond, P1 Build-out & Ph 2 Build-Out (9 pages)
- Table 2 – Summary of Stormwater Storage Provided (1 page)
- Cut/Fill Report – Storage Volumes Provided (1 page)
- Detention Storage in Storm Sewer System (1 page)
- Weir Flow Calculations – Ph 1 & 2 (2 pages)
- Storm Sewer Worksheet – Ph 1 North (3 - 11x17 pages)
- Storm Sewer Worksheet – Ph 2 East & West Section (2 – 11x17 pages)
- Boundary Survey – Existing Parcel (1 - 11x17 page)
- Existing Drainage Exhibit (2 – 11x17 pages)
- Phase 1 (North) Proposed Drainage Area Exhibit (1- 11x17 page)
- Proposed Master Drainage Area Exhibit (1 – 11x17 page)



975 E. 22nd Street, Suite 400,
Wheaton IL 60189
630.480.7889
www.rwg-engineering.com

October 18, 2017

File: 322-127-17

Arlington Heights Industrial

703-723 Algonquin Road
Arlington Heights, IL
15.41 Acre Property

Narrative Description of Proposed Development

(Refer Also to Final Engineering Plans, Notes and Exhibits.)

General:

The subject parcel is located southeasterly of Algonquin Road and Meijer Drive in Arlington Heights, Illinois. The Jane Adams Memorial Tollway (I-90) is along the southern boundary of the property. Currently, two light industrial/office buildings are on the site. The northern building is on existing Parcel 1, which consists of 7.04 acres. The southern building is on existing Parcel 2, which consists of 8.37 acres. The proposed improvements include one building of approximately 331,000 sq ft for warehousing/distribution. Construction is to proceed in two phases. The first phase would be on existing Parcel 1, during which time the existing building on Parcel 2 would remain operational. With the Phase 2 improvements, the Phase 1 building would extend into the Parcel 2 area. Since the site currently consists of two parcels, a Plat of Subdivision combining the site into one lot is proposed.

Stormwater Management:

The existing Parcel 1 drains to the north with a storm drain connection at the northeast corner of the parcel to the existing 18" storm sewer along the southerly side of Algonquin Road. Storm water discharge from the site is controlled by an existing 4" PVC pipe, as well as a secondary 10" RCP pipe at a higher elevation. The existing overland flow from Parcel 1 to Algonquin Rd is within the easterly driveway at an approximate elevation of 715.43. No improvements to this existing driveway are proposed within the Algonquin Rd right-of- way. Therefore, for design purposes an overflow elevation of 715.4 is used. At the 715.4 elevation, the existing 4" PVC has a release of approximately 0.69 cfs and the 10" RCP has a release of 4.44 cfs, for a total of 5.13 cfs.

The existing Parcel 2 drains to the south, via an existing 18" RCP pipe, which connects to an existing 36" storm sewer with discharge to an open waterway along the north side of I-90. No restrictor was located within the existing 18" RCP storm sewer. The existing overland flow from parcel 2 is to the south at an approximate elevation of 715.0. At this 715.0 overflow elevation, the existing release thru the 18" RCP is approximately 21.17". Since there is no offsite area tributary to Parcel 2 which would be impacted by a slight rise in the overflow elevation, a 715.4 high water level (HWL)/overflow elevation is used for both the Phase 1 and Phase 2 site improvements.

Stormwater detention requirements were reviewed for both the Village of Arlington Heights, and the Metropolitan Water Reclamation District of Greater Chicago (MWRD) criteria. Also, the MWRD volume control requirements were reviewed. Since there are some slight deviations in the Phase 2 improvements draining to the north from the proposed site improvements with Phase 1, both conditions were reviewed. In consideration of the worst case scenario, the proposed design implements the more restrictive criteria. A Drainage Summary Sheet, Table 1, is attached which provides a summary of the allowable release rate, as well as the detention, and volume control requirements for the various scenarios.

For the north drainage area in the proposed condition, the existing 4" PVC is to remain, and a 3-1/8" orifice plate is to be provided in the existing 10" RCP. This results in a total release of 1.21 cfs at the 715.4 elevation. For the south drainage area, a 5" orifice plate is proposed for the 18" RCP, restricting the release to 1.53 cfs at the 714.4 HWL.

The detention volumes associated with the above design release rates were reviewed. Per the attached calculations, using these design release rates, the detention storage volume for the north area would be 2.69 ac-ft, and 3.16 ac-ft for the south, phase 2 area.

A Summary of Storage Provided, Table 2, is attached outlining the storage volumes provided in the respective basins and locations. Although, there may be some minor refinement of allocations between detention and volume control storage in the underground basins, the total volumes provided are appropriate based on both the Village of Arlington Heights and the MWRD criteria. As noted, stormwater storage is provided in a combination of areas, including vegetated/open water basins, underground storage, pipe storage, and surface ponding in the truck dock areas. It is noted the ponding in the truck dock areas will occur during the more intense storms only, with the proposed rims at a 714.05 elevation. Therefore, at the upper elevations of the detention storage system, a maximum water depth of 1.35' would be expected at the 715.4 HWL/overflow elevation.

TABLE 1 -- ARLINGTON HEIGHTS INDUSTRIAL - DRAINAGE SUMMARY SHEET

VILLAGE OF ARLINGTON HEIGHTS CRITERIA:

Temp. DRAINAGE AREA (Ac.)	Offsite DRAINAGE AREA (Ac.)	Temp. TOTAL AREA (Ac.)	DRAINAGE AREA (Ac.)	Offsite DRAINAGE AREA (Ac.)	TOTAL AREA (Ac.)	IMPERVIOUS AREA (Ac.) onsite only	IMPERVIOUS AREA (Ac.) Total w/ offsite	% Impervious	COMPOSITE "C"	ALLOWABLE RELEASE (cfs)	Detention Required (ac- ft)
7.04	0.396	7.436				5.843	5.902	80%	0.86	1.33	2.60
			6.875	0.396	6.934	5.957	6.016	87%	0.89	1.24	2.55
			8.540	0.016	8.556	7.498	7.514	88%	0.90	1.54	3.16

PHASE 2: full build out

PHASE 1: full build out

PHASE 1: first phase only
(temporary condition)

MMWRD CRITERIA:

Temp. DRAINAGE AREA (Ac.)	Offsite DRAINAGE AREA (Ac.)	Temp. TOTAL AREA (Ac.)	DRAINAGE AREA (Ac.)	Offsite DRAINAGE AREA (Ac.)	TOTAL AREA (Ac.)	IMPERVIOUS AREA (Ac.) onsite only	IMPERVIOUS AREA (Ac.) Total w/ offsite	% Impervious	COMPOSITE "C"	ALLOWABLE RELEASE (cfs)	Detention Required (ac- ft)
7.04	0.396	7.436				5.843	5.902	80%	93	2.23	1.75
			6.875	0.396	6.934	5.957	6.016	87%	95	2.08	1.70
			8.540	0.016	8.556	7.498	7.514	88%	95	2.57	2.09

PHASE 1: first phase only
(temporary condition)

PHASE 1: full build out

PHASE 2: full build out

MMWRD VOLUME CONTROL:

PHASE 1 (full build out-max impervious)
PHASE 2 (full build out)1" of volume over total impervious area of -----
1" of volume over total impervious area of -----6.016 Ac
7.514 AcRequired Volume =
Required Volume =0.50 Ac-Ft
0.63 Ac-Ft

RESTRICTIVE CULVERT WORKSHEET

JOB DATA:

Job Name:	ALGONQUIN RD INDUSTRIAL-PH 1
Job Number:	322-127-17
Designer:	PDL
Description	EXIST STORM OUTFALL-4" PRIMARY

FLows ARE BASED ON THE FOLLOWING EQUATION:

$$Q = A \sqrt{\frac{H}{\frac{K_e + K_o}{2g} + \frac{2.87(n)^2 L}{3\sqrt{\phi^4}}}}$$

Q = FLOW (cfs)

A = AREA (sqr.ft.)

H = Head (ft.)

K_e & K_o = Entrance & Outlet Loss Coefficients

n = Manning's Roughness Coefficient

g = 32.2 ft/sec²

= diameter

ϕ

PIPE DATA:

Pipe Diameter (feet)	0.33	ft.
Pipe Area (sqr. ft)	0.087	sqr. ft.
Slope (ft./ft.)	-0.0023	
Length of Pipe (ft.)	30	ft.
Existing Invert Elevation	709.67	ft.
Backwater Elevation	710.07	ft. (Top of 4" pipe @ outlet)
Manning's "n" value	0.013	
Entrance Loss Coefficient	0.50	
Outlet Loss Coefficient	1.00	

RATING TABLE:

Water Elevation (ft.)*	Head (ft.)	Q (cfs)
715.00	4.93	0.66
715.10	5.03	0.67
715.20	5.13	0.67
715.30	5.23	0.68
715.40	5.33	0.69
715.50	5.43	0.69
715.60	5.53	0.70
715.70	5.63	0.70
715.80	5.73	0.71
715.90	5.83	0.72
716.00	5.93	0.72

*Water elevation must be higher than backwater elevation.

RESTRICTIVE CULVERT WORKSHEET

JOB DATA:

Job Name:	ALGONQUIN RD INDUSTRIAL-PH 1
Job Number:	322-127-17
Designer:	PDL
Description	EXIST STM OUTFALL-10" SECONDARY

FLows ARE BASED ON THE FOLLOWING EQUATION:

$$Q = A \sqrt{\frac{H}{\frac{K_e + K_o}{2g} + \frac{2.87(n)^2 L}{\sqrt[3]{\phi^4}}}}$$

Q = FLOW (cfs)

A = AREA (sqr.ft.)

H = Head (ft.)

K_e & K_o = Entrance & Outlet Loss Coefficients

n = Manning's Roughness Coefficient

g = 32.2 ft/sec²

= diameter

ϕ

PIPE DATA:

Pipe Diameter (feet)	0.83	ft.
Pipe Area (sqr. ft)	0.541	sqr. ft.
Slope (ft./ft.)	-0.021	
Length of Pipe (ft.)	30	ft.
Existing Invert Elevation	711.12	ft.
Backwater Elevation	712.58	ft. (Top of 10" pipe @ outlet)
Manning's "n" value	0.013	
Entrance Loss Coefficient	0.50	
Outlet Loss Coefficient	1.00	

RATING TABLE:

Water Elevation (ft.)*	Head (ft.)	Q (cfs)
715.00	2.42	4.11
715.10	2.52	4.19
715.20	2.62	4.28
715.30	2.72	4.36
715.40	2.82	4.44
715.50	2.92	4.51
715.60	3.02	4.59
715.70	3.12	4.67
715.80	3.22	4.74
715.90	3.32	4.81
716.00	3.42	4.89

*Water elevation must be higher than backwater elevation.

RESTRICTIVE CULVERT WORKSHEET

JOB DATA:

Job Name:	ALGONQUIN RD INDUSTRIAL-PH 2
Job Number:	322-127-17
Designer:	PDL
Description	EXIST STM OUTFALL-18"

FLows ARE BASED ON THE FOLLOWING EQUATION:

$$Q = A \sqrt{\frac{H}{\frac{K_e + K_o}{2g} + \frac{2.87(n)^2 L}{\sqrt[3]{\phi^4}}}}$$

Q = FLOW (cfs)

A = AREA (sqr.ft.)

H = Head (ft.)

K_e & K_o = Entrance & Outlet Loss Coefficients

n = Manning's Roughness Coefficient

g = 32.2 ft/sec²

ϕ = diameter

ϕ

PIPE DATA:

Pipe Diameter (feet)	1.50	ft.
Pipe Area (sqr. ft)	1.767	sqr. ft.
Slope (ft./ft.)	0	
Length of Pipe (ft.)	10	ft.
Existing Invert Elevation	709.75	ft.
Backwater Elevation	711.25	ft. (Top of 18" pipe)
Manning's "n" value	0.013	
Entrance Loss Coefficient	0.50	
Outlet Loss Coefficient	1.00	

RATING TABLE:

Water Elevation (ft.)*	Head (ft.)	Q (cfs)
714.60	3.35	20.01
714.70	3.45	20.31
714.80	3.55	20.60
714.90	3.65	20.89
715.00	3.75	21.17
715.10	3.85	21.45
715.20	3.95	21.73
715.30	4.05	22.00
715.40	4.15	22.27
715.50	4.25	22.54
715.60	4.35	22.80

*Water elevation must be higher than backwater elevation.

ORIFICE WORKSHEET

Job Name:	ALGONQUIN RD INDUSTRIAL-PH 1
Job Number:	322-127-17
Designer:	PDL
Description	PROPOSED ORIFICE IN EXIST 10" RCP

FLOWS ARE BASED ON THE FOLLOWING EQUATION:

$$Q = AC\sqrt{2gH}$$

Q = FLOW (cfs)
 A = AREA (sqr.ft.)
 C = Orifice Coefficient
 g = 32.2 ft/sec²
 H = Head (ft.)

ORIFICE DATA:

Orifice diameter(inches)	3.125 inches
Orifice area(square feet)	0.053 sqr. ft.
Proposed invert elevation	711.12 ft.
Centerline of flow	711.25 ft
Orifice coefficient	0.6

RATING TABLE:

Water Elevation (ft.)*	Head (ft.)	Q (cfs)
715.00	3.75	0.50
715.10	3.85	0.50
715.20	3.95	0.51
715.30	4.05	0.52
715.40	4.15	0.52
715.50	4.25	0.53
715.60	4.35	0.53
715.70	4.45	0.54
715.80	4.55	0.55
715.90	4.65	0.55
716.00	4.75	0.56
716.10	4.85	0.56

*Water elevation must be higher than centerline of flow

ORIFICE WORKSHEET

Job Name:	ALGONQUIN RD INDUSTRIAL-PH 2
Job Number:	322-127-17
Designer:	PDL
Description	PROPOSED ORIFICE IN EXIST 18" RCP

FLows ARE BASED ON THE FOLLOWING EQUATION:

$$Q = AC\sqrt{2gH}$$

Q = FLOW (cfs)
A = AREA (sqr.ft.)
C = Orifice Coefficient
g = 32.2 ft/sec²
H = Head (ft.)

ORIFICE DATA:

Orifice diameter(inches)	5.000 inches
Orifice area(square feet)	0.136 sqr. ft.
Proposed invert elevation	709.75 ft.
Centerline of flow	709.96 ft
Orifice coefficient	0.6

RATING TABLE:

Water Elevation (ft.)*	Head (ft.)	Q (cfs)
715.00	5.04	1.47
715.10	5.14	1.49
715.20	5.24	1.50
715.30	5.34	1.52
715.40	5.44	1.53
715.50	5.54	1.55
715.60	5.64	1.56
715.70	5.74	1.57
715.80	5.84	1.59
715.90	5.94	1.60
716.00	6.04	1.61
716.10	6.14	1.63

*Water elevation must be higher than centerline of flow

RWG ENGINEERING, LLC.

975 E. 22nd Street

Wheaton, IL 60189

(630) 774-9501

Detention Calculator
Modified Rational Method

TELEPHONE (630) 774-9501			DESCRIPTION		Arlington Heights - BASIN CALCULATION SHEETS	
					Technical Bulletin 70 (7.58 in. - 100 Year Rainfall)	
					STORAGE VOLUME WITH ALLOWABLE RELEASE RATE-PHASE 1 TEMPORARY	
DURATION	TIME	100 YR. INT	INFLOW RATE	STORED RATE	VOLUME	
(HOURS)	(MIN)	(IN/HR)	(CFS)	(CFS)	(ACRE-FT)	
0.50	30	5.60	35.81	34.48	1.44	Area of site in acres: 7.44
0.67	40	4.92	31.46	30.13	1.67	Trapped water area in acres: 0.00
0.83	50	4.24	27.11	25.78	1.79	Net area for release computation in acres: 0.00
1.00	60	3.56	22.77	21.44	1.79	Allowable release rate in CFS: 1.33
1.50	90	2.90	18.55	17.22	2.15	Unrestricted release rate in CFS: 0.00
2.00	120	2.24	14.32	12.99	2.17	Bypass release rate in CFS: 0.00
3.00	180	1.62	10.36	9.03	2.26	Total allowable release in CFS: 1.33
4.00	240	1.40	8.93	7.60	2.53	Developed runoff coefficient: 0.86
5.00	300	1.17	7.50	6.17	2.57	
6.00	360	0.95	6.08	4.75	2.37	Maximum volume in Acre-Ft = 2.60
7.00	420	0.88	5.65	4.32	2.52	
8.00	480	0.82	5.22	3.89	2.60	
9.00	540	0.75	4.80	3.47	2.60	<===
10.00	600	0.68	4.37	3.04	2.53	
11.00	660	0.62	3.94	2.61	2.40	
12.00	720	0.55	3.52	2.19	2.19	
13.00	780	0.52	3.35	2.02	2.18	
14.00	840	0.50	3.18	1.85	2.15	
15.00	900	0.47	3.01	1.68	2.09	Phase 1:
16.00	960	0.44	2.84	1.51	2.01	Total Tributary Area after Phase 1 = 7.436 ac.
17.00	1020	0.42	2.66	1.33	1.89	Release rate = 1.33 cfs
18.00	1080	0.39	2.49	1.16	1.75	
19.00	1140	0.38	2.42	1.09	1.72	
20.00	1200	0.37	2.34	1.01	1.69	
21.00	1260	0.36	2.27	0.94	1.65	
22.00	1320	0.34	2.20	0.87	1.59	
23.00	1380	0.33	2.12	0.79	1.52	
24.00	1440	0.32	2.05	0.72	1.43	
		% of site	"C" Factor	Composite "C"		
Open Water Area		0.00	1.00	0.00		
Impervious Area		80.00	0.95	0.76		
Pervious Area		20.00	0.50	0.10		
Total :		100.00		0.86		

RWG ENGINEERING, LLC.

975 E. 22nd Street

Wheaton, IL 60189

(630) 774-9501

Detention Calculator
Modified Rational Method

TELEPHONE (630) 774-9501			DESCRIPTION			Arlington Heights - BASIN CALCULATION SHEETS	
						Technical Bulletin 70 (7.58 in. - 100 Year Rainfall)	
						STORAGE VOLUME WITH ALLOWABLE RELEASE RATE-PHASE 1 BUILD-OUT	
DURATION (HOURS)	TIME (MIN)	100 YR. INT (IN/HR)	INFLOW RATE (CFS)	STORED RATE (CFS)	VOLUME (ACRE-FT)		
						Area of site in acres:	6.93
						Trapped water area in acres:	0.00
0.50	30	5.60	34.62	33.38	1.39	Net area for release computation in acres:	0.00
0.67	40	4.92	30.41	29.17	1.62	Allowable release rate in CFS:	1.24
0.83	50	4.24	26.21	24.97	1.73	Unrestricted release rate in CFS:	0.00
1.00	60	3.56	22.01	20.77	1.73	Bypass release rate in CFS:	0.00
1.50	90	2.90	17.93	16.69	2.09	Total allowable release in CFS:	1.24
2.00	120	2.24	13.85	12.61	2.10	Developed runoff coefficient:	0.89
3.00	180	1.62	10.01	8.77	2.19		
4.00	240	1.40	8.63	7.39	2.46		
5.00	300	1.17	7.25	6.01	2.51	Maximum volume in Acre-Ft =	2.55
6.00	360	0.95	5.87	4.63	2.32		
7.00	420	0.88	5.46	4.22	2.46		
8.00	480	0.82	5.05	3.81	2.54		
9.00	540	0.75	4.64	3.40	2.55	<===	
10.00	600	0.68	4.22	2.98	2.49		
11.00	660	0.62	3.81	2.57	2.36		
12.00	720	0.55	3.40	2.16	2.16		
13.00	780	0.52	3.24	2.00	2.16		
14.00	840	0.50	3.07	1.83	2.14		
15.00	900	0.47	2.91	1.67	2.08	Phase 1:	
16.00	960	0.44	2.74	1.50	2.00	Total Tributary Area after development = 6.934 ac.	
17.00	1020	0.42	2.58	1.34	1.89	Release rate = 1.24 cfs	
18.00	1080	0.39	2.41	1.17	1.76		
19.00	1140	0.38	2.34	1.10	1.74		
20.00	1200	0.37	2.27	1.03	1.71		
21.00	1260	0.36	2.19	0.95	1.67		
22.00	1320	0.34	2.12	0.88	1.62		
23.00	1380	0.33	2.05	0.81	1.55		
24.00	1440	0.32	1.98	0.74	1.48		
		% of site	"C" Factor	Composite "C"			
Open Water Area		0.00	1.00	0.00			
Impervious Area		87.00	0.95	0.83			
Pervious Area		13.00	0.50	0.07			
Total :		100.00		0.89			

RWG ENGINEERING, LLC.

975 E. 22nd Street

Wheaton, IL 60189

(630) 774-9501

Detention Calculator
Modified Rational Method

TELEPHONE (630) 774-9501			DESCRIPTION		Arlington Heights - BASIN CALCULATION SHEETS	
Technical Bulletin 70 (7.58 in. - 100 Year Rainfall)						
STORAGE VOLUME WITH ALLOWABLE RELEASE RATE-PHASE 2						
DURATION	TIME	100 YR. INT	INFLOW RATE	STORED RATE	VOLUME	
(HOURS)	(MIN)	(IN/HR)	(CFS)	(CFS)	(ACRE-FT)	
0.50	30	5.60	42.93	41.39	1.72	Area of site in acres: 8.56
0.67	40	4.92	37.72	36.18	2.01	Trapped water area in acres: 0.00
0.83	50	4.24	32.50	30.96	2.15	Net area for release computation in acres: 0.00
1.00	60	3.56	27.29	25.75	2.15	Allowable release rate in CFS: 1.54
1.50	90	2.90	22.23	20.69	2.59	Unrestricted release rate in CFS: 0.00
2.00	120	2.24	17.17	15.63	2.61	Bypass release rate in CFS: 0.00
3.00	180	1.62	12.42	10.88	2.72	Total allowable release in CFS: 1.54
4.00	240	1.40	10.71	9.17	3.06	Developed runoff coefficient: 0.90
5.00	300	1.17	8.99	7.45	3.11	
6.00	360	0.95	7.28	5.74	2.87	Maximum volume in Acre-Ft = 3.16
7.00	420	0.88	6.77	5.23	3.05	
8.00	480	0.82	6.26	4.72	3.15	
9.00	540	0.75	5.75	4.21	3.16	<===
10.00	600	0.68	5.24	3.70	3.08	
11.00	660	0.62	4.73	3.19	2.92	
12.00	720	0.55	4.22	2.68	2.68	
13.00	780	0.52	4.01	2.47	2.68	
14.00	840	0.50	3.81	2.27	2.65	
15.00	900	0.47	3.60	2.06	2.58	Phase 2:
16.00	960	0.44	3.40	1.86	2.48	Total Tributary Area after development = 8.556 ac.
17.00	1020	0.42	3.19	1.65	2.34	Release rate = 1.54 cfs
18.00	1080	0.39	2.99	1.45	2.17	
19.00	1140	0.38	2.90	1.36	2.15	
20.00	1200	0.37	2.81	1.27	2.12	
21.00	1260	0.36	2.72	1.18	2.07	
22.00	1320	0.34	2.63	1.09	2.00	
23.00	1380	0.33	2.54	1.00	1.92	
24.00	1440	0.32	2.45	0.91	1.83	
		% of site	"C" Factor	Composite "C"		
Open Water Area		0.00	1.00	0.00		
Impervious Area		88.00	0.95	0.84		
Pervious Area		12.00	0.50	0.06		
Total :		100.00		0.90		

RWG ENGINEERING, LLC.

975 E. 22nd Street

Wheaton, IL 60189

(630) 774-9501

Detention Calculator
Modified Rational Method

TELEPHONE (630) 774-9501			DESCRIPTION		Arlington Heights - BASIN CALCULATION SHEETS		
					Technical Bulletin 70 (7.58 in. - 100 Year Rainfall)		
					STORAGE VOLUME WITH DESIGN RELEASE RATE-PHASE 1 TEMPORARY		
DURATION	TIME	100 YR. INT	INFLOW RATE	STORED RATE	VOLUME		
(HOURS)	(MIN)	(IN/HR)	(CFS)	(CFS)	(ACRE-FT)		
0.50	30	5.60	35.81	34.60	1.44	Area of site in acres:	7.44
0.67	40	4.92	31.46	30.25	1.68	Trapped water area in acres:	0.00
0.83	50	4.24	27.11	25.90	1.80	Net area for release computation in acres:	0.00
1.00	60	3.56	22.77	21.56	1.80	Design release rate in CFS:	1.21
1.50	90	2.90	18.55	17.34	2.17	Unrestricted release rate in CFS:	0.00
2.00	120	2.24	14.32	13.11	2.19	Bypass release rate in CFS:	0.00
3.00	180	1.62	10.36	9.15	2.29	Total allowable release in CFS:	1.21
4.00	240	1.40	8.93	7.72	2.57	Developed runoff coefficient:	0.86
5.00	300	1.17	7.50	6.29	2.62		
6.00	360	0.95	6.08	4.87	2.43	Maximum volume in Acre-Ft =	2.69
7.00	420	0.88	5.65	4.44	2.59		
8.00	480	0.82	5.22	4.01	2.68		
9.00	540	0.75	4.80	3.59	2.69	<===	
10.00	600	0.68	4.37	3.16	2.63		
11.00	660	0.62	3.94	2.73	2.51		
12.00	720	0.55	3.52	2.31	2.31		
13.00	780	0.52	3.35	2.14	2.31		
14.00	840	0.50	3.18	1.97	2.29		
15.00	900	0.47	3.01	1.80	2.24	Phase 1:	
16.00	960	0.44	2.84	1.63	2.17	Total Tributary Area after Phase 1 = 7.436 ac.	
17.00	1020	0.42	2.66	1.45	2.06	Release rate = 1.21 cfs	
18.00	1080	0.39	2.49	1.28	1.93		
19.00	1140	0.38	2.42	1.21	1.91		
20.00	1200	0.37	2.34	1.13	1.89		
21.00	1260	0.36	2.27	1.06	1.86		
22.00	1320	0.34	2.20	0.99	1.81		
23.00	1380	0.33	2.12	0.91	1.75		
24.00	1440	0.32	2.05	0.84	1.67		
		% of site	"C" Factor	Composite "C"			
Open Water Area		0.00	1.00	0.00			
Impervious Area		80.00	0.95	0.76			
Pervious Area		20.00	0.50	0.10			
Total :		100.00		0.86			

RWG ENGINEERING, LLC.

975 E. 22nd Street

Wheaton, IL 60189

(630) 774-9501

Detention Calculator
Modified Rational Method

TELEPHONE (630) 774-9501			DESCRIPTION			Arlington Heights - BASIN CALCULATION SHEETS	
						Technical Bulletin 70 (7.58 in. - 100 Year Rainfall)	
						STORAGE VOLUME WITH DESIGN RELEASE RATE-PHASE 1 BUILD-OUT	
DURATION	TIME	100 YR. INT	INFLOW RATE	STORED RATE	VOLUME		
(HOURS)	(MIN)	(IN/HR)	(CFS)	(CFS)	(ACRE-FT)		
0.50	30	5.60	34.62	33.41	1.39	Area of site in acres:	6.93
0.67	40	4.92	30.41	29.20	1.62	Trapped water area in acres:	0.00
0.83	50	4.24	26.21	25.00	1.74	Net area for release computation in acres:	0.00
1.00	60	3.56	22.01	20.80	1.73	Design release rate in CFS:	1.21
1.50	90	2.90	17.93	16.72	2.09	Unrestricted release rate in CFS:	0.00
2.00	120	2.24	13.85	12.64	2.11	Bypass release rate in CFS:	0.00
3.00	180	1.62	10.01	8.80	2.20	Total allowable release in CFS:	1.21
4.00	240	1.40	8.63	7.42	2.47	Developed runoff coefficient:	0.89
5.00	300	1.17	7.25	6.04	2.52		
6.00	360	0.95	5.87	4.66	2.33	Maximum volume in Acre-Ft =	2.57
7.00	420	0.88	5.46	4.25	2.48		
8.00	480	0.82	5.05	3.84	2.56		
9.00	540	0.75	4.64	3.43	2.57	<===	
10.00	600	0.68	4.22	3.01	2.51		
11.00	660	0.62	3.81	2.60	2.39		
12.00	720	0.55	3.40	2.19	2.19		
13.00	780	0.52	3.24	2.03	2.19		
14.00	840	0.50	3.07	1.86	2.17		
15.00	900	0.47	2.91	1.70	2.12	Phase 1:	
16.00	960	0.44	2.74	1.53	2.04	Total Tributary Area after development = 6.934 ac.	
17.00	1020	0.42	2.58	1.37	1.93	Release rate = 1.21 cfs	
18.00	1080	0.39	2.41	1.20	1.80		
19.00	1140	0.38	2.34	1.13	1.79		
20.00	1200	0.37	2.27	1.06	1.76		
21.00	1260	0.36	2.19	0.98	1.72		
22.00	1320	0.34	2.12	0.91	1.67		
23.00	1380	0.33	2.05	0.84	1.61		
24.00	1440	0.32	1.98	0.77	1.54		
		% of site	"C" Factor	Composite "C"			
Open Water Area		0.00	1.00	0.00			
Impervious Area		87.00	0.95	0.83			
Pervious Area		13.00	0.50	0.07			
Total :		100.00		0.89			

RWG ENGINEERING, LLC.
975 E. 22nd Street
Wheaton, IL 60189
(630) 774-9501

Detention Calculator
Modified Rational Method

TELEPHONE (630) 774-9501			DESCRIPTION		Arlington Heights - BASIN CALCULATION SHEETS	
					Technical Bulletin 70 (7.58 in. - 100 Year Rainfall)	
					STORAGE VOLUME WITH DESIGN RELEASE RATE-PHASE 2	
DURATION	TIME	100 YR. INT	INFLOW RATE	STORED RATE	VOLUME	
(HOURS)	(MIN)	(IN/HR)	(CFS)	(CFS)	(ACRE-FT)	
0.50	30	5.60	42.93	41.40	1.73	Area of site in acres: 8.56
0.67	40	4.92	37.72	36.19	2.01	Trapped water area in acres: 0.00
0.83	50	4.24	32.50	30.97	2.15	Net area for release computation in acres: 0.00
1.00	60	3.56	27.29	25.76	2.15	Design release rate in CFS: 1.53
1.50	90	2.90	22.23	20.70	2.59	Unrestricted release rate in CFS: 0.00
2.00	120	2.24	17.17	15.64	2.61	Bypass release rate in CFS: 0.00
3.00	180	1.62	12.42	10.89	2.72	Total allowable release in CFS: 1.53
4.00	240	1.40	10.71	9.18	3.06	Developed runoff coefficient: 0.90
5.00	300	1.17	8.99	7.46	3.11	
6.00	360	0.95	7.28	5.75	2.88	Maximum volume in Acre-Ft = 3.16
7.00	420	0.88	6.77	5.24	3.06	
8.00	480	0.82	6.26	4.73	3.15	
9.00	540	0.75	5.75	4.22	3.16	<===
10.00	600	0.68	5.24	3.71	3.09	
11.00	660	0.62	4.73	3.20	2.93	
12.00	720	0.55	4.22	2.69	2.69	
13.00	780	0.52	4.01	2.48	2.69	
14.00	840	0.50	3.81	2.28	2.66	
15.00	900	0.47	3.60	2.07	2.59	Phase 2:
16.00	960	0.44	3.40	1.87	2.49	Total Tributary Area after development = 8.556 ac.
17.00	1020	0.42	3.19	1.66	2.36	Release rate = 1.53 cfs
18.00	1080	0.39	2.99	1.46	2.19	
19.00	1140	0.38	2.90	1.37	2.17	
20.00	1200	0.37	2.81	1.28	2.13	
21.00	1260	0.36	2.72	1.19	2.09	
22.00	1320	0.34	2.63	1.10	2.02	
23.00	1380	0.33	2.54	1.01	1.94	
24.00	1440	0.32	2.45	0.92	1.85	
		% of site	"C" Factor	Composite "C"		
Open Water Area		0.00	1.00	0.00		
Impervious Area		88.00	0.95	0.84		
Pervious Area		12.00	0.50	0.06		
Total :		100.00		0.90		

Runoff Curve Number

Project: Phase 1 - Final
 Location: Arlington Heights, Cook County, IL
 File: CN 101217.xlsx

By: mrm Date: 10/12/2017
 Checked: mrm Date: 10/12/2017

Circle One: Present Developed Description: 7.436-Acre Site - Phase 1 - temp cond

Soil Name and Hydrologic Group (Appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	Curve Number	Area	Product of Curve Number and Area
			☒ acres ☐ sq. mi. ☐ %	
C	Pervious Area - Open Space, Good Condition	74	1.534	113.516
C	Permeable Pavement	91	0.000	0
C	Impervious Area - Building	98	5.848	573.104
C	Impervious Area - Open Water	100	0.054	5.4
Totals =			7.436	692.02

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{692.02}{7.436} = \underline{93.063}$$

Use CN =

93

RUNOFF CURVE NUMBER ADJUSTMENT CALCULATOR

Site Information:

Total Site Area, A_w (ac) = 7.436

Total Impervious Area, A_i (ac) = 5.902

Runoff, R (in) = 6.75

P = rainfall depth (in) = 7.58

CN = 93

S = 0.75

Runoff Volume Over Watershed, V_w (ac-ft) = 4.18

Volume of GI Provided:

Volume Control Storage, V_r = 0.49 ac-ft

1" of volume over impervious area

Additional Volume, V_{GI} = 0.00 ac-ft

Additional volume over the required 1"

Adjusted Volume Over Watershed, $V_{ADJ} = V_w - V_r - V_{GI}$

V_{ADJ} (ac-ft) = 3.69

Adjusted Runoff Over Watershed, $R_{ADJ} = V_{ADJ} \frac{A_w}{A_i}$

R_{ADJ} (in) = 5.95

S_{ADJ} = 1.60

Adjusted CN for detention calcs, CN_{ADJ} =

86.22

*Blue values are entered by user

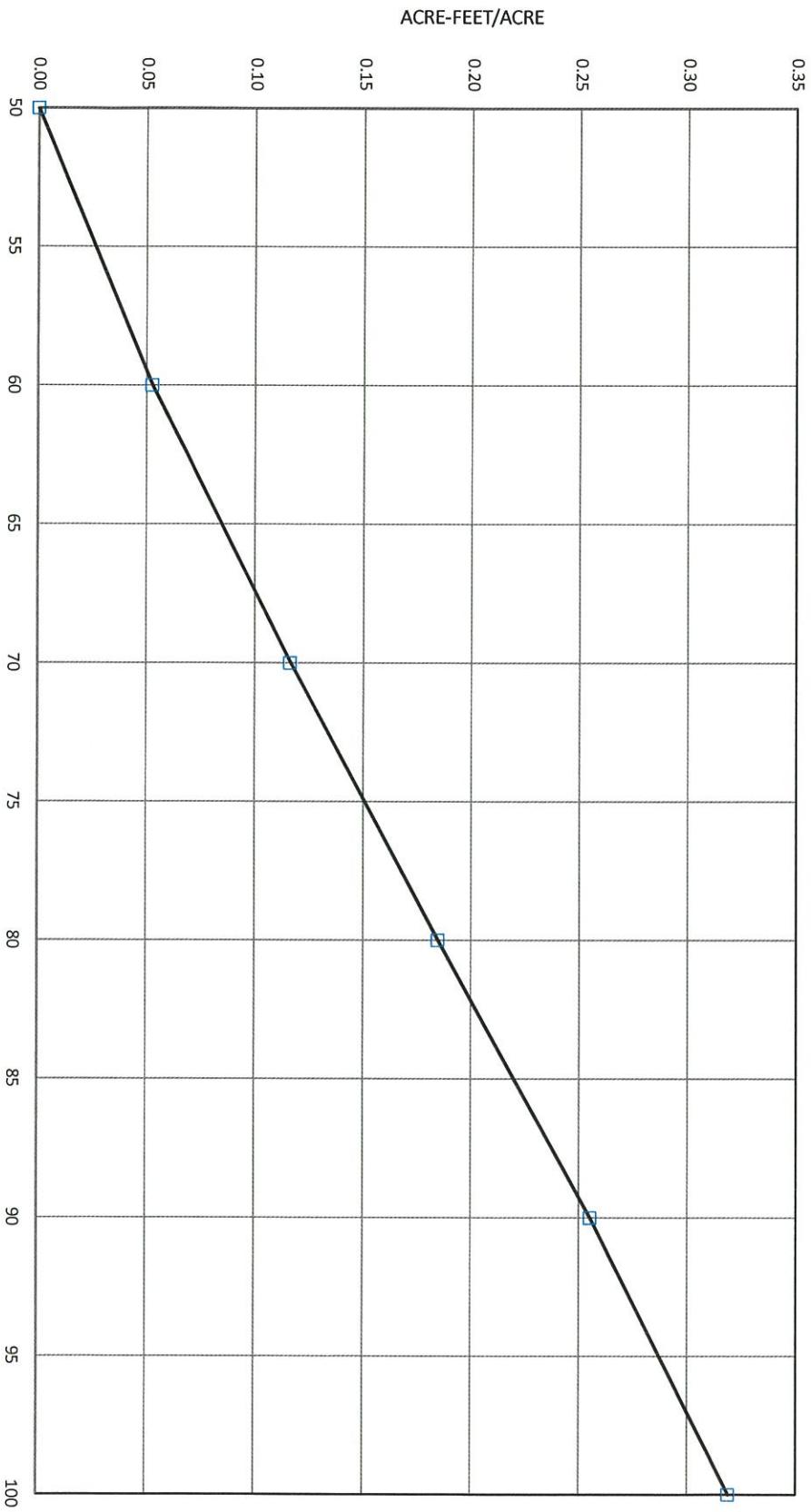
Enter Site Area: acres

*Blue Values are entered by user

Enter Reduced Curve Number for Site:

Estimated Required Detention Volume: acre-feet

DETENTION VOLUME VS REDUCED CURVE NUMBER*



*ADJUSTED FOR VOLUME CONTROL STORAGE PROVIDED, BASED ON RELEASE RATE OF 0.30 CFS/ACRE

Runoff Curve Number

Project:	Phase 1 - Final
Location:	Arlington Heights, Cook County, IL
File:	CN 101217.xlsx

By: mrm Date: 10/12/2017
Checked: mrm Date: 10/12/2017

Circle One: Present Developed

Description: 6.934-Acre Site - Phase 1 - build out

Soil Name and Hydrologic Group (Appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	Curve Number	Area	Product of Curve Number and Area
			☒ acres	
			☐ sq. mi.	
			☐ %	
C	Pervious Area - Open Space, Good Condition	74	0.918	67.932
C	Permeable Pavement	91	0.000	0
C	Impervious Area - Building	98	5.962	584.276
C	Impervious Area - Open Water	100	0.054	5.4
Totals =			6.934	657.608

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{657.608}{6.934} = \underline{94.838}$$

Use CN =

95

RUNOFF CURVE NUMBER ADJUSTMENT CALCULATOR

Site Information:

Total Site Area, A_w (ac) = 6.934

Total Impervious Area, A_i (ac) = 6.016

Runoff, R (in) = 6.98

P = rainfall depth (in) = 7.58

CN = 95

S = 0.53

Runoff Volume Over Watershed, V_w (ac-ft) = 4.04

Volume of GI Provided:

Volume Control Storage, V_r = 0.50 ac-ft

1" of volume over impervious area

Additional Volume, V_{GI} = 0.00 ac-ft

Additional volume over the required 1"

Adjusted Volume Over Watershed, $V_{ADJ} = V_w + V_r + V_{GI}$

V_{ADJ} (ac-ft) = 3.53

Adjusted Runoff Over Watershed, $R_{ADJ} = V_{ADJ} \frac{A_w}{A_w}$

R_{ADJ} (in) = 6.12

S_{ADJ} = 1.41

Adjusted CN for detention calcs, CN_{ADJ} =

87.68

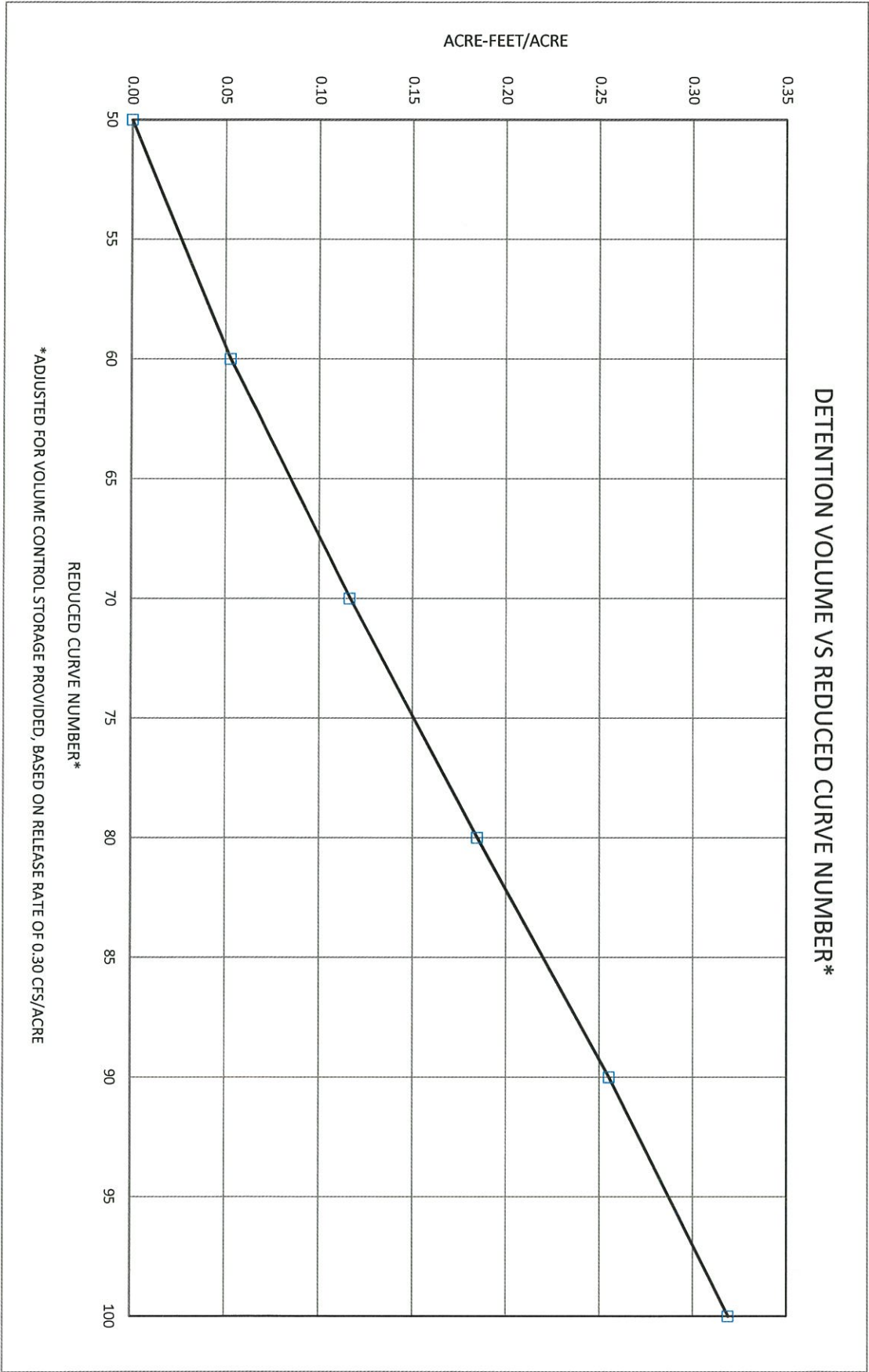
*Blue values are entered by user

Enter Site Area: acres

*Blue Values are entered by user

Enter Reduced Curve Number for Site:

Estimated Required Detention Volume: acre-feet



Runoff Curve Number

Project: Phase 2 - Final
 Location: Arlington Heights, Cook County, IL
 File: CN 101217.xlsx

By: mrm Date: 10/12/2017
 Checked: mrm Date: 10/12/2017

Circle One: Present Developed Description: 8.556-Acre Site - Phase 2 - build out

Soil Name and Hydrologic Group (Appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	Curve Number	Area	Product of Curve Number and Area
			☒ acres ☐ sq. mi. ☐ %	
C	Pervious Area - Open Space, Good Condition	74	1.042	77.108
C	Permeable Pavement	91	0.000	0
C	Impervious Area - Building	98	7.514	736.372
C	Impervious Area - Open Water	100	0.000	0
Totals =			8.556	813.48

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{813.48}{8.556} = \underline{95.077}$$

Use CN =

95

RUNOFF CURVE NUMBER ADJUSTMENT CALCULATOR

Site Information:

Total Site Area, A_w (ac) = 8.556

Total Impervious Area, A_i (ac) = 7.514

Runoff, R (in) = 6.98

P = rainfall depth (in) = 7.58

CN = 95

S = 0.53

Runoff Volume Over Watershed, V_w (ac-ft) = 4.98

Volume of GI Provided:

Volume Control Storage, V_r = 0.63 ac-ft

1" of volume over impervious area

Additional Volume, V_{GI} = 0.00 ac-ft

Additional volume over the required 1"

Adjusted Volume Over Watershed, $V_{ADJ} = V_w - V_r - V_{GI}$

V_{ADJ} (ac-ft) = 4.35

Adjusted Runoff Over Watershed, $R_{ADJ} = \frac{V_{ADJ}}{A_w}$

R_{ADJ} (in) = 6.10

S_{ADJ} = 1.43

Adjusted CN for detention calcs, $CN_{ADJ} =$

87.51

* Blue values are entered by user

Enter Site Area: acres

*Blue Values are entered by user

Enter Reduced Curve Number for Site:

Estimated Required Detention Volume: acre-feet

DETENTION VOLUME VS REDUCED CURVE NUMBER *



*ADJUSTED FOR VOLUME CONTROL STORAGE PROVIDED, BASED ON RELEASE RATE OF 0.30 CFS/ACRE

TABLE 2
ARLINGTON HEIGHTS INDUSTRIAL
SUMMARY OF STORMWATER STORAGE PROVIDED

PHASE 1 - NORTH

<u>Basin</u>	<u>Description</u>	Det Storage (Ac-Ft)	Volume Control Storage (Ac-Ft)
N-1	Existing Pond	0.370	0
N-2	Modified Pond	1.115	0.095
N-3	Underground	0.500	0.400
N-4?	Truck Dock Area	0.579	0
	Pipe Storage	<u>0.117</u>	<u>0</u>
	Total Volume:	2.681	0.495

PHASE 2 - SOUTH

<u>Basin</u>	<u>Description</u>	Det Storage (Ac-Ft)	Volume Control Storage (Ac-Ft)
S-1	New Pond	0.704	0.049
S-2	Underground-W	0.938	0.429
S-3	Underground-SE	0.286	0.051
S-4	Underground-E	0.226	0.041
	Truck Dock Area	0.953	0
	Pipe Storage	<u>0.101</u>	<u>0</u>
	Total Volume:	3.208	0.569

Cut/Fill Report-- STORAGE VOLUMES PROVIDED

Generated: 2017-10-18 09:59:53

By user: RWGENGSTA07

Drawing: S:\32212717 - HP Arlington Heights Industrial\300_Engineering\310_CADD\Exhibits\S\32212717 - HP Arlington Heights Industrial\300_Engineering\310_CADD\Exhibits\322_BASE_Basin.dwg

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
EX Basin N-1 (Det) NWL 710.65	full	0.000	1.000	4405.29	0.00*	597.51	597.51*
Basin N-2 (Det) NWL 710.2	full	0.000	1.000	12790.21	0.00*	1798.88	1798.88*
Basin N-2 (Vol Control)	full	0.000	1.000	5316.58	0.00*	152.88	152.88*
North Truck Dock	full	0.000	1.000	52639.96	0.00*	934.61	934.61*
Basin S-1 (Det) NWL 709.8	full	0.000	1.000	9218.35	0.00*	1134.98	1134.98*
Basin S-1 (Vol Control)	full	0.000	1.000	3112.46	0.00*	78.87	78.87*
South Truck Dock	full	0.000	1.000	85783.42	0.00*	1537.32	1537.32*
Totals							
				2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Total				173266.27	0.00*	6235.04	6235.04*

* Value adjusted by cut or fill factor other than 1.0

ARLINGTON HEIGHTS INDUSTRIAL
DETENTION STORAGE IN STORM SEWER SYSTEM
BELOW 715.4 HWL

PHASE 1 - NORTH

Pipe Storage:

Pipe Size (Inches)	Length (Feet)	Area (Sq Ft)	Volume (Cu Ft)
10	284	0.545	154.819
12	353	0.785	277.105
15	334	1.227	409.672
18	535	1.766	944.944
21	191	2.404	459.176
24	348	3.140	1092.720
30	0	4.906	0.000
36	251	7.065	<u>1773.315</u>

Total Pipe Storage: 5111.751 0.117 Ac-Ft

PHASE 2 - SOUTH

Pipe Storage:

Pipe Size (Inches)	Length (Feet)	Area (Sq Ft)	Volume (Cu Ft)
10	302	0.545	164.632
12	301.5	0.785	236.678
15	325	1.227	398.633
18	341	1.766	602.291
21	0	2.404	0.000
24	182	3.140	571.480
30	405	4.906	1987.031
36	60	7.065	<u>423.900</u>

Total Pipe Storage: 4384.645 0.101 Ac-Ft

WEIR FLOW CALCULATIONS ARLINGTON HEIGHTS INDUSTRIAL

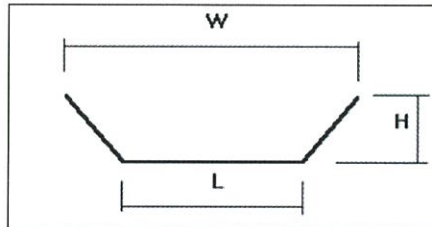
Designer:	PDL
Description:	100 YEAR-PHASE 1

BASED ON THE FOLLOWING EQUATION:

$$Q = \left[K \times \frac{2}{3} \times L \times (2g)^{0.5} \times H^{1.5} \right] + \frac{1}{2} \left[K \times \frac{8}{15} \times (2g)^{0.5} \times S_1 \times H^{2.5} \right] + \frac{1}{2} \left[K \times \frac{8}{15} \times (2g)^{0.5} \times S_2 \times H^{2.5} \right]$$

WHERE:

Q = DISCHARGE IN CFS
K = WEIR COEFFICIENT
L = LENGTH IN FEET
g = 32.2 FT/SEC
H = HEAD IN FEET
S1 = LEFT SIDE SLOPE
S2 = RIGHT SIDE SLOPE



WEIR DATA: OVERFLOW CHANNEL AA-AA

1. LENGTH, L	26.0	FEET
2. WEIR COEFFICIENT, K (K<1.0)	0.57	
3. LEFT SIDE SLOPE, S (H:V)	1	: 1
4. RIGHT SIDE SLOPE, S (H:V)	1	: 1

5. RATING TABLE	HEAD (FEET)	DISCHARGE (CFS)
	0.20	7.14
	0.25	9.99
	0.30	13.15
	0.35	16.59
	0.40	20.31
	0.45	24.27
	0.50	28.46
	0.55	32.89
	0.60	37.53
	0.65	42.38

WEIR FLOW CALCULATIONS ARLINGTON HEIGHTS INDUSTRIAL

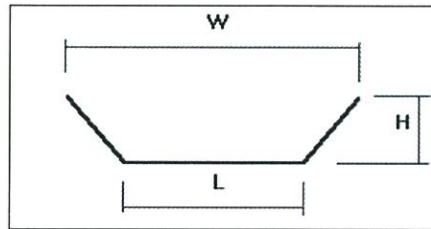
Designer:	PDL
Description:	100 YEAR-PHASE 2

BASED ON THE FOLLOWING EQUATION:

$$Q = \left[K \times \frac{2}{3} \times L \times (2g)^{0.5} \times H^{1.5} \right] + \frac{1}{2} \left[K \times \frac{8}{15} \times (2g)^{0.5} \times S_1 \times H^{2.5} \right] + \frac{1}{2} \left[K \times \frac{8}{15} \times (2g)^{0.5} \times S_2 \times H^{2.5} \right]$$

WHERE:

Q = DISCHARGE IN CFS
K = WEIR COEFFICIENT
L = LENGTH IN FEET
g = 32.2 FT/SEC
H = HEAD IN FEET
S1 = LEFT SIDE SLOPE
S2 = RIGHT SIDE SLOPE



WEIR DATA: OVERFLOW CHANNEL AA-AA

- | | | |
|--------------------------------|------|------|
| 1. LENGTH, L | 20.0 | FEET |
| 2. WEIR COEFFICIENT, K (K<1.0) | 0.50 | |
| 3. LEFT SIDE SLOPE, S (H:V) | 1 | : 4 |
| 4. RIGHT SIDE SLOPE, S (H:V) | 1 | : 4 |

5. RATING TABLE

HEAD (FEET)	DISCHARGE (CFS)
----------------	--------------------

0.30	8.90
0.35	11.23
0.40	13.75
0.45	16.44
0.50	19.29
0.55	22.30
0.60	25.46
0.65	28.77
0.70	32.21
0.75	35.79
0.80	39.51
0.85	43.35
0.90	47.32
0.95	51.42
1.00	55.64

STORM SEWER WORKSHEET

Designer: PDLDate: 09-22-17
Update:10-12-17

Description: PROPOSED ALGONQUIN ROAD
INDUSTRIAL PARCEL-PH 1 (NORTH)
ARLINGTON HEIGHTS, IL

FREQUENCY: 10 YR.* ROUGH. COEFF. 0.013 RUNOFF COEFF: Varies (See Below)

* TYPICAL 10 YR FREQUENCY, EXCEPT RUN FROM EX STR 28 TO UNDERGROUND
BASIN WHICH IS A 100 YEAR FREQUENCY-SEE BELOW

MH-MH	ADDED		TOTAL		C X A	TIME		I IN/HR	Q CFS	PIPE DIA IN	PIPE SLOPE %	VEL FPS	L FT	CAP CFS	COMMENTS
	"C"	AREA AC	"C"	AREA AC		FLOW MIN	T/C MIN								
East Run															
60-61	0.87	0.208	0.87	0.208	0.18	0.1	10.0	5.88	1.06	10.00	0.80	3.59	25	1.96	N13-Build-Out (Ph 2)
58-60	0.95	0.717	0.93	0.925	0.86	0.5	10.1	5.88	5.07	15.00	0.70	4.40	131	5.40	Add B8
56-58	0.85	0.201	0.92	1.126	1.03	0.5	10.6	5.88	6.07	18.00	0.40	3.76	122	6.64	N12/Str 59
54-56	0.84	0.153	0.91	1.279	1.16										N11/Str57
	0.95	0.719	0.92	1.998	1.84	0.4	11.2	5.68	10.48	21.00	0.50	4.66	123	11.20	Add B7
Ex28-54	0.83	0.098	0.92	2.096	1.93	0.2	11.6	5.68	10.94	21.00	0.50	4.66	68	11.20	N10/Str 55
Tributary Lateral Runs From South Curb Line															
58-59	0.85	0.201	0.85	0.201	0.171	0.1	10.0	5.88	1.00	10.00	0.80	3.59	13	1.96	N12
56-57	0.84	0.153	0.84	0.153	0.129	0.1	10.0	5.88	0.76	10.00	0.80	3.59	13	1.96	N11
54-55	0.83	0.098	0.83	0.098	0.081	0.1	10.0	5.88	0.48	10.00	0.80	3.59	13	1.96	N10
62-63	0.78	0.093	0.78	0.093	0.073	0.1	10.0	5.88	0.43	10.00	1.25	4.49	16	2.45	N9
North Parking Area-Restrictor MH to Basin N-2 -10 Year Frequency															
Ex 28-62	0.92	2.096	0.92	2.096	1.93	0.1	11.6	5.68	10.94	36.00	0.03	1.63	10	11.55	From Str 54
62-64	0.77	0.093	0.91	2.189	2.00										N9
	0.95	0.261	0.92	2.450	2.25	0.6	11.7	5.68	12.75	36.00	0.04	1.89	70	13.34	Add B11
64-65	0.82	0.283	0.91	2.733	2.48	0.8	12.3	5.47	13.55	36.00	0.05	2.11	106	14.91	N8
65-68	0.84	0.186	0.90	2.919	2.63	0.5	13.2	5.26	13.85	24.00	0.38	4.44	128	13.95	N6
68-71	0.82	0.054	0.90	2.973	2.68										N4
	0.76	0.096	0.90	3.069	2.75	0.3	13.6	5.26	14.47	24.00	0.41	4.61	82	14.49	Add N1
71-70	0.93	0.088	0.90	3.157	2.83	0.2	13.9	5.26	14.90	24.00	0.44	4.78	51	15.01	N2
70-74	0.89	0.086	0.90	3.243	2.91	0.2	14.1	5.05	14.69	24.00	0.44	4.78	54	15.01	N3
74-73	0.95	0.073	0.90	3.316	2.98	0.1	14.3	5.05	15.04	24.00	0.45	4.83	33	15.18	Add B9
North Parking Area-Restrictor MH to Basin N-3 -100 Year Frequency															
Ex 28-62	0.92	2.096	0.92	2.096	1.93	0.1	11.6	9.66	18.60	36.00	0.08	2.67	10	18.86	From Str 54
62-64	0.77	0.093	0.91	2.189	2.00										N9
	0.95	0.261	0.92	2.450	2.25	0.4	11.7	9.66	21.69	36.00	0.11	3.13	70	22.12	Add B11
64-65	0.82	0.283	0.91	2.733	2.48	0.5	12.0	9.29	23.02	36.00	0.12	3.27	106	23.10	N8
65-66	0.84	0.186	0.90	2.919	2.63	0.3	12.6	9.29	24.47	36.00	0.13	3.40	65	24.05	N6
66-Basins	0.88	0.215	0.90	3.134	2.82		12.9	9.29	26.23	18.00	6.25	14.86	5	26.26	N7

Req'd H	Total H	Elev
0.003	1.517	713.72 OK, Rim @ 715.55
	1.514	713.71
0.028	1.514	713.71 OK, Rim @ 715.20
0.053	1.486	713.69
0.486	1.433	713.63 (Flow to Basin N-3 Begins at 713.41-
	0.947	713.15 Would Reduce Flow To Basin N-2
0.336	0.947	713.15 Not Considered)
0.224	0.611	712.81
0.238	0.386	712.59
0.149	0.149	712.35 712.20 (Pipe Crown @ FES)

Req'd H	Total H	Elev
0.008	0.609	715.48 OK, Rim @ 715.55
	0.601	715.47
0.077	0.601	715.47 Rim @ 715.20 (Overflow @ 715.4)
0.127	0.524	715.39
0.085	0.397	715.27
0.313	0.313	715.18 714.87 Crown Basin N-3

FREQUENCY: 10 YR.* ROUGH. COEFF. 0.013 RUNOFF COEFF: Varies (See Below)

* TYPICAL 10 YR FREQUENCY, EXCEPT RUN FROM EX STR 28 TO UNDERGROUND
BASIN WHICH IS A 100 YEAR FREQUENCY-SEE BELOW

MH-MH	ADDED		TOTAL		C X A	TIME		I IN/HR	Q CFS	PIPE DIA IN	PIPE SLOPE %	VEL FPS	L FT	CAP CFS	COMMENTS
	"C"	AREA AC	"C"	AREA AC		FLOW MIN	T/C MIN								
North Parking-Tributary lateral Runs From Curb Line															
68-69	0.76	0.096	0.76	0.096	0.07	0.1	10.0	5.88	0.43	10.00	2.60	6.48	53	3.53	N1
Str 67	0.93	0.119	0.93	0.119	0.11		10.0	5.88	0.65						N5-Direct to Basin
West Dock - Parallel Run (Design Gradients)															
85-85A	0.50	0.230	0.50	0.230	0.12	0.1	10.0	5.88	0.68	8.00	0.50	2.45	22	0.85	N22-Temp-Ph 1 only
84-85	0.95	0.131	0.66	0.361	0.24	0.7	10.0	5.88	1.41	12.00	0.20	2.03	82	1.59	Add B6-Temp
84-85	0.95	0.262	0.95	0.262	0.25	0.7	10.0	5.88	1.46	12.00	0.20	2.03	82	1.59	B6 Build Out-Use
83-84	0.89	0.363	0.92	0.625	0.57	0.4	10.7	5.88	3.36	15.00	0.15	2.04	52	2.50	N21
82-83	0.95	0.120	0.92	0.745	0.69	0.3	11.1	5.68	3.90	15.00	0.15	2.04	40	2.50	N20
86-82	0.95	0.130	0.93	0.875	0.81										N19
	0.95	0.524	0.93	1.399	1.31	0.5	11.4	5.68	7.43	15.00	0.17	2.17	59	2.66	Add B7
76-86									7.43	18.00	0.15	2.30	232	4.07	
80-81	0.95	0.121	0.95	0.121	0.11	0.3	10.0	5.88	0.68	12.00	0.22	2.13	40	1.67	N18
79-80	0.95	0.130	0.95	0.251	0.24	0.4	10.3	5.88	1.40	12.00	0.22	2.13	50	1.67	N17
78-79	0.95	0.122	0.95	0.373	0.35	0.3	10.7	5.88	2.08	15.00	0.15	2.04	40	2.50	N16
77-78	0.95	0.168	0.95	0.541	0.51										N15
	0.95	0.485	0.95	1.026	0.97	0.4	11.0	5.68	5.54	18.00	0.15	2.30	52	4.07	Add B8
76-77	0.92	0.210	0.94	1.236	1.17	0.4	11.4	5.68	6.63	18.00	0.15	2.30	59	4.07	N14
75-76	0.87	1.498	0.90	2.734	2.47	0.5	11.8	5.68	14.04	18.00	0.15	2.30	65	4.07	Add Run 76-86
West Dock - Parallel Run (Required Gradients)															
84-85	0.95	0.262	0.95	0.262	0.25	0.7	10.0	5.88	1.46	12.00	0.17	1.87	82	1.47	B6 Bild Out- Use
83-84	0.89	0.363	0.92	0.625	0.57	0.3	10.7	5.88	3.36	15.00	0.27	2.74	52	3.36	N21
82-83	0.95	0.120	0.92	0.745	0.69	0.2	11.0	5.68	3.90	15.00	0.37	3.20	40	3.93	N20
86-82	0.95	0.130	0.93	0.875	0.81										N19
	0.95	0.524	0.93	1.399	1.31	0.2	11.3	5.68	7.43	15.00	1.33	6.07	59	7.45	Add B2
76-86									7.43	18.00	0.50	4.20	232	7.43	
80-81	0.95	0.121	0.95	0.121	0.11	0.7	10.0	5.88	0.68	12.00	0.04	0.91	40	0.71	N18
79-80	0.95	0.130	0.95	0.251	0.24	0.5	10.7	5.88	1.40	12.00	0.16	1.81	50	1.43	N17
78-79	0.95	0.122	0.95	0.373	0.35	0.4	11.2	5.68	2.01	15.00	0.10	1.66	40	2.04	N16
77-78	0.95	0.168	0.95	0.541	0.51										N15
	0.95	0.485	0.95	1.026	0.97	0.3	11.6	5.68	5.54	18.00	0.28	3.15	52	5.56	Add B3

Above worst case. Allowabe/design release rate from site, as well as
flow to Basin N-2 via 24" RCP not deducted from above flow review to
Basin N-3

Req'd H	Total H	Elev	
0.140	2.202	713.90	OK, Rim @ 714.05
0.148	2.062	713.76	
0.000	1.914	713.61	
0.785	1.914	713.61	
	1.129	712.83	(Str 76 below)
0.016	1.646	713.35	
0.080	1.630	713.33	
0.040	1.550	713.25	
0.000	1.510	713.21	
0.146	1.510	713.21	

FREQUENCY: 10 YR.* ROUGH. COEFF. 0.013 RUNOFF COEFF: Varies (See Below)

* TYPICAL 10 YR FREQUENCY, EXCEPT RUN FROM EX STR 28 TO UNDERGROUND
BASIN WHICH IS A 100 YEAR FREQUENCY-SEE BELOW

MH-MH	ADDED		TOTAL		C X A	TIME		I IN/HR	Q CFS	PIPE DIA IN	PIPE SLOPE %	VEL FPS	L FT	CAP CFS	COMMENTS
	"C"	AREA AC	"C"	AREA AC		FLOW MIN	T/C MIN								
76-77	0.92	0.210	0.94	1.236	1.17	0.3	11.9	5.68	6.63	18.00	0.40	3.76	59	6.64	N14
75-76	0.87	1.498	0.90	2.734	2.47	0.1	12.1	5.47	13.52	18.00	1.66	7.66	68	13.53	Add Run 76-86
Review Full Flow Velocity (Design Gradients) For Min 2.0 fps Velocity:										12.00	0.20	2.03		1.59	
										15.00	0.15	2.04		2.50	
										18.00	0.15	2.30		4.07	
										24.00	0.10	2.28		7.15	
										36.00	0.10	2.98		21.09	
Roof Drains															
B6	0.95	0.131	0.95	0.131	0.124	0.0	10.0	5.88	0.73	10.00	2.00	5.68	10	3.10	
B7	0.95	0.524	0.95	0.524	0.498	0.1	10.0	5.88	2.93	10.00	1.80	5.39	22	2.94	
B8	0.95	0.485	0.95	0.485	0.461	0.0	10.0	5.88	2.71	10.00	1.70	5.24	12	2.86	
B9	0.95	0.073	0.95	0.073	0.069	0.0	10.0	5.88	0.41	10.00	4.00	8.03	23	4.38	
B10	0.95	0.270	0.95	0.270	0.257	0.1	10.0	5.88	1.51	10.00	1.50	4.92	37	2.68	
B11	0.95	0.261	0.95	0.261	0.248	0.2	10.0	5.88	1.46	10.00	1.00	4.02	47	2.19	
B12	0.95	0.719	0.95	0.719	0.683	0.1	10.0	5.88	4.02	12.00	3.57	8.57	60	6.73	
B13	0.95	0.717	0.95	0.717	0.681	0.1	10.0	5.88	4.01	12.00	2.50	7.17	39	5.63	

0.236 1.365 713.06

1.129 1.129 712.83 711.70 (Pipe Crown @FES)

STORM SEWER WORKSHEET

Designer:	
Description:	Phase 2 East Section

FREQUENCY: 10 YR. ROUGH. COEFF. 0.013 RUNOFF COEFF: 0.50

[illegible]

tc	i
10	5.88
11	5.68
12	5.47
13	5.26
14	5.05
15	4.84
16	4.74
17	4.63
20	4.33

STORM SEWER WORKSHEET

Designer:

Description:Phase 2 West Section

FREQUENCY:10YR.

ROUGH. COEFF.0.013

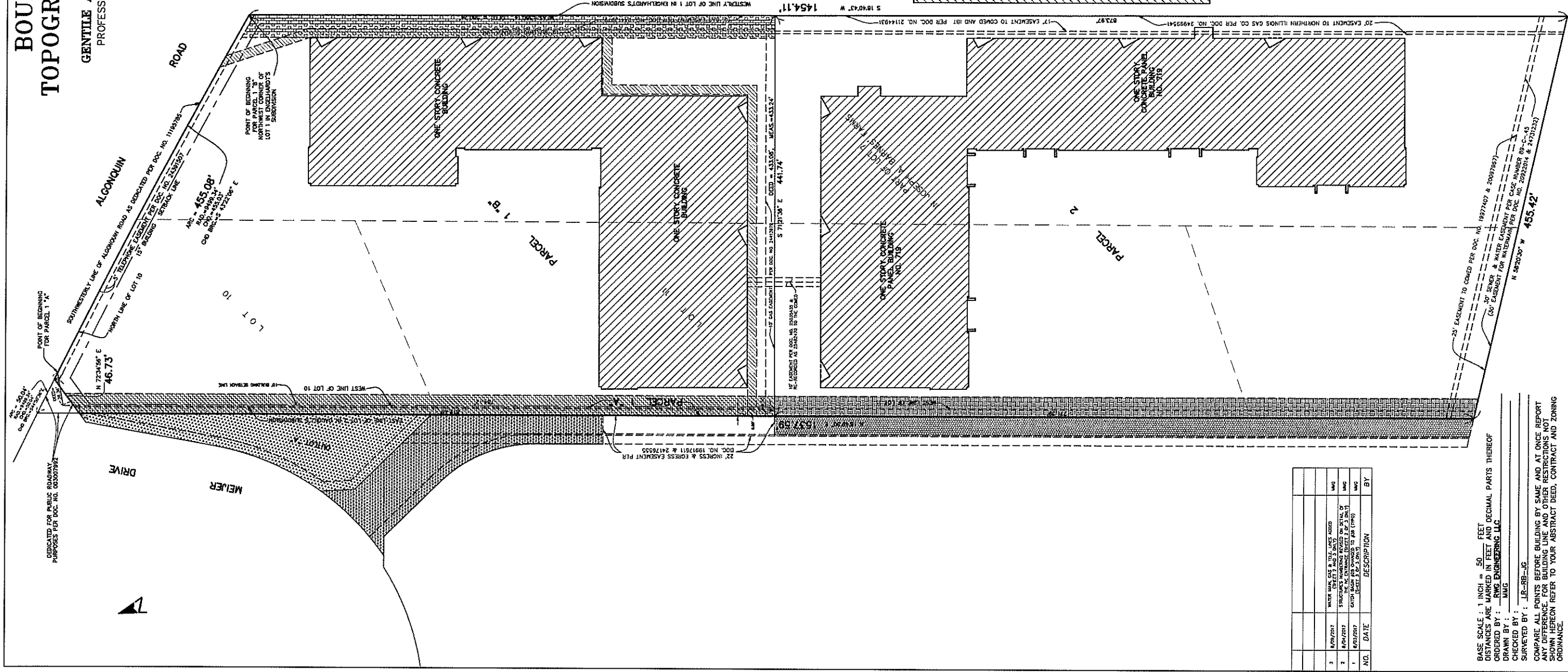
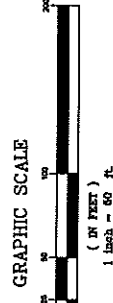
RUNOFF COEFF:0.50

MH-MH	ADDED		TOTAL		C X A	TIME		I	Q	PIPE DIA	PIPE SLOPE	VEL	L	CAP	UPPER MH			LOWER MH			COMMENTS
	"C"	AREA	"C"	AREA		FLOW	T/C								RIM	CROWN	INV	RIM	CROWN	INV	
	AC		AC			MIN	MIN								IN/HR	CFS	IN	%	FPS	FT	
87-88	0.87	0.230	0.87	0.230	0.200	0.2	10	5.88	1.18	10.00	0.30	2.20	26	1.20	714.05	711.98	711.15	714.05	711.90	711.07	
88-89	0.95	0.116	0.90	0.346	0.310	0.4	10.2	5.88	1.82	15.00	0.15	2.04	52	2.50	714.05	712.32	711.07	714.05	712.24	710.99	
89-90	0.95	0.117	0.91	0.463	0.421	0.3	10.6	5.88	2.48	15.00	0.15	2.04	39	2.50	714.05	712.24	710.99	714.05	712.18	710.93	
B5-90	0.95	0.524																			
90-91	0.95	0.134	0.93	1.121	1.047	0.3	10.9	5.88	6.15	18.00	0.35	3.52	72	6.21	714.05	712.34	710.84	715.69	712.09	710.59	
91-96	0.00	0.000	0.93	1.121	1.047			5.88	6.15	24.00	0.08	2.04	182	6.40	715.69	712.59	710.59	715.60	712.44	710.44	
92-93	0.95	0.117	0.95	0.117	0.111	0.3	10	5.88	0.65	10.00	0.25	2.01	39	1.10	714.05	711.98	711.15	714.05	711.88	711.05	
93-94	0.95	0.134	0.95	0.251	0.238	0.4	10.3	5.88	1.40	15.00	0.15	2.04	52	2.50	714.05	712.30	711.05	714.05	712.22	710.97	
94-95	0.95	0.117	0.95	0.368	0.350	0.3	10.7	5.88	2.06	15.00	0.15	2.04	39	2.50	714.05	712.22	710.97	714.05	712.16	710.91	
B4-95	0.95	0.524																			
95-96	0.95	0.134	0.95	1.026	0.975	0.4	11.1	5.68	5.54	18.00	0.28	3.15	72	5.56	714.05	712.34	710.84	715.60	712.14	710.64	
96-103	0.00	0.000	0.94	2.147	2.021	1.6	11.4	5.68	11.48	30.00	0.10	2.64	260	12.97	715.60	712.94	710.44	715.46	712.68	710.18	
97-98	0.95	0.115	0.95	0.115	0.109	0.3	10	5.88	0.64	10.00	0.25	2.01	39	1.10	714.05	711.98	711.15	714.05	711.88	711.05	
98-99	0.95	0.134	0.95	0.249	0.237	0.3	10.3	5.88	1.39	10.00	0.40	2.54	52	1.39	714.05	711.88	711.05	714.05	711.68	710.84	
99-100	0.95	0.117	0.95	0.366	0.348	0.3	10.7	5.88	2.04	15.00	0.15	2.04	39	2.50	714.05	712.09	710.84	714.05	712.03	710.78	
100-101	0.95	0.134	0.95	0.500	0.475	0.4	11.0	5.68	2.70	15.00	0.18	2.23	52	2.74	714.05	712.03	710.78	714.05	711.94	710.69	
B3-101	0.95	0.486																			
101-102	0.95	0.099	0.95	1.085	1.031	0.1	11.4	5.68	5.85	18.00	0.31	3.31	26	5.85	714.05	712.19	710.69	714.05	712.11	710.61	
102-103	0.89	0.269	0.94	1.354	1.270	0.3	11.5	5.68	7.21	18.00	0.48	4.12	72	7.28	714.05	712.11	710.61	715.46	711.76	710.26	
103-104	0.00	0.000	0.94	3.501	3.291	0.6	11.8	5.68	18.70	30.00	0.21	3.83	145	18.80	715.46	712.68	710.18	716.78	712.38	709.88	
105-104	0.95	0.082	0.95	0.082	0.078	0.3	10	5.88	0.46	10.00	0.25	2.01	39	1.10	715.88	713.71	712.88	716.78	713.62	712.78	
B1-104	0.95	0.073																			
104-V	0.00	0.000	0.94	3.656	3.439	0.3	12.4	5.47	18.81	36.00	0.13	3.40	60	24.05	716.78	712.88	709.88	N/A	712.80	709.80	

tc	i
10	5.88
11	5.68
12	5.47
13	5.26
14	5.05
15	4.84
16	4.74
17	4.63
20	4.33

BOUNDARY AND TOPOGRAPHIC SURVEY

BY
GENTILE AND ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS



	NO.	DATE	DESCRIPTION	BY
	3	8/07/2015	WATER MAIN GAS & TILT WORK COMED (CHECK 5 & 6 ONLY)	MAG
	2	8/04/2015	SUBMITTAL OF THE INTERVIEW REVIEW FOR TOTAL OF THE 10% INTERVIEW REVIEW FOR TOTAL OF CATCH BASIN AND CHANGED TO AIR (19%) [PAGE 2 OF 3 ONLY]	MAG
	1	8/03/2015	CATCH BASIN AND CHANGED TO AIR (19%)	MAG

BASE SCALE : 1 INCH = 50 FEET
DISTANCES ARE MARKED IN FEET AND DECIMAL PARTS THEREOF
ORDERED BY : RWG ENGINEERING LLC

DRAWN BY : MMG
CHECKED BY :
SURVEYED BY : LR-RB-JG

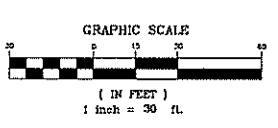
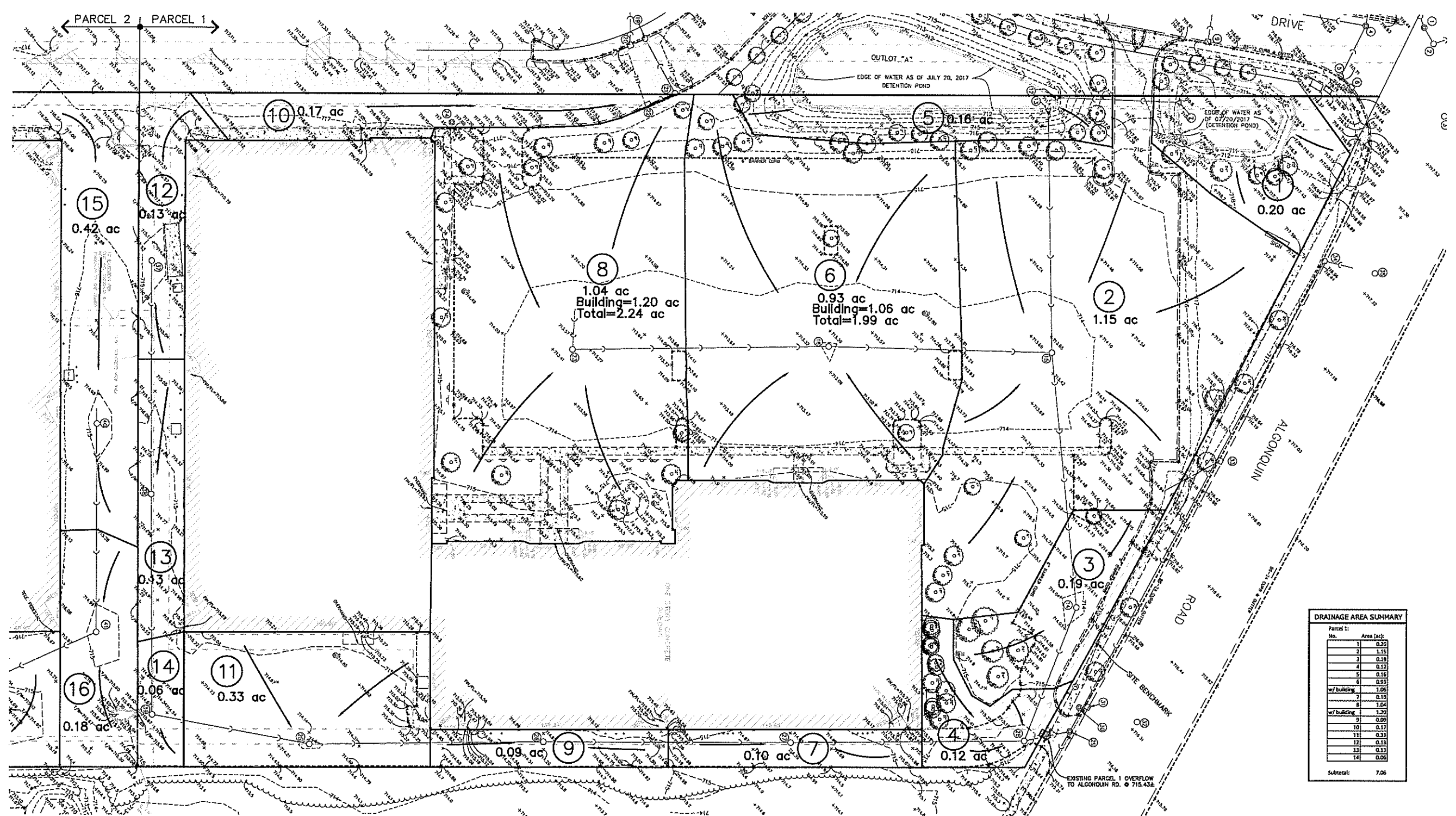
ORDER NO. 17-20813- REV 3
SHEET 1 OF 3

STATE OF ILLINOIS
COUNTY OF DUPAGE

WE, CENTILE AND ASSOCIATES, INC., HEREBY CERTIFY THAT A SURVEY HAS BEEN MADE AT AND UNDER MY DIRECTION, OF THE PROPERTY DESCRIBED ABOVE, AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID SURVEY. THIS PLAT CONFORMS TO THE MINIMUM STANDARD REQUIREMENTS FOR A BOUNDARY SURVEY.

JULY 27, A.D. 2017

BY : ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 2925
MY LICENSE EXPIRES NOVEMBER 30, 2018
ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184.002870



DRAINAGE AREA SUMMARY	
Parcel 1:	Area (ac):
1	0.20
2	1.15
3	0.19
4	0.12
5	0.16
6	0.93
7	1.06
8	1.04
9	1.20
10	0.09
11	0.33
12	0.13
13	0.13
14	0.06
15	0.42
16	0.18
Subtotal:	7.06

DATE

REVISIONS

DRAWN BY

HAMILTON PARTNERS ARLINGTON HEIGHTS INDUSTRIAL

ARLINGTON HEIGHTS, ILLINOIS

EXISTING DRAINAGE EXHIBIT - PARCEL 1 / PHASE 1

975 E. 22nd St. Suite 400

Wheaton, IL 60159

630.480.7889

WWW.RWG-ENGINEERING.COM

RWG

Engineering, LLC

Civil Engineering • Road Estimating • Project Management

PROJECT NO. 32227212

DATE 10/18/17

SCALE 1"=30'

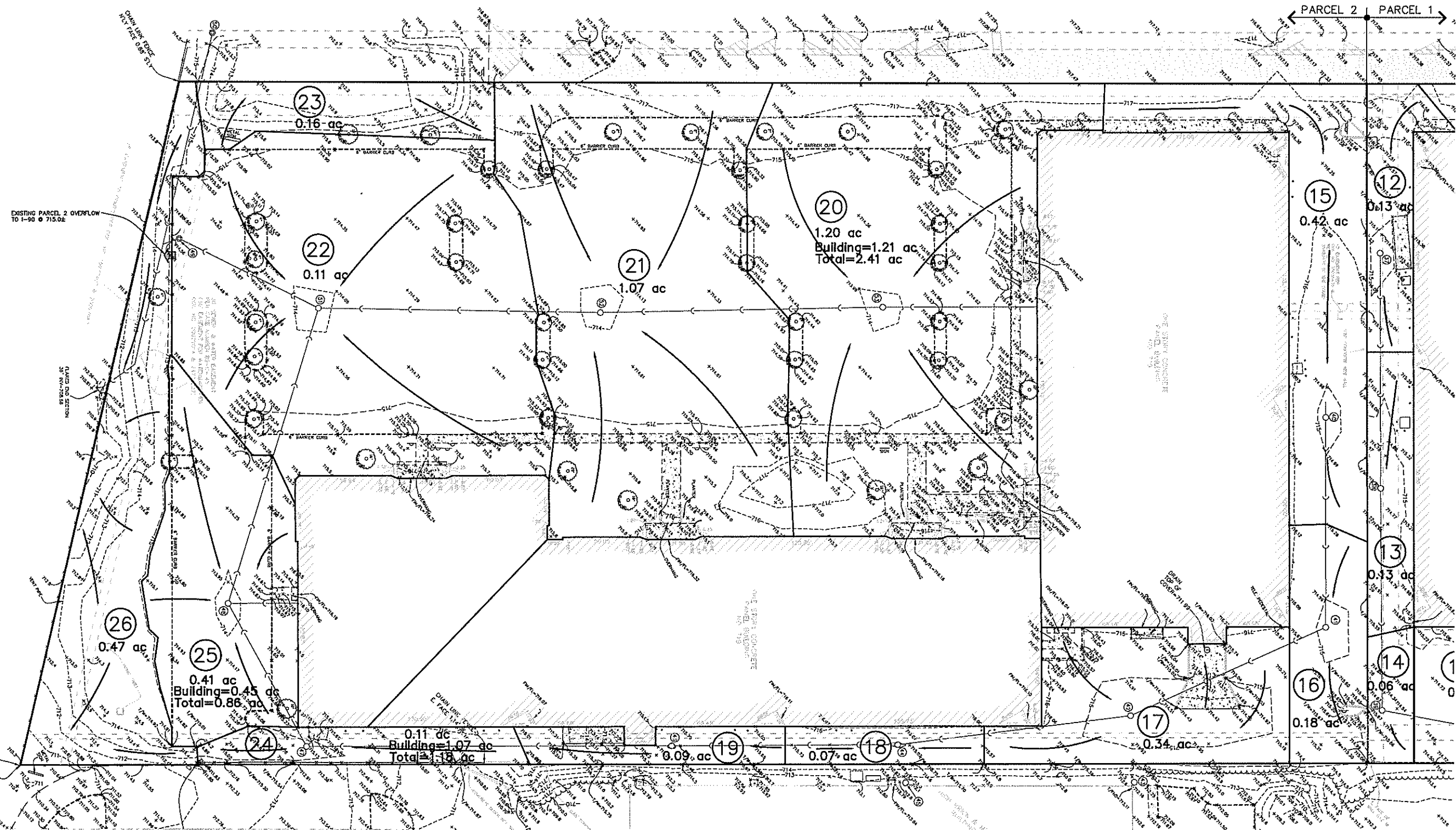
PROJ. MGR. PHL

PROJ. ASSOC. RWG

DRAWN BY TMS

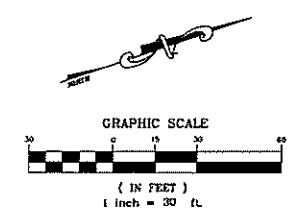
SHEET

1 OF 2



EXISTING PARCEL 2 OVERFLOW
TO I-90 @ 715.02

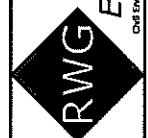
DRAINAGE AREA SUMMARY			
Parcel 1:		Parcel 2: (cont.)	
No.	Area (ac):		
15	0.42	22	1.11
	0.18	23	0.16
17	0.34	24	0.13
18	0.07	w/ building	1.07
19	0.09	25	0.41
20	1.20	w/ building	0.45
w/ building	1.21	26	0.47
21	1.07	Subtotal:	8.36



PARCEL 2 PARCEL 1

DRAWN BY: _____
REVISIONS: _____
DATE: _____

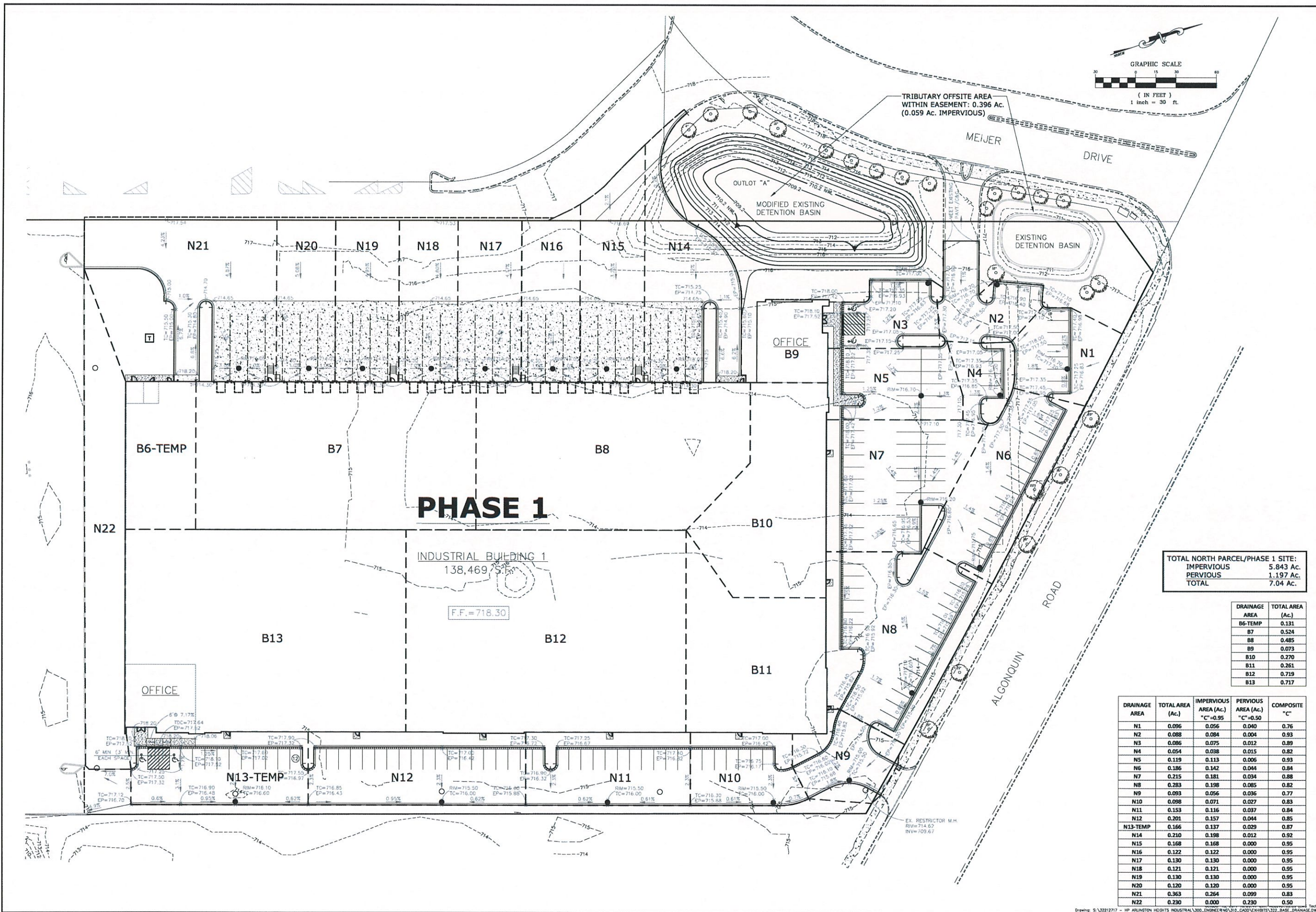
HAMILTON PARTNERS ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
EXISTING DRAINAGE EXHIBIT - PARCEL 2 / PHASE 2

**RWG**
Engineering, LLC

975 E. 22nd St. Suite 400
Waukegan, IL 60089
630.480.7889
www.rwg-engineering.com

PROJECT NO. 3221217
DATE 10/18/17
SCALE 1"=30'
PROJ. VOR. PDS
PROJ. ASSOC. RAS
DRAWN BY: JLM

SHEET
2 OF 2



TOTAL NORTH PARCEL/PHASE 1 SITE:
IMPERVIOUS 5.843 Ac.
PERVIOUS 1.197 Ac.
TOTAL 7.04 Ac.

DRAINAGE AREA	TOTAL AREA (Ac.)
B6-TEMP	0.131
B7	0.524
B8	0.485
B9	0.073
B10	0.270
B11	0.261
B12	0.719
B13	0.717

DRAINAGE AREA	TOTAL AREA (Ac.)	IMPERVIOUS AREA (Ac.) "C"=0.95	PERVIOUS AREA (Ac.) "C"=0.50	COMPOSITE "C"
N1	0.096	0.056	0.040	0.76
N2	0.088	0.084	0.004	0.93
N3	0.086	0.075	0.012	0.89
N4	0.054	0.038	0.015	0.82
N5	0.119	0.113	0.006	0.93
N6	0.196	0.142	0.044	0.84
N7	0.215	0.181	0.034	0.88
N8	0.283	0.198	0.085	0.82
N9	0.093	0.056	0.036	0.77
N10	0.098	0.071	0.027	0.83
N11	0.153	0.116	0.037	0.84
N12	0.201	0.157	0.044	0.85
N13-TEMP	0.166	0.137	0.029	0.87
N14	0.210	0.198	0.012	0.92
N15	0.168	0.168	0.000	0.95
N16	0.122	0.122	0.000	0.95
N17	0.130	0.130	0.000	0.95
N18	0.121	0.121	0.000	0.95
N19	0.130	0.130	0.000	0.95
N20	0.120	0.120	0.000	0.95
N21	0.363	0.264	0.099	0.83
N22	0.230	0.000	0.230	0.50

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
PHASE 1 (NORTH) DRAINAGE AREA EXHIBIT

975 E. 22nd St. Suite 400
Wheaton, IL 60189
630.460.7889
www.rwg-engineering.com

Engineering, LLC



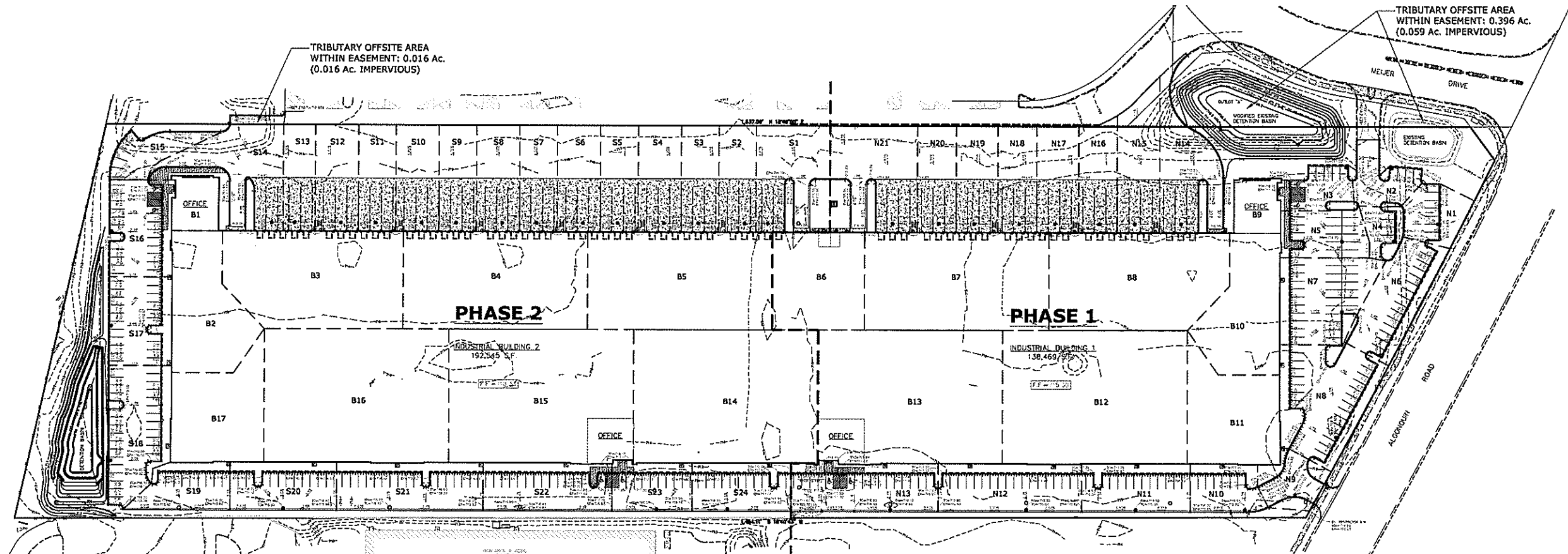
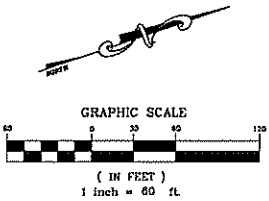
PROJECT NO. 3221217
DATE 09/22/17
SCALE 1"=30'
PROJ. MGR. BDL
PROJ. ASSOC. RWG
DRAWN BY. AYS

SHEET
1 OF 1

DRAINAGE AREA	TOTAL AREA (Ac.)	IMPERVIOUS AREA (Ac.) "C"=0.95	PERVIOUS AREA (Ac.) "C"=0.50	COMPOSITE "C"
N1	0.096	0.096	0.040	0.76
N2	0.088	0.088	0.004	0.93
N3	0.086	0.075	0.012	0.89
N4	0.054	0.038	0.015	0.82
N5	0.119	0.113	0.006	0.93
N6	0.186	0.142	0.044	0.84
N7	0.215	0.181	0.034	0.88
N8	0.283	0.198	0.085	0.82
N9	0.093	0.056	0.036	0.77
N10	0.098	0.071	0.027	0.83
N11	0.153	0.116	0.037	0.84
N12	0.201	0.157	0.044	0.85
N13	0.208	0.168	0.039	0.87
N14	0.210	0.198	0.012	0.92
N15	0.168	0.168	0.000	0.95
N16	0.122	0.122	0.000	0.95
N17	0.130	0.130	0.000	0.95
N18	0.121	0.121	0.000	0.95
N19	0.130	0.130	0.000	0.95
N20	0.120	0.120	0.000	0.95
N21	0.271	0.232	0.039	0.88

DRAINAGE AREA	TOTAL AREA (Ac.)	IMPERVIOUS AREA (Ac.) "C"=0.95	PERVIOUS AREA (Ac.) "C"=0.50	COMPOSITE "C"
S1	0.230	0.190	0.040	0.87
S2	0.116	0.116	0.000	0.95
S3	0.117	0.117	0.000	0.95
S4	0.134	0.134	0.000	0.95
S5	0.117	0.117	0.000	0.95
S6	0.134	0.134	0.000	0.95
S7	0.117	0.117	0.000	0.95
S8	0.134	0.134	0.000	0.95
S9	0.117	0.117	0.000	0.95
S10	0.134	0.134	0.000	0.95
S11	0.117	0.117	0.000	0.95
S12	0.134	0.134	0.000	0.95
S13	0.099	0.099	0.000	0.95
S14	0.269	0.236	0.033	0.89
S15	0.082	0.082	0.000	0.95
S16	0.178	0.153	0.025	0.89
S17	0.163	0.132	0.031	0.86
S18	0.226	0.188	0.038	0.87
S19	0.118	0.093	0.024	0.86
S20	0.150	0.114	0.037	0.84
S21	0.206	0.159	0.046	0.85
S22	0.180	0.145	0.036	0.86
S23	0.114	0.092	0.023	0.86
S24	0.140	0.105	0.035	0.84

DRAINAGE AREA	TOTAL AREA (Ac.)
B1	0.073
B2	0.269
B3	0.486
B4	0.524
B5	0.524
B6	0.262
B7	0.524
B8	0.485
B9	0.073
B10	0.270
B11	0.261
B12	0.719
B13	0.717
B14	0.718
B15	0.717
B16	0.719
B17	0.261



TOTAL SITE AREA:		
NORTH		
IMPERVIOUS	259,489 SF	(5.957 Ac.)
PERVIOUS	39,983 SF	(0.918 Ac.)
TOTAL	299,472 SF	(6.875 Ac.)
SOUTH		
IMPERVIOUS	326,595 SF	(7.498 Ac.)
PERVIOUS	45,394 SF	(1.042 Ac.)
TOTAL	371,989 SF	(8.540 Ac.)

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
MASTER DRAINAGE AREA EXHIBIT

975 E. 22nd St., Suite 400
Wheaton, IL 60189
630-480-7889
www.rwg-engineering.com

Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management

PROJECT NO. 221212
DATE 09/22/17
SCALE 1"=80'
PROJ. MGR. DS
PROJ. ASSOC. RNS
DRAWN BY. AJS

SHEET
1 of 1



Village of Arlington Heights Building & Life Safety Department

Interoffice Memorandum

To: Sam Hubbard, Development Planner, Planning and Community Development
From: Deb Pierce, Plan Reviewer, Building & Life Safety Department
Subject: 703-723 W Algonquin Rd., PUD Preliminary/Final Plat of Subdivision
PC#: 17-013 – Round 1
Date: November 16, 2017

Sam:

I have reviewed the documents for the project indicated above and have the following comments:

1. Provide the proposed construction type of the new buildings.
2. Provide details of the items to be stored, and the average length of time they will be stored. Based on the type of items and their packaging materials provide the Use Group of the warehouse (S-1 or S-2).
3. Provide a height and area calculation based on the construction type and Use.
4. Where the electrical room contains equipment rated 1,200 amps or more, there shall be two exits on opposite corners of the room. The doors and door hinges shall have a fire-rating equal to the rating of the electrical room. Doors shall swing out and have panic hardware. The electrical room shall have the same rating as the building.
5. Permanent roof access is required.



**Village of Arlington Heights, IL
Department of Building & Life Safety**

Fire Safety Division



Date: 11/2/2017

P.C. Number: 17-013

Project Name: Hamilton Partners PUD and Subdivision

Project Location: 703-723 W. Algonquin Rd.

Planning Department Contact: Sam Hubbard, Planning and Community Development

General Comments:

The information provided is conceptual only and subject to a formal plan review.

1. A complete NFPA-13 compliant fire suppression system is required.
2. Fire department connections shall be fully visible and located at the main front entrance of the building and within a maximum travel distance of 100 feet to the nearest fire hydrant.
3. An approved water supply capable of supplying the required fire flow for fire protection shall be provided.
4. Approved access shall be provided and maintained for all fire protection equipment to permit immediate safe operation and maintenance of such equipment.
5. Buildings or facilities having a gross building area of more than 62,000 square feet shall be provided with two separate and approved fire apparatus access roads.
6. A fully functional fire alarm shall be installed per NFPA 72. The alarm annunciator panel shall be located at the front entrance.
7. Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation.
8. Visible alarm notification appliances shall be provided in public areas and common areas. A visible exterior weatherproof alarm notification device shall be located within closest proximity to the front main entrance of the building or tenant space.
9. Fire protection equipment and service rooms shall be identified in an approved manner.
10. A zoning indicator panel and the associated controls, or, fire alarm control panel shall be located within the closest proximity to the front main entrance.

11. Buildings shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building.
12. A key box (Know Box) shall be provided and contain keys to gain necessary access as required by the fire code official.
13. Fire pumps, if provided, shall be installed in accordance with the Fire Code and NFPA 20 and shall comply with all current code requirements.
14. Exit signs shall be illuminated at all times and have emergency power backup.
15. Indicate the maneuvering capability of the Fire Department Tower Truck to confirm that the truck can negotiate the turns on pavement avoiding any dead-ends and identify any overhead wires that may be within the airspace of the truck set-up.
16. Buildings or portions of buildings or facilities exceeding 30 feet in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.
17. Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet exclusive of shoulders, in the immediate vicinity of any building or portion of building more than 30 feet in height.
18. At least one of the required access routes meeting shall be located within a minimum of 15 feet and a maximum of 30 feet from the building, and shall be positioned parallel to one entire side of the building.
19. Buildings shall have approved address numbers.
20. Fire department connections shall be installed in accordance with the NFPA standard applicable to the system design. The location of fire department connections shall be approved.
21. Fire department connections shall be located on the street side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access or as otherwise approved a visible Location.
22. Signs shall be posted on both sides of an approach of any fire lane stating NO PARKING – FIRE LANE”. Signs shall have arrows indicating the area of parking restriction.

23. Fire lane signs shall be white with red three-inch letters. The dimensions of the sign shall be 12 inches horizontally and 18 inches vertically. These signs shall be installed so that the top of the sign is no less than 6 feet nor more than 6 feet above grade.
24. Tenant build-outs may result in additional requirements being met such as control rooms, storage of hazardous materials, etc.
25. Construction shall comply with all adopted codes.

Date November 2, 2017

Reviewed By: 
Fire Safety Supervisor

Memorandum

To: Sam Hubbard, Planning and Community Development
From: Cris Papierniak, Assistant Director of Public Works
Date: November 10, 2017
Subject: 703-723 W Algonquin Rd, PC #17-013 Round 1



Regarding the proposed utility installation, PW has the following comments:

1. Verify the condition of the sidewalk fronting the property after the construction. If damage has occurred as a result of the construction, or drainage is not adequate (ponding), permittee must replace the affected squares.
2. The proposed 12" x 10" connection #8 must be a pressure connection.
3. The hydrant relocation #14 must be coordinated with VAHPW 847-368-5800, 48 hours prior to relocation.
4. All utilities that are not going to be reused must be properly abandoned at the respective main lines prior to installation of new utilities.
5. What is the potable water source for the proposed building at Phase 2?
6. There must be proper separation between the water service and the existing sewer line. Refer to the standard specifications of water and sewer installation for the State of Illinois 6th edition or newer.
7. All methods of construction and materials must conform to the most recent version of "A Manual of Practice for the Design of Public & Private Improvements" as published by the Village of Arlington Heights Engineering Department.
8. Water meter and RPZ's will be specified once architectural plans have been submitted.
9. A fence will be required around the detention facilities to protect public from a 4.2' fall.
10. Verify condition of manhole #15 prior to coring new 8" line.

CC: Scott T. Shirley, Director of Public Works

RECEIVED
NOV 13 2017
PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT

ENGINEERING DEPARTMENT

3

PETITIONER'S APPLICATION - ARLINGTON HEIGHTS PLAN COMMISSION

Petition #: P.C. 17-013
 Petitioner: Morgan Harbour Construction, L.L.C.
 Owner: Arlington Heights 1, LLC
 Contact Person: Joshua Spinks
 Address: 7510 S. Madison St. Willowbrook, IL 60527
 Phone #: 630-601-8096
 Fax #: 630-734-8099
 E-Mail: jspinks@morganharbour.com

P.I.N.# 08-16-102 } 008-0000
 Location: 703-723-W. Algonquin Rd
 Rezoning: NO Current: m-2 Proposed: m-2
 Subdivision: Consolidation
 # of Lots: 2 Current: 2 Proposed: 1
 PUD: YES For: Distribution
 Special Use: — For: —
 Land Use Variation: NO For: —
 Land Use: — Current: Multi-tenant
 Proposed: off. / industrial
 Site Gross Area: 15.41 Acres
 # of Units Total: —
 1BR: — 2BR: — 3BR: — 4BR: —

(Petitioner: Please do not write below this line.)

RECEIVED

OCT 31 2017

PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT

1. PUBLIC IMPROVEMENTS

REQUIRED:	YES	NO	COMMENTS
a. Underground Utilities			
Water			<u>X</u>
Sanitary Sewer			<u>X</u>
Storm Sewer			<u>X</u>
b. Surface Improvement			
Pavement			<u>X</u>
Curb & Gutter			<u>X</u>
Sidewalks			<u>X</u>
Street Lighting			<u>X</u>
c. Easements			
Utility & Drainage	<u>X</u>		
Access	<u>X</u>		
2. PERMITS REQUIRED OTHER THAN VILLAGE:

a. MWRDGC	<u>X</u>	b. IDOT	<u>X</u>
c. ARMY CORP		d. IEPA	
e. CCHD			

RECEIVED

NOV 17 2017

PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT

- | | YES | NO | COMMENTS |
|---|----------|----------|-------------------------------------|
| 3. R.O.W. DEDICATIONS? | | <u>X</u> | |
| 4. SITE PLAN ACCEPTABLE? | | <u>X</u> | <u>SEE COMMENTS</u> |
| 5. PRELIMINARY PLAT ACCEPTABLE? | | <u>X</u> | |
| 6. TRAFFIC STUDY ACCEPTABLE? | | <u>X</u> | |
| 7. STORM WATER DETENTION REQUIRED? | <u>X</u> | | |
| 8. CONTRIBUTION ORDINANCE EXISTING? | <u>X</u> | | <u>#66-111 PAID IN FULL IN 1978</u> |
| 9. FLOOD PLAIN OR FLOODWAY EXISTING? ... | | <u>X</u> | |
| 10. WETLAND EXISTING? | | <u>X</u> | |

GENERAL COMMENTS ATTACHED

PLANS PREPARED BY: RWG ENGINEERING, LLC.
 DATE OF PLANS: 10-17-17

James J. Mull 11/16/17
 Director Date

PLAN COMMISSION PC #17-013
Hamilton Partners – Arlington Heights Subdivision
703-723 W. Algonquin Road
PUD, Prelim/Final Plat of Subdivision
Round 1

11. The petitioner is notified that these comments are being provided to ensure that the project meets the requirements for submittal to the Plan Commission. Approval by the Plan Commission is not an endorsement or approval of these documents to obtain the required building permits, engineering approval, or permits required by other government or permitting agencies for construction. Detailed plan review with associated comments will be provided upon submittal of plans for a building permit. The petitioner shall acknowledge that they accept this understanding.
12. Since a subdivision is being proposed the plans must meet all subdivision requirements. An Engineers estimate of construction cost for full site improvements is required to complete the calculation for plan review, inspection, and other fees. This estimate should be submitted at least three weeks prior to the final Plan Commission meeting to allow us time to generate the fee letter and for the petitioner to assemble the proper documents.
13. Final engineering plans shall be georeferenced by using State Plane Coordinate System – Illinois East. Below are details about projection:

Projected Coordinate System: NAD_1983_StatePlane_Illinois_East_FIPS_1201_Feet
Projection: Transverse_Mercator
False_Easting: 984250.00000000
False_Northing: 0.00000000
Central_Meridian: -88.33333333
Scale_Factor: 0.99997500
Latitude_Of_Origin: 36.66666667
Linear Unit: Foot_US
Geographic Coordinate System: GCS_North_American_1983
Datum: D_North_American_1983
Prime Meridian: Greenwich
Angular Unit: Degree

14. The Final Plat of Subdivision must be reviewed and approved by the Engineering Department prior to final Plan Commission approval. The original signed mylar Final Plat of Subdivision, containing all non-Village signatures, shall be submitted one week before the scheduled date of the final Plan Commission meeting. Village Code Section 29-209 also requires a digital copy of the plat to be provided on disk to the Village. The petitioner shall acknowledge that they accept this understanding.
15. The proposed detention facilities will be a private system and as such will not be the Village's responsibility to maintain. The basins require a 1-foot freeboard with an overflow weir at the 6" line. An Onsite Utility Maintenance Agreement must be executed prior to final engineering

approval. See attachment. Contact the Engineering Department for an editable Word version of the document.

16. The stormwater report outlines the proposed detention facilities and satisfactorily addressed the Village's stormwater detention volume requirements: Phase 1 North provides 2.681 ac-ft., Phase 2 South provides 3.208 ac-ft. The total of 5.889 ac-ft exceeds the required 5.76 ac-ft by 0.129 ac-ft.
17. The plan shows proposed surface detention at the truck docks. It is our understanding that the drains from the dock area must go through an oil separator or triple basin. There are concerns about whether or not the oil separator or triple basin would function properly if, say, the stormwater flow happened to reverse through the basin. Check with the MWRD to see if they will allow this setup. The depth of water is not as concerning, given the height and length of semi-trucks.
18. The detail showing the restrictor catch basin for Phase 1 North does not show the existing 4" pipe as described in the stormwater report. Please revise.
19. The Fire Truck Maneuvering Exhibit does not utilize the Village's fire vehicle specifications. Show the turning path of the Fire Department's responding vehicle, in this case the tower truck. Exhibit must show front and rear wheel paths and the extent of the front and rear overhangs, as provided in an "Autoturn" exhibit. The vehicle shall be shown maneuvering through the site in all possible directions of travel. Attached are the specifications for the tower apparatus. The exhibit must show the vehicle driving down the aisle closest to the building along the north side of the building.
20. Fire lanes adjacent to buildings must have a minimum pavement width as directed by the Fire Department to accommodate the tower truck's outriggers. Fire lanes require a heavy duty pavement section. Asphalt pavement section to consist of: 2" Surface, 2-1/4" N-50 Binder, 5" N-30 Binder, and 4" CA-6 Stone Subbase. Concrete driveway apron to be 8" thick. Proposed heavy duty pavement cross section can be used if it can be demonstrated that the structural number of the proposed pavement section meets or exceeds the structural number of the Village's required pavement section.
21. Public sidewalk, 8" thick, to be established across the existing Meijer Drive driveway. Sidewalk takes precedence through the driveway, with curb stopping on either side of the sidewalk. Detectable warning panels are required for sidewalks at stop controlled driveways.
22. ADA requires a full 18' parking stall depth. Cannot specify 16.5' stall depth for handicap spaces.
23. The plans show offsite pavement improvements. Written permission, whether in the form of an existing easement that allows pavement construction or a letter from the property owner must be provided before this work can be allowed.

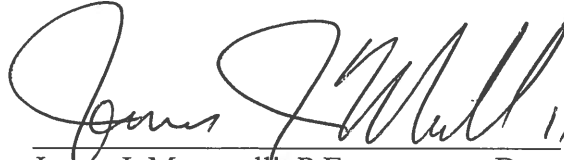
Traffic:

24. How is the proposed operation of this facility structured, on a 7:00 a.m. – 5:00 p.m. work day or will the building be operated in shifts around the clock?
25. The existing Meijer Drive pavement geometry at the intersection of Rt 62 provides a dual left turn bay and single through/right turn bay. What is the current occupancy of these lanes, and during the peak hour, are there loaded cycles where these lanes do not clear? Also with the introduction of tractor-trailer combination trucks in the traffic stream, this will displace passenger cars, possibly aggravating this condition. Please provide a capacity analysis to verify adequate storage length for the south leg of this intersection under the proposed condition.
26. The existing raised barrier median in the center of Meijer Drive must be extended to the end of the striped dual left turn bay markings. This will extend south of the right turn in/out passenger car driveway into the north parking lot of the site.
27. Please provide all proposed lighting photometric site illumination plans, along with catalog cuts for all parking lot pole fixtures, as well as any exterior lights proposed to be mounted to the exterior of the building.
28. Please clarify the orientation of the directions identified in the Capacity analyses tables 2-6 that better defines mainline, and cross traffic legs of the intersection.
29. How is the proposed recommendation to increase traffic signal cycle length along Route 62 being implemented? Have discussions with I.D.O.T. taken place, is there correspondence that the State has approved this request? Please provide documentation.
30. There is no discussion of the parking analysis for this site. Code required parking verses supplied parking should be identified. With the 308 stalls being provided, the projected arrival and departure of employees would seem to suggest much higher peak hour volumes. Is the site over capacity in the number of parking stalls being provided?

Final Plat of Subdivision:

31. Many of the easements shown on the ALTA surveys along Outlot A and Meijer Drive, continuing from the south, are not shown on the Final Plat.
32. There are public utilities (water mains, sanitary sewer) that do not appear to be located within public utility easements. Do any of the Ingress/Egress easements contain language to also allow public utilities? For clarity, please prepare a detail to larger scale of the easements and property lines in the vicinity of Outlot A and the access road off Meijer Drive.
33. Attached is the Final Plat of Subdivision Checklist. Please follow each item and modify the plat as necessary.

34. What are the Parcel designations for? It is unclear whether they are existing or proposed. Parcel 1 "A" is bold indicating proposed, but Parcel 1 "B" and Parcel 2 are not bold, indicating existing. Where is the demarcation line between the parcels?
35. Parcel 1 "A" is shown on the Sidwell Atlas as PIN 08-16-102-030-0000, which is not included in the list of PIN numbers shown on the Plat. Is this piece of property included in the proposed ownership/development?


James J. Massarelli, P.E. Date 11/16/17
Director of Engineering

Attachments:

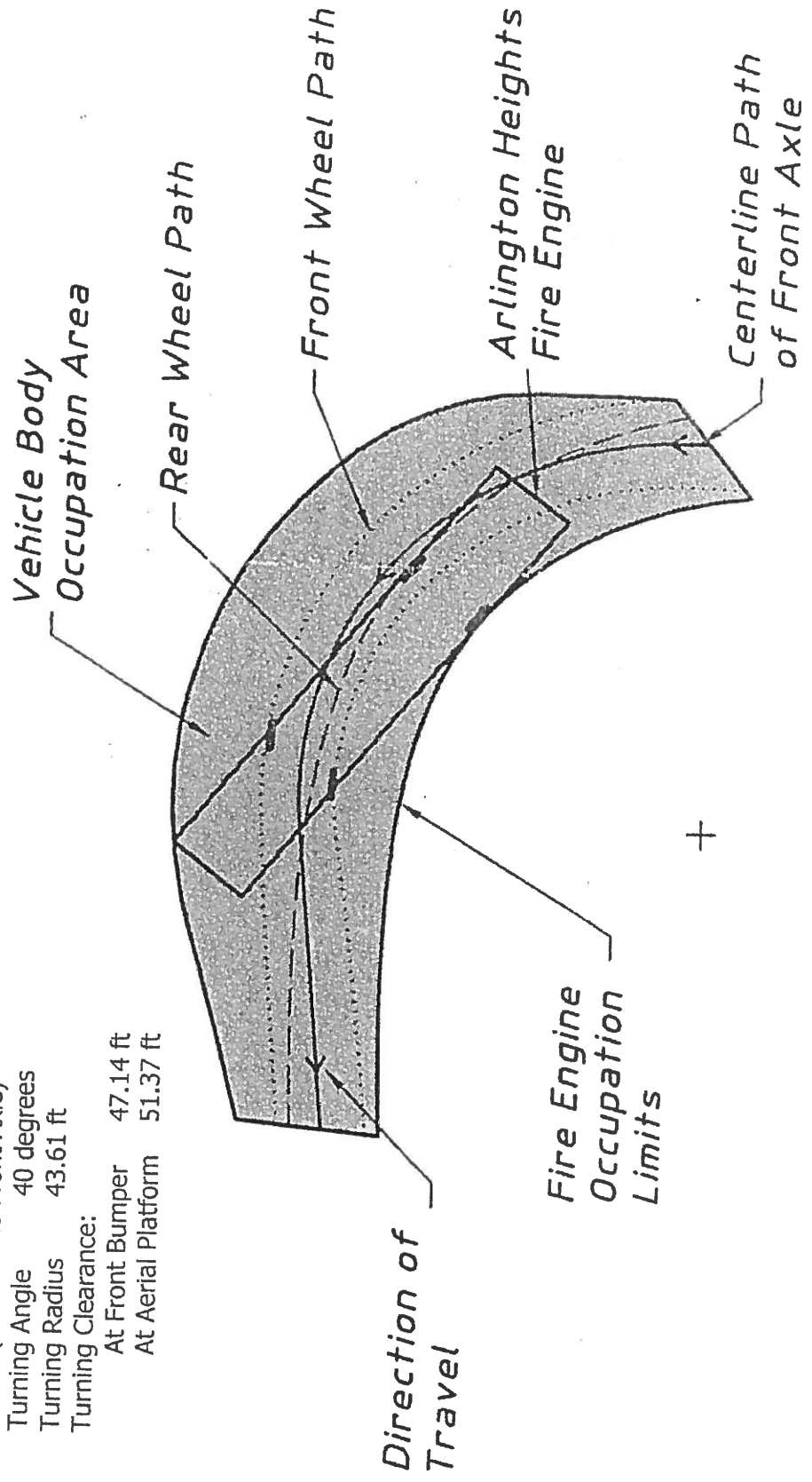
- Fire Apparatus Tower 131 Specifications (1 page)
- Final Plat of Subdivision Checklist (3 pages)
- Contacts for Plat Signatures (1 page)
- Sample Onsite Utility Maintenance Agreement (4 pages)

FIRE ENGINE TURNING TEMPLATE

Village of Arlington Heights Tower 131

Scale: 1"=15'

Overall Height	11 ft - 8 in
Overall Length	48 ft - 0 in
Overall Width	8 ft - 6 in
Overall Wheelbase	21 ft - 2 in
Front Overhang	14 ft - 0 in
(Platform to Front Axle)	
Turning Angle	40 degrees
Turning Radius	43.61 ft
Turning Clearance:	
At Front Bumper	47.14 ft
At Aerial Platform	51.37 ft



Final Plat of Subdivision Checklist
Municipal Code Section 29-209(a – t)

- ☐ a. The date of preparation of the final plat and by whom prepared.
- ☐ b. The boundary of the plat, based on accurate traverse, with angles and lineal dimensions.
- ☐ c. All permanent survey monuments, markers and bench marks.
- ☐ d. Exact location, width and name of all streets within and adjoining the plat, and the exact location and widths of all cross walkways.
- ☐ e. True angles and distances to the nearest established street lines or official monuments, not less than three.
- ☐ f. Municipal, township, county and section lines accurately tied to the lines of the subdivision by distances and angles.
- ☐ g. Radii, internal angles, points and curvatures, tangent bearings and lengths of all arcs.
- ☐ h. All easements for rights of way established for public use and utilities.
- ☐ i. All lot numbers and lines, with accurate dimensions given in hundredths of feet.
- ☐ j. Accurate outlines and legal descriptions of all areas dedicated or reserved for public use, with the proposed uses indicated thereon; and all areas to be reserved by deed covenant for the common use of all property owners; together with the proposed uses indicated thereon.
- ☐ k. The text of protective covenants, approved by the Plan Commission, relating to the proposed subdivision.
- ☐ l. An endorsement by the County Clerk in the form acceptable to Cook County, that there are no delinquent, forfeited, foreclosed or purchased general taxes, or unpaid current general taxes, against the land proposed to be subdivided.
- ☐ m. A summary of all restrictions applicable to any part of such subdivision concerning building restrictions, use restrictions, building setback lines and similar matters.
- ☐ n. A deed of dedication in the form set forth in Section 29-217(a):
The Final plat shall contain a deed of dedication substantially as follows:

"We, the undersigned, (Names), owners of the real estate shown and described herein, do hereby lay off, plat and subdivide said real estate in accordance with the within plat. This subdivision shall be known and designated as (Name), an addition to the Village of Arlington Heights, Cook County. All streets and alleys and public open spaces shown and not heretofore dedicated are hereby dedicated to the public. Front and side yard building setback lines are established as shown on this plat, between which lines and the property lines of the streets, there shall be erected or maintained no building or structure. There are strips of ground, (Number) feet in width, as shown on this plat and marked 'Easement' reserved for the use of public utilities for the installation of water and sewer mains, poles, ducts, lines and wires, subject at all times to the proper authorities and to the easement herein reserved. No permanent or other structures are to be erected or maintained upon

these strips of land, but owners of lots in this subdivision shall take their titles subject to the rights of the public utilities, and to the rights of the owners of other lots in this subdivision.

(Additional dedications and protective covenants, or private restrictions, would be inserted here upon the subdivider's initiative or the recommendation of the Plan Commission or Village Board; important provisions are those specifying the use to be made of the property and, in the case of residential use, the minimum habitable floor area.)

The foregoing covenants (or restrictions), are to run with the land and shall be binding on all parties and all persons claiming under them until January 1, 20____ [25 year period is suggested], at which time said covenants (or restrictions) shall be automatically extended for successive periods of ten years unless indicated otherwise by negative vote of a majority of the then owners of the building sites covered by these covenants (or restrictions), in whole or in part, which said vote will be evidenced by a petition in writing signed by the owners and duly recorded. Invalidity of any one of the foregoing covenants (or restrictions) by judgment or court order shall in no way affect any of the other various covenants (or restrictions), which shall remain in full force and effect.

The right to enforce these provisions by injunction, together with the right to cause the removal, by due process of law, of any structure or part thereof erected or maintained in violation, is hereby dedicated to the public, and reserved to the several owners of the several lots in this subdivision and to their heirs and assigns.

WITNESS our hands and seals this ____ day of _____, 20____.

STATE OF ILLINOIS)
COUNTY OF COOK) SS.

Before me the undersigned Notary Public, in and for the County and State aforesaid, personally appeared (Names), and each separately and severally acknowledged the execution of the foregoing instrument as his or her voluntary act and deed, for the purposes therein expressed.

WITNESS my hand and notarial seal this ____ day of 20 ____.

Notary Public"

- ☐ o. A blank certificate of approval in the form set forth in Section 29-217(b).
The Final plat shall contain a certificate of approval as follows:

"Under the authority provided by 65 ILCS 5/11-12 as amended by the State Legislature of the State of Illinois and Ordinance adopted by the Village Board of the Village of Arlington Heights, Illinois, this plat was given approval by the Village of Arlington Heights AND MUST BE RECORDED WITHIN SIX MONTHS OF THE DATE OF APPROVAL BY THE VILLAGE BOARD, OTHERWISE IT IS NULL AND VOID.

APPROVED by the Plan Commission at a meeting held _____

Chairman

Secretary

APPROVED by the Village Board of Trustees at a meeting held _____

President

Village Clerk

APPROVED by the Village Collector _____

APPROVED by the Director of Engineering _____

- ☐ p. A certification by a registered surveyor in the form set forth in Section 29-217(c). The Final plat shall contain a certificate signed by an Illinois Registered Land Surveyor in substantially the following form:

"I, (Name), hereby certify that I am an Illinois Registered Land Surveyor in compliance with the laws of the State of Illinois, and that this plat correctly represents a survey completed by me on (Date); that all monuments and markers shown thereon actually exist, and that I have accurately shown the materials that they are made of.

(SURVEYOR'S SEAL) Signature
Illinois Land Surveyor
No. _____"

- ☐ q. A notarized statement from the owner indicating the school district in which each tract, parcel, lot or block lies.
- ☐ r. A certificate in the form as required by the Illinois Department of Transportation or Cook County Highway Department, respectively, when any new street or new driveway will access one of these Department's streets.
- ☐ s. The parcel index numbers of all lots contained within the plat shall be included on the plat of subdivision.
- ☐ t. A block stating "Send Tax Bill To: (Name/Address)." The actual name and address shall be provided by the developer.
- ☐ u. Provide a location to identify the address of each new lot.

The Village of Arlington Heights Municipal Code can be accessed over the internet at www.vah.com .

Contacts for Plat Signatures

Mr. Frank Gautier
Comcast Cable
688 Industrial Drive
Elmhurst, IL 60125

630/600-6348
frank_gautier@cable.comcast.com

Alternate: Martha Gieras 630/600-6352
Martha_gieras@cable.comcast.net

Ms. Mark Cozzi
ComEd
Three Lincoln Center – 4th Floor
Oakbrook Terrace, IL 60181

630/576-6530
Mark.Cozzi@ComEd.com

Ms. Kim Augustine
NICOR Gas
300 W. Terra Cotta Avenue
Crystal Lake, IL 60014

630/338-2976
kaugust@aglresources.com

Ms. Sue E. Manshum
ROW Engineer
Ameritech
2004 Miner, 1st Floor
Des Plaines, IL 60016

847/759-5603
sm9231@att.com

Mr. Greg Argetsinger
VPGM of Illinois
WOW Internet Cable
1674 Frontenac Road
Naperville, IL 60563-1757

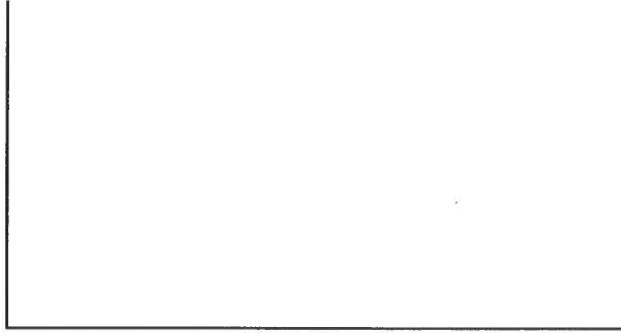
630/536-3121
Tom Gebens
630/536-3153
Brian Herd
630/669-5227

Mr. Jonathan Karabowicz
IDOT Permits
201 W. Center Court
Schaumburg, IL 60196

847/705-4149

Mr. Michael Sterr, P.E.
Permit Office
Cook County Highway Department
69 West Washington Street
23rd Floor, Suite 2354
Chicago, IL 60602

312/603-1670



ONSITE UTILITY MAINTENANCE AGREEMENT

WHEREAS, _____, an (LLC? Corporation?), or its affiliates, ("RESPONSIBLE ENTITY") is the legal title holder of the following described real estate commonly referred to as _____ (*address*), Arlington Heights, Illinois, 6000_, containing _____ acres, more or less, situated in the Village of Arlington Heights, Illinois and legally described as follows: (the "PROPERTY"):

*** *Insert legal description, or attach as Exhibit A* ***

PIN Numbers:

WHEREAS, _____ (*print name*), ("OWNER") desires to develop the PROPERTY; and

WHEREAS, it is necessary to service said parcel with sanitary sewers, storm sewers and/or stormwater management facilities, domestic water mains; and

WHEREAS, the sanitary sewers, storm sewers and/or stormwater management facilities, and domestic water mains servicing the property are not located within public rights-of-way or dedicated easements; and

WHEREAS, the Village of Arlington Heights ("VILLAGE") does not maintain sanitary sewers, storm sewers and/or stormwater management facilities, or domestic water mains on privately owned property; therefore

1. It is hereby AGREED by the RESPONSIBLE ENTITY, its successors and assigns that at no expense to the VILLAGE, the RESPONSIBLE ENTITY, its successors and assigns shall:

- a. Maintain all sanitary sewers and appurtenances thereunto appertaining located upon said premises, all as shown on the Final Engineering Plans prepared by _____ (Engineering Firm) _____ dated _____, and approved by the VILLAGE, or any amended plans as agreed to and approved by both parties, copies which are on file with the Engineering Department of the VILLAGE.
- b. Maintain all water mains and appurtenances located upon said premises from the master meter vaults.
- c. Maintain all storm sewers and appurtenances, including detention/retention basins, located upon said premises.
- d. Maintain the utilities as itemized above in accordance with the latest edition of the Village of Arlington Heights Municipal Code.
- e. Maintain all private roadways, parking areas, and pavement lighting facilities located on said premises as shown on said Final Engineering Plans in accordance with the latest edition of the Village of Arlington Heights Municipal Code.

2. It is further AGREED that should the RESPONSIBLE ENTITY not properly maintain the sanitary sewers or domestic water mains in accordance with the requirements of the VILLAGE, written notification shall be given to the RESPONSIBLE ENTITY advising that after ten (10) days if the RESPONSIBLE ENTITY is not in compliance with the applicable requirements, the VILLAGE is hereby authorized, but not required, to enter upon the property to correct deficiencies and to place a lien against said property until such time that the VILLAGE has been fully reimbursed for its expenses in correcting these deficiencies; and

3. It is further AGREED that should the RESPONSIBLE ENTITY not properly maintain the aforementioned storm sewers and/or stormwater management facilities in accordance with the requirements of the VILLAGE, or should they allow a public nuisance to exist, written notification shall be given to the RESPONSIBLE ENTITY advising that after ten (10) days if the RESPONSIBLE ENTITY is not in compliance with the applicable requirements, the VILLAGE is hereby authorized, but not required, to enter upon the property to correct deficiencies and to place a lien against said property until such time that the VILLAGE has been fully reimbursed for its expenses in correcting these deficiencies; and

4. It is further AGREED that the RESPONSIBLE ENTITY shall save the VILLAGE harmless from any and all claims for damages resulting from the VILLAGE interrupting service to the property due to the failure of the RESPONSIBLE ENTITY to perpetually maintain the systems as described above and any other claims or damages arising out of this Agreement and the ownership of the facilities described herein.

5. This Agreement shall be binding between all successors and assigns and shall be a covenant running with the land as here and before legally described.

6. This Agreement shall be recorded in Cook County, Illinois.

This Agreement is entered into the _____ day of _____, 20__.

For: _____

Name: _____

Signature: _____

Title: _____

State of Illinois)
) SS
County of Cook)

I, _____, a Notary in and for said County, in the State
aforesaid, CERTIFY that _____ personally known to me to
be the same person whose name is subscribed on the foregoing instrument appeared before
me this day in person and acknowledged that (s)he signed, sealed, and delivered said
instrument as their free and voluntary act, and as the voluntary act of

_____, an (LLC? Corporation?), for the uses and
purposes therein set forth.

GIVEN under my hand and Notarial seal this _____ day of _____, 20__.

Notary Public

Title: _____

Notary Public



Arlington Heights Fire Department Plan Review Sheet

P. C. Number 17-013

Project Name Hamilton Partners PUD and Subdivision

Project Location 703-723 W. Algonquin Road

Planning Department Contact Sam Hubbard

General Comments

Round 1

General Comments:

- 1) Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet, exclusive of shoulders, in the immediate vicinity of any building or portion of the building more than 30 feet in height.
- 2) Building is to be sprinkled per code.
- 3) The Fire Department Connection shall be located at the main front entrance of the building and be fully visible. It shall be located within a maximum travel distance of 100 feet to the nearest fire hydrant.
- 4) A Knox Box (key safe) shall be located at the main front entrance.
- 6) A fire alarm zoning indicator panel and associated controls or fire alarm control panel (full functioning auxiliary panel) shall be located within the closest proximity to the front main entrance of the building.

**NOTE: PLAN IS CONCEPTUAL ONLY
SUBJECT TO DETAILED PLAN REVIEW**

Date November 14, 2017 Reviewed By: LT. Mark Aleckson

Arlington Heights Fire Department

RECEIVED

NOV 15 2017

ARLINGTON HEIGHTS POLICE DEPARTMENT

PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT

Community Services Bureau

DEPARTMENT PLAN REVIEW SUMMARY

703-723 W. Algonquin Rd.
PC#17-013

Round 1 Review Comments

11/13/2017

1. Character of use:

The character of use is consistent with the area and is not a concern.

2. Are lighting requirements adequate?

3. Lighting should be up to Village of Arlington Heights code. Special attention should be given to illuminating parking lot areas, and any secluded areas on the property. These areas should be illuminated especially during nighttime hours for safety, to deter criminal activity and increase surveillance/visibility- potentially reducing theft, trespassing, vandalism, underage drinking, drug use and other criminal activity.

4. Present traffic problems?

There are no traffic problems at this location.

5. Traffic accidents at particular location?

This is not a problem area in relation to traffic accidents.

6. Traffic problems that may be created by the development.

There should be traffic control signage in the parking lot and right turn only designed exit lanes to discourage left turns onto Algonquin Road.

7. General comments:

- Please ensure that there is an emergency information/contact card on file with the Arlington Heights Police Department and that it is up-to-date. Agent contact information must be provided to the Arlington Heights Police Department during all construction phases. The form is attached. Please complete and return. This allows police department personnel to contact an agent during emergency situations or for suspicious/criminal activity on the property during all hours.
- Landscaping should provide open sightlines to increase natural surveillance and avoid creating ambush locations and havens for illegal activities- theft, trespassing, vandalism, underage drinking, drug use, etc.
- Consider posting no trespassing / loitering/ no un-authorized use signage. The Arlington Heights Police Dept. has and utilizes trespass warning forms under qualifying circumstances when requested by property management.
- Landscaping should provide open sightlines to increase natural surveillance and avoid creating ambush locations.
- Install cameras (with recording capabilities) on the exterior and interior of building, to include a monitor at the reception/ or office area so employees have ability to monitor interior and exterior.

#272

Brandi Romag, Crime Prevention Officer
Community Services Bureau

Approved by:

 #557

Supervisor's Signature

Arlington Heights Police Department

Emergency Information Card

1. Fill in all information by tabbing to each field.
2. When completed, save the form and send as an attachment to: policemail@vah.com.

Arlington Heights Police Department
200 E. Sigwalt Street
Arlington Heights, IL 60005-1499
Phone: 847/368-5300

Completed forms may also be printed and submitted in the following manner:

By Mail: Arlington Heights Police Department
200 E. Sigwalt Street, Arlington Heights, IL. 60005
Attention: Police Administration

By Fax: (847) 368-5970 - Attention: Police Administration

In Person: Dropped off at the Arlington Heights Police Department's front desk for forwarding to Police Administration.

Print Form (To Mail)

Name (Firm or Residence)

Address/City

Telephone Number

Date Information Obtained

IN CASE OF EMERGENCY PLEASE CALL:

Contact #1

Name

Address/City

Telephone Number

Cell Number

Contact #2

Name

Address/City

Telephone Number

Cell Number

Alarm System

☐ No

☐ Yes

Phone number:

Alarm Company Name

PETITIONER'S APPLICATION - ARLINGTON HEIGHTS PLAN COMMISSION

Petition #: P.C.

Petitioner: Morgan Harbour Construction, LLCOwner: Arlington Heights I, LLCContact Person: Joshua SpinksAddress: 7518 W. Madison St.
Willowbrook, IL 60527Phone #: 630-601-8096Fax #: 630-734-8099E-Mail: j.spinks@morganharbour.com

P.I.N.#

08-16-102Location: 703-723 W. Algonquin Rd.Rezoning: NO Current: M-2 Proposed: M-2Subdivision: Consolidation# of Lots: 2 Current: 2 Proposed: 1PUD: YES For: DistributionSpecial Use: — For: —Land Use Variation: NO For: —Land Use: — Current: Multi-tenantProposed: off/industrialSite Gross Area: 15.41 Acres# of Units Total: —1BR: — 2BR: — 3BR: — 4BR: —

(Petitioner: Please do not write below this line.)

1. GENERAL COMMENTS:No comments

RECEIVED

OCT 31 2017

PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT[Signature] 11-15-17
Environmental Health Officer Date[Signature] 11/15/17
Director Date

Planning & Community Development Dept. Review

November 14, 2017



REVIEW ROUND 1

Project: 703-723 W. Algonquin Rd

Case Number: PC 17-013

General:

7. Please note that the Final Plat, as approved by the Engineering Dept., must be printed on mylar and submitted to the Village, with signatures obtained from all parties except those to be coordinated by the Village, no less than one week prior to the Plan Commission hearing date. If this requirement cannot be met, you can proceed with Preliminary Plat approval with Final Plat approval obtained at a future date (i.e. a separate Plan Commission meeting would be needed). No public notice is required for Final Plat of Subdivision approval. If you end up proceeding with Preliminary Plat approval only, a copy of the Plat which reads "Preliminary" will be required one week prior to the Plan Commission hearing.
8. Please note that final engineering must be approved by the Engineering Dept. no less than one week prior to appearance before the Plan Commission, which will include the payment of all engineering fees and the provision of all surety bonds, public improvement deposits, and engineering fee's. If this requirement cannot be met, you can proceed with Preliminary Plat approval with Final Plat approval obtained at a future date (i.e. a separate Plan Commission meeting would be needed). No public notice is required for Final Plat of Subdivision approval.
9. Section 5.1-17.2(d) of the Zoning Code restricts the storage of flammable and explosive materials. Please confirm that all materials stored within the warehouse portions of the building will comply with the regulations of Section 5.1-17.2(d).
10. Please provide a photometric plan and catalog cut sheet for all parking lot and wall mounted light fixtures.
11. Please provide an estimated number of employees that will be working out of the building in both Phase I and Phase II. Additionally, please provide the expected hours of operation of the facility.
12. Section 9.8(i) of the Zoning Code requires that all PUD's include a construction schedule and phasing plan. Please provide the required construction schedule, which includes information on the approximate date of construction start, the number of construction phases and the starting and completion date for each phase, as well as a construction staging plan. The construction phasing plan shall include the anticipated number of construction workers and where they will park during each phase of construction, the type and amount of construction vehicles per phase and where they will be staged, the location of material storage, and information on anticipated lane closures, including info on where the closures will take place and the timeframe for each closure.
13. Please ensure that all plans and/or studies to be resubmitted as a result of the Round 1 Department review comments include a revision date.
14. Please provide details on all proposed retaining walls, including information on maximum wall height and wall materials.

Easements

15. The southern parking row and detention area encroach on the 30' Water & Sewer easement as established in Document 20922014 & 24731232. Please clarify if the provisions of this easement allow for this encroachment.
16. The southwestern most parking spaces encroach into the 22' wide Access Easement as established in Document 24738091 & 0608244082. Please clarify if the provisions of this easement allow for parking spaces to be located within the easement area.
17. A 25' wide Access Easement exists on the northeast portion of the property. To whose benefit is this easement? If the easement is for the benefit of the 715-723 W. Algonquin property, it should be vacated as part of this subdivision as both properties will be consolidated and under unified ownership.
18. Development within Phase I proposes the expansion of the driveway/paved area into "Outlot A", which outlot is not owned by the petitioner. Please confirm that the provisions of Document 0030435526 allow for the use of this area for ingress/egress. Of note, Document 0030435526 appears to be a Stormwater and Drainage Detention Easement.
19. Please clarify if detention basin "N-1" serves only the subject property or whether it serves as a detention area for other properties. It is noted that this detention area falls outside of "Outlot A" and overlaps onto the privately owned subject property with no easement. If the detention area serves properties outside of the subject property, an easement for the benefit of those properties shall be required as part of this development.
20. The various access easements should be cleaned up as part of this subdivision. Please propose a solution to consolidate the five access easements on the western side of the property, which may include the modification of certain access easements that are no longer needed (such as the easement established via Document 24176553, which appears to traverse over one of the detention basins).

Site Plan

21. Please revise the architectural "Conceptual Site Plan" so that it is printed to-scale.
22. Please revise the architectural "Conceptual Site Plan" so that the table titled "Development Standards" includes another column outlining the proposed values for each of the code requirements (F.A.R., setbacks, and Off-Street parking) as based on the proposed development.
23. Please correct the following inconsistencies between the architectural site plan and the engineering site plans:
 - a. The architectural site plan shows the setback of the rear parking area as 30' and the engineering site plan shows this setback area as 15.45'.
 - b. There are retaining walls shown in basin "N-2" on the architectural site plan, which are not shown on the engineering plans.
24. Please include a measurement on the engineering Phase I and Phase II plans (sheets 7 and 8) that show the proposed setback of the building, at its closes point, to the north, south, east, and west property lines.
25. 17' deep stalls are allowed where a 1.5' overhang area is provided. However, when this overhang area encroaches on a servicewalk, the overhang is not allowed. Please revise the 17' deep parking stalls that include an overhang area encroaching on a servicewalk by either pushing back the servicewalk or providing the full depth for the parking stall.
26. Other than the transformer proposed on the west side of the building and the rooftop mechanical units, are any above ground utility or mechanical units proposed on the site (HVAC equipment, generators, utility pedestals, transformers, etc.).

27. Are any exterior dumpsters proposed, or will all dumpsters/refuse equipment be stored indoors?

Plat of Subdivision:

28. Is PIN 08-16-102-030 part of the subject property? Cook County records show this PIN is owned by Hamilton Partners. If this PIN is part of the subject property, please add it to the PIN list on the Plat of Subdivision.

29. Please extend the side yard setback lines to "Parcel 2" as delineated on the Plat of Subdivision.

30. Please clarify why the three parcels "1A, 1B, and 2" are delineated on the plat. They do not appear to be necessary on the Plat and should be removed if unnecessary as they may be construed as separate lots in the proposed subdivision. Alternatively, language can be added to the title to indicate that the Plat of Subdivision is to consolidate parcels 1A, 1B, and 2.

31. Please remove all references to the Village of Palatine.

32. Are any Covenants or Bylaws proposed in conjunction with the subdivision?

Landscaping:

33. There are two parking lot landscape islands proposed as concrete. These islands appear to contain a tree as required by code. Please clarify how a tree will be planted in the concrete landscape island.

Parking and Traffic:

34. The parking requirements are shown below. Please confirm that all data is accurate.

PHASE	PARKING CODE USE	NUMBER OF EMPLOYEES	NUMBER OF VEHICLES	SQUARE FEET	PARKING RATIO	PARKING REQUIRED
Phase I	Office	N/A	N/A	5,460	1 space per classroom plus two space per employee	18.2
	Warehouses and Storage	Unknown	45	N/A	1 space per vehicle plus 1 space per every two employees	45
Phase II	Office	N/A	N/A	5,460	1 space per classroom plus two space per employee	18.2
	Warehouses and Storage	Unknown	61	N/A	1 space per vehicle plus 1 space per every two employees	61
Total Parking Required						142
Total Parking Provided						308
Parking Surplus /(Deficit)						166

Note: Phase I provides 154 parking spaces, but may be reduced to 153 based on the need to add 1 handicap accessible stall.

35. The parking requirement for warehouse/distribution uses is calculated based, in part, on the number of employees during peak shift. While it is understood that no tenants have been signed, please provide an estimated number of employees for both Phase I and Phase II. Additionally, please acknowledge that, pending the actual number of employees, a non-compliant parking situation may be created that the property owner would need to resolve.

36. Please acknowledge that the office areas generate their own parking requirement per the Zoning Code "Collective Provision", and a non-compliant parking situation may be created that the property owner would need to resolve should the actual size of the office spaces be larger than proposed.
37. Phase I must be self sufficient relative to handicap parking requirements. A parking lot with 150 parking stalls is required to provide 5 handicap accessible stalls. Please add an additional handicap accessible stall to Phase I. As the combination of Phase I and Phase II requires a total of 8 handicap accessible stalls, one handicap accessible stall can therefore be removed from Phase II.
38. Section 11.8 of the Zoning Code requires the provision of bicycle parking spaces in new development. The number of bicycle parking spaces is based on the overall number of employees within a warehouse/storage facility. Bicycle parking spaces are required at a rate of one space per every 40 employees, with a minimum of two bicycle parking spaces required. Please provide an estimated number of employees for both Phase I and Phase II and add the corresponding number of bicycle parking spaces to each phase.
39. The traffic study recommended the northern passenger vehicle access drive at Meijer Drive adjacent to detention basin N-2 be R-in and R-out only with a stop sign. The addition of a stop sign at this location will be required. Additionally, is the current configuration of the R-in/R-out suitable to control these movements, or does the porkchop curb need to be raised and/or the median on Meijer Drive extended south to prevent outbound left turn movements and inbound right turn movements?
40. A stop sign will be required for egress at the intersection of the full access drive and Algonquin Road.
41. Has IDOT been approached relative to their initial perspective on adjusting the signal timing at Meijer Drive and Algonquin Road? Please provide any correspondence with IDOT relative to this proposed change.
42. There appear to be errors in Table 2 relative to the overall LOS grade for each leg of the weekday AM future conditions for NB and SB movements. The level of delay is shown as increasing in the future conditions, however, the overall LOS grade for each leg is shown as improving despite the increase in delay time relative to the existing condition. Please correct this table or clarify why the LOS has improved given an increased delay.
43. In order to avoid an unsignalized left turn across Algonquin Road into the full access drive from westbound Algonquin Road, passenger vehicles may opt for the signalized intersection at Meijer Drive. As the northerly access drive is restricted to R-in movements only, these passenger vehicles may traverse thru the truck access drive to reach the southern, eastern and northern passenger parking areas. Did the traffic analysis consider this possibility? Would these movements be safe given the potential truck movements adjacent to the loading areas and truck access drive?

Prepared by:



Hamilton Partners PUD Subdivision
702-723 W. Algonquin Road
PC 17-013
November 15, 2017

Tree Preservation

- 1) There are five Bur Oak trees ranging in size from 24-42 inch caliper in the east corner of the site that are identified for removal. The Oak trees are in good condition.

Landscape Issues

- 2) The ends of all parking rows and every twenty spaces must include a landscape island which contains a 4" caliper shade tree. (Chapter 28, section 6.15-1.2b). Increase the size of the proposed trees from 2.5 inch to 4 inch caliper. In addition, provide trees in the island along the front elevation where the tree is absent.
- 3) Per Chapter 28, Section 6.15-1.2a, a three foot high screen must be provided in order to screen the parking/paved areas that are adjacent to the public way. Extend the proposed screen to the west in order to screen the northwest corner of the parking lot.
- 4) Per Chapter 28, landscaping must be provided at the perimeter of the detention basin. In addition to the proposed trees, include a mix of shrubs and perennials.
- 5) Provide foundation plantings adjacent to the proposed building. The proposed plantings are minimal and should consist of a mix of understory trees, shrubs and perennials. The plantings for the phase one building must be continuous at the base of the building along the front and side elevations.
- 6) Any utility meters or mechanical units must be screened with landscaping or another appropriate method of screening. Identify the location of any trash enclosures. The enclosure must be fully screened with a fence/wall and landscaping.
- 7) A landscape compliance bond in the amount of 30% of the landscaping costs will be required and a tree fee of \$200 is required for each tree identified for preservation. In addition, a \$4 tree fee is required for each lineal foot of frontage.



MORGAN / HARBOUR
CONSTRUCTION

December 14, 2017

Attn: Sam Hubbard

Development Planner

Department of Planning and Community Development

Village of Arlington Heights

33 S. Arlington Heights Road

Arlington Heights, IL 60005

Tel: 847-368-5223

RECEIVED

DEC 15 2017

PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT

Re: 703-723 W. Algonquin Road Project – Planning Commission – Response Letter

Mr. Hubbard,

The following is our Planning Commission Response Letter addressing the comments as outlined in the VAH Review Letter received on November 20, 2017 regarding the aforementioned project:

PUD PRELIMINARY/FINAL PLAT OF SUBDIVISION:

1. *Provide the proposed construction type of the new buildings.*

RESPONSE: Type IIB (load-bearing, insulated precast concrete panels with steel columns and bar joist roof framing)

2. *Provide details of the items to be stored, and the average length of time they will be stored. Based on the type of items and their packaging materials provide the Use Group of the warehouse (S-1 or S-2).*

RESPONSE: Exact items unknown until tenants selected. Designed to accommodate S-1 occupancy type in warehouse for high-pile storage.

3. *Provide a height and area calculation based on the construction type and Use.*

RESPONSE: Building designed as unlimited area building with minimum of 60' clear from building foundation wall to adjacent property line or centerline of public R.O.W. and an ESFR sprinkler system. Building Height is 2 stories or less and under 55' tall.

4. *Where the electrical room contains equipment rated 1,200 amps or more, there shall be two exits on opposite corners of the room. The doors and door hinges shall have a fire-rating equal to the rating of the electrical room. Doors shall swing out and have panic hardware. The electrical room shall have the same rating as the building.*

RESPONSE: Electrical equipment size unknown at this time, but anticipated to be less than 1200 amps. Design plans for panic hardware and rated walls/doors as required by code. If the size of equipment increases then a 2nd door will be added as required.

5. *Permanent roof access is required.*

RESPONSE: Roof access ladder and roof hatch to be located in Fire Sprinkler Room.



FIRE SAFETY:

1. *A complete NFPA-13 compliant fire suppression system is required.*

RESPONSE: ESFR sprinkler system planned for building – GC to provide design-build drawings for permit submittal.

2. *Fire department connections shall be fully visible and located at the main front entrance of the building and within a maximum travel distance of 100 feet to the nearest fire hydrant.*

RESPONSE: The fire department connection (FDC) is to be located on the front of the building (north side), a fire hydrant is provided within 100' of the FDC ((easterly of the FDC location). Please see Engineering Plan Sheet 15.

3. *An approved water supply capable of supplying the required fire flow for fire protection shall be provided.*

RESPONSE: Refer to civil, plumbing and sprinkler drawings.

4. *Approved access shall be provided and maintained for all fire protection equipment to permit immediate safe operation and maintenance of such equipment.*

RESPONSE: Sprinkler/ FP room indicated on plans, fire ingress doors spaced at less than 100' at high pile storage areas – Fire apparatus access is reflected on the site Final Engineering Plans (see Heavy Duty Pavement Section on Sheets 7 & 8), as well as the Fire Truck Exhibit.

5. *Buildings or facilities having a gross building area of more than 62,000 square feet shall be provided with two separate and approved fire apparatus access roads.*

RESPONSE: fire access accommodated on east and west side of site accessed from Algonquin Rd and Meijer Drive (referenced in No 4 above)

6. *A fully functioning fire alarm shall be installed per NFPA 72. The alarm annunciator panel shall be located at the front entrance.*

RESPONSE: will be provided (FA Contractor to submit dwgs).

7. *Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation.*

RESPONSE: will be provided (FA Contractor to submit dwgs).

8. *Visible alarm notification appliances shall be provided in public areas and common areas. A visible exterior weatherproof alarm notification device shall be located within closest proximity to the front main entrance of the building or tenant space.*

RESPONSE: will be provided (FA Contractor to submit dwgs).

9. *Fire protection equipment and service rooms shall be identified in an approved manner.*

RESPONSE: project will comply (FA Contractor to submit dwgs).

10. *A zoning indicator panel and the associated controls, or, fire alarm control panel shall be located within the closest proximity to the front main entrance.*

RESPONSE: project will comply (FA Contractor to submit dwgs).



11. *Buildings shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building.*

RESPONSE: project will comply (FA Contractor to submit dwgs).

12. *A key box (Know Box) shall be provided and contain keys to gain necessary access as required by the fire code official.*

RESPONSE: project will comply (FA Contractor to submit dwgs).

13. *Fire pumps, if provided, shall be installed in accordance with the Fire Code and NFPA 20 and shall comply with all current code requirements.*

RESPONSE: project will comply (FA Contractor to submit dwgs).

14. *Exit signs shall be illuminated at all times and have emergency power backup.*

RESPONSE: project will comply (Design-Build Elec Engineer/Contractor to submit dwgs).

15. *Indicate the maneuvering capability of the Fire Department Tower Truck to confirm that the truck can negotiate the turns on pavement avoiding any dead-ends and identify any overhead wires that may be within the airspace of the truck set-up.*

RESPONSE: refer to civil engineering truck turn exhibits (Civil to respond) - See the Fire Truck Exhibit for maneuvering capability. Existing overhead utility lines are located along Algonquin Rd., which are not expected to be a concern. No overhead lines for the proposed building are anticipated.

16. *Buildings or portions of buildings or facilities exceeding 30 feet in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access road.*

RESPONSE: Civil to respond - Noted, see response to No 15 above.

17. *Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet exclusive of shoulders, in the immediate vicinity of any building or portion of building more than 30 feet in height.*

RESPONSE: Civil to respond - Noted, the fire apparatus access routes have an unobstructed width of 26'. See also above, as well as the Site Geometric and Paving Plans (Shts 7 & 8) of the Final Engineering Plans

18. *At least one of the required access routes meeting shall be located within a minimum of 15 feet and a maximum of 30 feet from the building, and shall be positioned parallel to one entire side of the building.*

RESPONSE: Civil to respond - Noted, please see response to above items, and the referenced Site Geometric and Paving Plans (Shts 7 & 8) of the Final Engineering Plans

19. *Building shall have approved address numbers.*

RESPONSE: Owner to respond - Noted and we will comply

20. *Fire department connections shall be installed in accordance with the NFPA standard applicable to the system design. The location of fire department connections shall be approved.*

RESPONSE: project will comply (FA Contractor to submit dwgs).



21. Fire department connections shall be located on the street side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access or as otherwise approved a visible location.

RESPONSE: Civil to responds - Noted – please see Civil Drawings

22. Signs shall be posted on both sides of an approach of any fire lane stating "NO PARKING – FIRE LANE". Signs shall have arrows indicating the area of parking restriction.

RESPONSE: Civil to respond - Noted, see Sheets 7 & 8

23. Fire lane signs shall be red with red three-inch letters. The dimensions of the sign shall be 12 inches horizontally and 18 inches vertically. These signs shall be installed so that the top of the sign is not less than 6 feet nor more than 6 feet above grade.

RESPONSE: Civil to respond - Noted, see Sheets 7 & 8

24. Tenant build-outs may result in additional requirements being met such as control rooms, storage of hazardous materials, etc.

RESPONSE: Noted.

25. Construction shall comply with all adopted codes.

RESPONSE: Noted.

PUBLIC WORKS:

PUBLIC WORKS DEPT – From Cris Papierniak, dated Nov 10, 2017

RESPONSES:

1. Comment is noted; however, no construction activity is anticipated in the Algonquin Rd ROW, or offsite areas which would impact the existing sidewalk. As referenced in the comment, replacement of any existing sidewalk would be the result of projection construction, and the project contractor(s) are not responsible for the maintenance or repair of a pre-existing condition.

2. Noted, please see Utility Plan – Ph 1, Sht 15

3. Noted, a note has been added to the plans, please see Sht 15

4. Noted, there are only a couple situations where a utility will need to be abandoned at the main line. Note 11 on the Demolition Plans, Shts 4 & 5, addresses this situation.

5. Internal. The Phase 2 portion of the building will be served from the water serviced to the building provided with the Phase 1 improvements.

6. Since there is not adequate depth for the water main to cross over the existing sanitary sewer it is to go below the sanitary sewer. For appropriate protection the water main is to be installed in a ductile iron casing 1.5' minimum below the bottom of the existing sanitary sewer. Information in the Utility Crossing Schedule (Sht 15) has been updated to better clarify details of this crossing.



7. Noted, information has been added to Note No 8, on Sht 1 of the Engineering Plans specifically referencing this document.
8. Noted
9. Noted, reference to a proposed fence has been reflected on the S-1 Cross Section detail on Sht 14. Details of the fence are included with the Landscape Plans.
10. Noted, a note has been added to Sht 16 addressing this item for existing sanitary manhole nos. 14 & 1

PUD, RELIM/FINAL PLAT OF SUBDIVISION:

RESPONSES:

11. Noted
12. Noted-An Engineer's Opinion of Probable Construction Cost to be provided
13. Noted, information is reflected on the Cover Sheet of the Final Engineering Plans, Sht 1
14. Noted
15. Noted. The Onsite Utility Maintenance Agreement will follow. Per previous discussions, the north overflow with Phase 1 is located at the existing driveway and based on existing elevations of the driveway and surrounding Algonquin Rd, etc. The proposed elevations and width of the south overflow with Phase 2, located at Basin S-1, have been modified to reflect the requested criteria.
16. Noted
17. We are not aware of any criteria, including that of MWRD, requiring the external truck dock drains go thru an oil separator or a triple basin. The proposed design concept has been used on other recent projects elsewhere, and received the appropriate approvals, including the MWRD permits. Remaining items in this comment are noted.
18. The referenced detail, on Sht 19, has been updated to reflect the existing 4" pipe
19. Noted, see updated Fire Truck Exhibit
20. Noted, a 26' pavement width is provided for the fire lanes. The proposed heavy-Duty Pavement section has been modified to reflect the required section and designated for the applicable fire lanes.



21. Since this an offsite area with no proposed site improvements at this location, it is not believed this should be a requirement of this project.

22. The Illinois Accessibility Code is silent in regards to the depth of a parking stall depth. The Illinois Capital Development Board was contacted to check on a possible requirement for depth of an ADA parking stall. They indicated they have no depth requirement, only width to accommodate movements for the individual's accessibility to the vehicle. Based on this criterion, as well as the detrimental impact of changing the parking stall depth to site constructability, geometrics, and ADA parking area & accessible route grading, the proposed stall depths for the ADA parking spaces have not been modified.

23. Noted

TRAFFIC:

24. Hours of operation is 7:00 am – 5:00 pm but please note that this will be determined by future tenants at a later date.

25. RESPONSE:

- The capacity analysis shows that the outbound queue during the weekday evening peak hour extends to the existing/proposed access drive that will be restricted to right-in/right-out turning movements.
- Future capacity analysis takes into consideration the addition of the trucks from the proposed facility by having increased the heavy vehicle percentages for the turning movements at this signalized intersection.
- Meijer Drive and the access drive opposite Meijer Drive operate as a split phase operation where each receives greentime successively, rather than concurrently. Further, the cycle length is 150 seconds during the weekday evening peak hour. As such, the combination of a long cycle length, split phase operation, and the limited greentime given to Meijer Drive all contribute to the less than desirable LOS/delay for the outbound movements on Meijer Drive, particularly during the weekday evening peak hour.
- As noted, it is recommended to petition IDOT to increase the amount of greentime allocated to Meijer Drive to improve the outbound queuing. This reallocation will improve traffic operations on Meijer Drive while maintaining good levels of service for the through traffic flow along IL 62.
- The traffic simulation shows that vehicles (a combination of both passenger vehicles and heavy vehicles) will be able to exit Meijer Drive without extensive queuing.

26. RESPONSE:

- We will continue to work with Village staff as to whether extending the barrier median on Meijer Drive, or modifying the existing pork chop island on the access driveway is more beneficial because of emergency vehicle access feasibility.
- The access drive proposed on Meijer Drive to serve the passenger vehicles accessing the development will be restricted to right-in/right-out only turning movements.



27. Please see the Photometric drawing as prepared by Hinsdale Electric along with corresponding Spec. Sheets.
28. The study assumes an orientation of IL 62 being in a north-south orientation. The study will be revised accordingly.
29. The traffic study was submitted to IDOT for their review and coordination.
30. See page below that includes a table of Code required parking.

FINAL PLAT OF SUBDIVISION:

31. Per the certificate appended to the Final Weber's Resubdivision vacation note "B" those easements falling in Outlot "A" "are hereby abrogated, vacated and abolished upon the completion of the construction of Meijer Drive."
32. We find no language which calls for public utility easements in any of the documents creating the Ingress/Egress easements.
33. We have reviewed and addressed the Final Plat of Subdivision Checklist.
34. We have drawn leaders to hopefully clarify the limits of each parcel.
35. The PIN number has been added.

FIRE DEPARTMENT:

1. *Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet, exclusive of shoulders, in the immediate vicinity of any building or portion of the building more than 30 feet in height.*
RESPONSE: Civil to respond - Noted, a fire access road with a 26' unobstructed width is provided in the vicinity of the building. Please see previous comments and updated site engineering plans.
2. *Building is to be sprinkled per code.*
RESPONSE: Yes – project will comply.
3. *The Fire Department Connection shall be located at the main front entrance of the building to be fully visible. It shall be located within a maximum travel distance of 100 feet to the nearest fire hydrant.*
RESPONSE: Building will be subdivided into multiple tenants with multiple entrances – recommend locating centrally on building near sprinkler room. And still comply with proximity to hydrant spacing.
4. *A Knox Box (key safe) shall be located at the main front entrance.*
RESPONSE: Building will be subdivided into multiple tenants with multiple entrances – recommend locating centrally on building near sprinkler room.



6. *A fire alarm zoning indicator panel and associated controls or fire alarm control panel (full functioning auxiliary panel) shall be located within the closest proximity to the front main entrance of the building.*

RESPONSE: Building will be subdivided into multiple tenants with multiple entrances – recommend locating centrally on building near sprinkler room.

7. *Note: Plan is conceptual only subject to detailed plan review.*

RESPONSE: Noted – will comply with additional jurisdictional reviews during building permit submittal.

POLICE DEPARTMENT:

1. *Character of use: The character of use is consistent with the area and is not a concern.*

RESPONSE: Noted.

2. *Are lighting requirements adequate? Lighting should be up to Village of Arlington Heights code. Special attention should be given to illuminating parking lot areas, and any secluded areas on the property. These areas should be illuminated especially during nighttime hours for safety, to deter criminal activity and increase surveillance/visibility- potentially reducing theft, trespassing, vandalism, underage drinking, drug use and other criminal activity.*

RESPONSE: Building and site lighting will comply with code required minimum lighting levels.

4. *Present traffic problems? There are no traffic problems at this location.*

RESPONSE: Noted.

5. *Traffic accidents at particular location? This is not a problem area in relation to traffic accidents.*

RESPONSE: Noted.

6. *Traffic problems that may be created by the development. There should be traffic control signage in the parking lot and right turn only designed exit lanes to discourage left turns onto Algonquin Road.*

RESPONSE: Noted (refer to civil dwgs) - The existing access at the northeast corner of the parcel is currently a full access which functions appropriately, and is consistent with numerous other full access locations along Algonquin Road. With the proposed project, this access will serve passenger vehicles only. The traffic signal at Meijer Drive will allow appropriate gaps for left turn movements from this access location. In accordance with the Traffic Report and discussions with the Traffic Consultant, the overall traffic movements for the proposed project will function better if this remains a full access rather than limiting to right turn exit movements only.

7. *General Comments:*

- a. *Please ensure that there is an emergency information/contact card on file with the Arlington Heights Police Department and that it is up-to-date. Agent contact information must be provided to the Arlington Heights Police Department during all construction phases. The form is attached. Please complete and return. This allows police department personnel to contact an agent during emergency situations or for suspicious/criminal activity on the property during all hours.*



- b. Landscaping should provide open sightlines to increase natural surveillance and avoid creating ambush locations and havens for illegal activities- theft, trespassing, vandalism, underage drinking, drug use, etc.
- c. Consider posting no trespassing/loitering/ no un authorized use signage. The Arlington Heights Police Dept. has and utilizes trespass warning forms under qualifying circumstances when requested by property management.
- d. Landscaping should provide open sightlines to increase natural surveillance and avoid creating ambush locations.
- e. Install cameras (with recording abilities) on the exterior and interior of buildings, to include a monitor and the reception/ or office area so employees have ability to monitor interior and exterior.

RESPONSE:

a. Please see the completed (Arlington Police Department – Emergency Information Card)

b. Noted

c. Noted

d. Noted

e. Noted

PLANNING AND COMMUNITY DEVELOPMENT

GENERAL

7. Please note that the Final Plat, as approved by the Engineering Dept., must be printed on Mylar and submitted to the Village, with signatures obtained from all parties except those to be coordinated by the Village, no less than one week prior to the Plan Commission hearing date. If this requirement cannot be met, you can proceed with Preliminary Plat approval with Final Plat approval obtained at a future date (i.e. a separate Plan Commission meeting would be needed). No public notice is required for Final Plat of Subdivision approval. If you end up proceeding with Preliminary Plat approval only, a copy of the Plat which reads "Preliminary" will be required one week prior to the Plan Commission hearing.

RESPONSE: Noted

8. Please note that final engineering must be approved by the Engineering Dept. no less than one week prior to appearance before the Plan Commission, which will include the payment of all engineering fees and the provision of all surety bonds, public improvement deposits, and engineering fee's. If this requirement cannot be met, you can proceed with Preliminary Plat approval with Final Plat approval obtained at a future date (i.e. a separate Plan Commission meeting would be needed). No public notice is required for Final Plat of Subdivision approval.

RESPONSE: Noted.

9. Section 5.1-17.2(d) of the Zoning Code restricts the storage of flammable and explosive materials. Please confirm that all materials stored within the warehouse portions of the building will comply with the regulations of Section 5.1-17.2(d).

RESPONSE: Storage requirements of tenants is unknown until building occupied, but will comply with applicable codes.



10. Please provide a photometric plan and catalog cut sheet for all parking lot and wall mounted light fixtures.

RESPONSE: MEP to respond – Please see the Photometric Drawing as prepared by Hinsdale Electric along with the corresponding Spec. Sheets.

11. Please provide an estimated number of employees that will be working out of the building in both Phase I and Phase II. Additionally, please provide the expected hours of operation of the facility.

RESPONSE: Rough approximate of employees 60-65 in each phase of building (+/- 120-130 total). Exact number unknown until building to be occupied by future tenants. Hours of operation unknown – will comply with all Village code requirements and restrictions.

12. Section 9.8(i) of the Zoning Code requires that all PUD's include a construction schedule and phasing plan. Please provide the required construction schedule, which includes information on the approximate date of construction start, the number of construction phases and the starting and completion date for each phase, as well as a construction staging plan. The construction phasing plan shall include the anticipated number of construction workers and where they will park during each phase of construction, the type and amount of construction vehicles per phase and where they will be staged, the location of material storage, and information on anticipated lane closures, including info on where the closures will take place and the timeframe for each closure.

RESPONSE: GC to respond – Please see the attached Schedule and Staging/Phasing Plan.

13. Please ensure that all plans and/or studies to be resubmitted as a result of the Round 1 Department review comments include a revision date.

RESPONSE: Noted.

14. Please provide details on all proposed retaining walls, including information on maximum wall height and wall materials.

RESPONSE: Civil to respond - Information for the site related retaining wall at Detention Basin S-1 is reflected on Sht 14. As indicated the wall is to be modular block. As indicated with the Retaining Wall Detail, the contractor is to submit detailed information regarding the specific wall product chosen. The Municipal Engineer is to receive copies of this submittal information.

EASEMENTS:

15. The southern parking row and detention area encroach on the 30' Water and Sewer easement as established in Document 20922014 & 24731232. Please clarify if the provisions of this easement allow for this encroachment.

RESPONSE: Civil to respond - The referenced documents pertaining to the 30' Water & Sewer easement are not available at this time. Document 20922041 does not relate to the subject property and Document 24731232 is a cover sheet only. Additional information has been requested from the Title Company to clarify this matter; however, as of this date the additional items have not been received. 975 E. 22nd Street, Suite 400, Wheaton IL 60189 (630)480-7889 www.rwg-engineering.com The proposed parking is consistent with the existing use and existing parking within the easement. The proposed grading for the back side of the detention basin will not interfere with the operation of the existing water main and sewers within the easement.



16. *The southwestern most parking spaces encroach into the 22' wide Access Easement as established in Documents 24738091 & 0608244082. Please clarify if the provisions of this easement allow for parking spaces to be located within the easement area.*

RESPONSE: Civil to respond - The subject ingress and egress easements allow the owner of a parcel to use the easement on its own property for any and all purposes as long as it does not unreasonably interfere with another Party's use of easement for ingress and egress. The proposed couple of parking spaces at the far southwest corner of the parcel, adjacent to an offsite open space/stormwater management area, will not interfere with any intended ingress or egress for the adjoining parcel. The small amount of proposed offsite pavement within the easement is for truck ingress & egress purposes to the dock area and not for vehicle parking.

17. *A 25' wide Access Easement exists on the northeast portion of the property. To whose benefit is this easement? If the easement is for the benefit of the 715-723 W. Algonquin property, it should be vacated as part of this subdivision as both properties will be consolidated and under unified ownership.*

RESPONSE: Civil to respond - The referenced 25' Access Easement was granted per Document 24176554. The Grantees with this easement include parcels immediately to the west of the subject property, as well as portions of the south parcel of the subject property. It is noted the Parties to a sequent agreement, Document 0608244082, appear to have abrogated their rights in the subject Document 24176554.

18. *Development within Phase I proposes the expansion of the driveway/paved area into "Outlot A", which outlot is not owned by the petitioner. Please confirm that the provisions of Document 0030435526 allow for the use of this area for ingress/egress. Of note, Document 0030435526 appears to be a Stormwater and Drainage Detention Easement.*

RESPONSE: Civil to respond - The Property Owner is having discussions with the adjacent property owner to provide information regarding the proposed project and corresponding site improvements, as well as to confirm the adjacent property owner's concurrence with the proposed improvements in the Outlot A area.

19. *Please clarify if detention basin "N-1" serves only the subject property or whether it serves as a detention area for other properties. It is noted that this detention area falls outside of "Outlot A" and overlaps onto the privately owned subject property with no easement. If the detention area serves properties outside of the subject property, an easement for the benefit of those properties shall be required as part of this development.*

RESPONSE: Civil to respond - Extensive research and investigation to date indicates the subject basin N-1 serves only the subject parcel. Therefore, no additional easement for the benefit of an offsite parcel is necessary. It should also be noted, Basin N-2, as well as Basin N-1 serve only the subject parcel in both the existing and proposed conditions.

20. *The various access easements should be cleaned up as part of this subdivision. Please propose a solution to consolidate the five access easements on the western side of the property, which may include the modification of certain access easements that are no longer needed (such as the easement established via Document 24176553, which appears to traverse over one of the detention basins).*

RESPONSE: Civil to respond - Discussions and coordination are proceeding to identify an appropriate approach to possibly "clean up" the various easements associated with this parcel.



It should be noted, modifications to the existing access easement documents involve parcels other than the subject site.

SITE PLAN:

21. Please revise the architectural "Conceptual Site Plan" so that it is printed to-scale.

RESPONSE: Noted – see revised architectural site plan.

22. Please revise the architectural "Conceptual Site Plan" so that the table titled "Development Standards" includes another column outlining the proposed values for each of the code requirements (F.A.R., setbacks, and Off-Street parking) as based on the proposed development.

RESPONSE: Noted – see revised architectural site plan.

23. Please correct the following inconsistencies between the architectural site plan and the engineering site plans:

- a. The architectural site plan shows setback of the rear parking area as 30' and the engineering site plan shows this setback as 15.45'.
- b. There are retaining walls shown in basin "N-2" on the architectural site plan, which are not shown on the engineering plans.

RESPONSE: Noted – see revised architectural & civil site plans. Civil - Item a-Not Applicable; Item b-there are not retaining walls included with the design of Basin N-2

24. Please include a measurement on the engineering Phase I and Phase II plans (sheets 7 and 8) that show the proposed setback of the building, at its closest point, to the north, south, east and west property lines.

RESPONSE: Building shall be no closer than 60' to any property line (or centerline of public R.O.W. to comply with unlimited area building code provisions - refer to civil dwgs.

25. 17' deep stalls are allowed where a 1.5' overhang area is provided. However, when this overhang area encroaches on a service walk, the overhang is not allowed. Please revise the 17' deep parking stalls that include an overhang encroaching on a service walk by either pushing back the service walk or providing the full depth for the parking stall.

RESPONSE: Civil to respond - Where the parking overhang is provided, the proposed 6' sidewalk has been modified to a 5' walk and a 1' landscape median between the back of curb and the 5' service walk; therefore, there is no overhang over the proposed service walk. Please see Shts 12-14 of the Engineering Plans, and Landscape Plans.

26. Other than the transformer proposed on the west side of the building and the rooftop mechanical units, are any above ground utility or mechanical units proposed on the site (HVAC equipment, generators, utility pedestals, transformers, etc.)

RESPONSE: None are planned at this time.

27. Are any exterior dumpsters proposed, or will all dumpsters/refuse equipment be stored indoors?

RESPONSE: No – trash will be handled indoors.



PLAT OF SUBDIVISION:

28. *Is PIN 08-16-102-030 part of the subject property? Cook County records show this PIN is owned by Hamilton Partners. If this PIN is part of the subject property, please add it to the PIN list on the Plat of Subdivision.*

RESPONSE: Civil to respond – Gentile – PIN 08-16-102-030 was added

29. *Please extend the side yard setback lines to "Parcel 2" as delineated on the Plat of Subdivision.*

RESPONSE: Civil to respond – The side yard setback line shown on the first draft of the subdivision was inadvertently taken off a prior survey and has been removed. If it deemed necessary to add front, rear or side yard setbacks to the Plat of Subdivision then some direction as to the sizes will be required.

30. *Please clarify why the three parcels "1A, 1B, and 2" are delineated on the plat. They do not appear to be necessary on the Plan and should be removed if unnecessary as they may be construed as separate lots in the proposed subdivision. Alternatively, language can be added to the title to indicate that the Plat of Subdivision is to consolidate parcels 1A, 1B and 2.*

RESPONSE: Civil to respond – Labelling of parcels has been addressed.

31. *Please remove all references to the Village of Palatine.*

RESPONSE: Civil to respond – All references to the Village of Palatine have been removed.

32. *Are any Covenants or Bylaws proposed in conjunction with the subdivision?*

RESPONSE: Civil to respond – we are not aware of any Covenants or Bylaws.

LANDSCAPING:

33. *There are two parking lot landscape islands proposed as concrete. These islands appear to contain a tree as required by code. Please clarify how a tree will be planted in the concrete landscape island.*

RESPONSE: Concrete is proposed in these islands for pedestrian access from the parking area to the building. Please see modified Landscape Plans



PARKING AND TRAFFIC:

34. The parking requirements are shown below. Please confirm that all data is accurate.

Phase	Parking Code Use	Number of Employees	Number of Vehicles	Square Feet	Parking Ratio	Parking Required
Phase 1	Office	N/A	N/A	5,460	1 space per classroom plus two spaces per employee	18.2
Phase 1	Warehouse	Unknown	45	N/A	1 space per vehicle plus 1 space per every two employees	45
Phase 2	Office	N/A	N/A	5,460	1 space per classroom plus two spaces per employee	18.2
Phase 2	Warehouse	Unknown	61	N/A	1 space per vehicle plus 1 space per every two employees	61
					Total Parking Required	142
					Total Parking Provided	308
					Parking Surplus/(Deficit)	166

Note: Phase 1 provides 154 parking spaces, but may be reduced to 153 based on the need to add 1 handicap accessible stall.

RESPONSE: no classrooms anticipated, but agree with count for 1/300 SF parking for the proposed amount of office area shown (for speculative building prior to known tenant requirements) equal to 36 stalls total. One space for every dock door (vehicles used to conduct the enterprise) comes out to 68 parking spaces total. As for employee count in the warehouse/storage areas that is difficult to say until a tenant is identified. We assume approximately a maximum of 20-25 employees per tenant (building currently shown as 4 tenant split), but we do not anticipate ever exceeding the total number of parking spaces provided since the industry standard for this market is approximately 0.75/1000 to 1/1000 sf of total building area which would equal between 250-300 parking stalls. So, based on the city's requirements which are less, we don't think that any user that Hamilton Partner finds for the building will provide less parking than the Village Code requires.

35. The parking requirement for warehouse/distribution uses is calculated based, in part, on the number of employees during peak shift. While it I understood that no tenants have been signed, please provide an estimated number of employees for both Phase 1 and Phase 2. Additionally, please acknowledge that, pending the actual number of employees, a non-compliant parking situation may be created that the property owner would need to resolve.

RESPONSE: Noted. Rough approximate of employees 60-65 in each phase of building (+/- 120-130 total). Exact number unknown until building to be occupied by future tenants. Parking will comply for any tenant to occupy the building, even if that means stripping some stalls in the west truck court area along the dock wall and disabling some dock doors.



36. Please acknowledge that the office areas generate their own parking requirement per the Zoning Code "Collective Provision", and a non-compliant parking situation may be created that the property owner would need to resolve should the actual size of the office spaces be larger than proposed.

RESPONSE: Noted. Refer to item 35 response.

37. Phase 1 must be self-sufficient relative to handicap parking requirements. A parking lot with 150 parking stalls is required to provide 5 handicap accessible stalls. Please add an additional handicap accessible stall to Phase 1. As the combination of Phase 1 and phase 2 requires a total of 8 handicap accessible stalls, one handicap accessible stall can therefore be removed from Phase 2.

RESPONSE: Noted – project will comply – see civil dwgs.

38. Section 11.8 of the Zoning Code required the provision of bicycle parking spaces in the new development. The number of bicycle parking spaces is based on the overall number of employees within a warehouse/storage facility. Bicycle parking spaces are required at a rate of one space per every 40 employees, with a minimum of two bicycle parking spaces required. Please provide an estimated number of employees for both Phase 1 and Phase 2 and add the corresponding number of bicycle parking spaces to each phase.

RESPONSE: Rough estimate of total employees in building to be +/- 130 divided by 40 equals 3 bike stalls. Refer to revised architectural plan for proposed bike rack location.

39. The traffic study recommended the northern passenger vehicle access drive at Meijer Drive adjacent to detention basin N-2 be R-in and R-out only with a stop sign. The addition of a stop sign at this location will be required. Additionally, is the current configuration of the R-in/R-out suitable to control these movements, or does the porkchop curb need to be raised and/or the median on Meijer Drive extended south to prevent outbound left turn movements and inbound right turn movements?

RESPONSE: civil to respond - A Stop Sign is provided, as well as a "Right Turn Only" sign. Please see Sht 7

40. A stop sign will be required for egress at the intersection of the full access drive and Algonquin Road.

RESPONSE: civil to respond - A Stop Sign is provided, please see Sht 7

41. Has IDOT been approached relative to their initial perspective on adjusting the signal timing at Meijer Drive and Algonquin Road? Please provide any correspondence with IDOT relative to this proposed change.

RESPONSE: Civil to respond - IDOT has been contacted and information submitted to IDOT regarding the proposed project and adjustment to traffic signal timing at Meijer Drive and Algonquin Rd. A corresponding response is pending.

42. There appear to be errors in Table 2 relative to the overall LOS grade for each leg of the weekday AM future conditions for NB and SB movements. The level of delay is shown as increasing in the future conditions, however, the overall LOS grade for each leg is shown as improving despite the increase in delay time relative to the existing condition. Please correct this table or clarify why the LOS has improved given any increased delay.

RESPONSE: Civil to respond – Noted and table will be corrected.



43. *In order to avoid an un-signalized left turn across Algonquin Road into the full access drive from westbound Algonquin Road, passenger vehicles may opt for the signalized intersection at Meijer Drive. As the northerly access drive is restricted to R-in movements only, these passenger vehicles may traverse thru the truck access drive to reach the southern, eastern and northern passenger parking areas. Did the traffic analysis consider this possibility? Would these movements be safe given the potential truck movements adjacent to the loading areas and truck access drive?*

RESPONSE:

- With the exception of the possibility of signage restricting access at the driveways or internally, there are no restrictions that would prevent 360-degree circulation of the building for passenger vehicles. Passenger vehicles may also choose to exit onto Meijer Drive via the truck access drive.
- Because a majority, if not all, of the traffic accessing the development are employees, they will be familiar with the site access and internal circulation.
- Truck activity represents approximately 20 percent or less of the total peak hour development-generated traffic.
- Truck turning movements within the site occur at low rates of speed.
- The developed scenario is similar to trucks and cars sharing turning movements at any roadway intersection.

TREE PRESERVATION AND LANDSCAPE ISSUES:

Tree Preservation

1. There are five Bur Oak trees ranging in size from 24-42-inch caliper in the east corner of the site that are identified for removal. The Oak trees are in good condition.

RESPONSE: Under Review

Landscape Issues

2. The ends of all parking rows and every twenty spaces must include a landscape island which contains a 4" caliper shade tree. (Chapter 28, section 6.15-1.2b). Increase the size of the proposed trees from 2.5 inch to 4-inch caliper. In addition, provide trees in the island along the front elevation where the tree is absent.

RESPONSE: The proposed trees in the islands have been upsized to 4" cal., and trees in the islands could not be placed since these are continuous concrete islands used for pedestrian ingress & egress. We have relocated the trees next to the detention pond.

3. Per Chapter 28, Section 6.15-1.2a, a three-foot-high screen must be provided in order to screen the parking/paved areas that are adjacent to the public way. Extend the proposed screen to the west in order to screen the northwest corner of the parking lot.

RESPONSE: Additional plantings were added to provide a three-foot-high screen and additional plantings were also extended to the west to provide screening at NW corner of the parking lot.

4. Per Chapter 28, landscaping must be provided at the perimeter of the detention basin. In addition to the proposed trees, include a mix of shrubs and perennials.

RESPONSE: Additional trees, shrubs and perennials were added at the perimeter of the detention pond.



5. Provide foundation plantings adjacent to the proposed building. The proposed plantings are minimal and should consist of a mix of understory trees, shrubs and perennials. The plantings for the phase one building must be continuous at the base of the building along the front and side elevations.

RESPONSE: A continuous line of columnar trees, shrubs, and perennials have been added to the front and side foundation of the building.

6. Any utility meters or mechanical units must be screened with landscaping or another appropriate method of screening. Identify the location of any trash enclosures. The enclosure must be fully screened with a fence/wall and landscaping.

RESPONSE: Trash receptacle will be inside building.

7. A landscape compliance bond in the amount of 30% of the landscaping costs will be required and a tree fee of \$200 is required for each tree identified for preservation. In addition, a \$4 tree fee is required for each lineal foot of frontage.

RESPONSE: A landscape compliance bond and fees will be provided by owner.

Please contact me directly if any of these responses are insufficient or if any further clarification is required in order to obtain jurisdictional approval.

Sincerely,

A handwritten signature in black ink, appearing to read "Joshua Spinks", is written over a horizontal line. The signature is stylized with a large, sweeping initial "J" and a long, horizontal stroke extending to the right.

Joshua Spinks
Senior Project Manager
Morgan / Harbour Construction, L.L.C.



**Village of Arlington Heights
Building & Life Safety Department**

Interoffice Memorandum

To: Sam Hubbard, Development Planner, Planning and Community Development
From: Deb Pierce, Plan Reviewer, Building & Life Safety Department
Subject: 703-723 W Algonquin Rd., PUD Preliminary/Final Plat of Subdivision
PC#: 17-013 – Round 2
Date: January 2, 2018
Sam:

I have reviewed the revised documents for the project indicated above and have no additional comments.

RECEIVED

JAN - 3 2018

**PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT**



Village of Arlington Heights, IL
Department of Building & Life Safety

Fire Safety Division



Date: 12/19/2017

P.C. Number: 17-013 Round 2

Project Name: Hamilton Partners PUD and Subdivision

Project Location: 703-723 W. Algonquin Rd.

Planning Department Contact: Sam Hubbard, Planning and Community Development

General Comments:

The information provided is conceptual only and subject to a formal plan review.

1. The site plan provided does not clearly show certain items because of the black and white rendition. A clear site plan showing the following is requested to be submitted for additional review:
 - The location of the FDC
 - Fire Department apparatus proposed access to the FDC
 - Location of the fire hydrant closest to the FDC and the distance.
 - Proposed width of the fire department apparatus travel lanes.
2. Placement of the electric (transformer) equipment on the proposed plan in front of the access door to the fire sprinkler/pump room is not acceptable: hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections shall be *approved* by the fire chief.

A working space of not less than 36 inches in width, 36 inches in depth and 78 inches in height shall be provided and maintained in front of and to the sides of wall-mounted fire department connections and around the circumference of free-standing fire department connections, except as otherwise required or *approved* by the fire chief.

3. Indicate is emergency power systems for continuous operation of emergency systems will be provided and how it will be fueled

Date December 19, 2017

Reviewed By: _____


Fire Safety Supervisor

Memorandum

To: Sam Hubbard, Planning and Community Development
From: Cris Papierniak, Assistant Director of Public Works
Date: December 28, 2017
Subject: 703-723 W Algonquin Rd, PC #17-013 Round 2



Regarding the proposed utility installation, PW has the following comments:

1. The proposed hydrant addition on the north east corner of the property must originate from a pressure connection that is encompassed within a vault with a minimum diameter of 60".
2. Edit Note #11 on the demolition plans to specify "all utilities that are not going to be reused must be properly abandoned at the respective main lines prior to installation of new utilities". The revised note is not specific enough.
3. Remove the brand "Traverse City Hydrant" from the hydrant detail.
4. Ensure that all dumpsters and material piles during construction do not drain into ditches or detention basins.
5. Provide a maintenance plan for all existing and proposed detention systems.
6. Water meter and RPZ's will be specified once architectural plans have been submitted.

CC: Scott T. Shirley, Director of Public Works

RECEIVED

DEC 29 2017

PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT

PLAN COMMISSION PC #17-013
Hamilton Partners – Arlington Heights Subdivision
703-723 W. Algonquin Road
PUD, Prelim/Final Plat of Subdivision
Round 2

36. The response by the petitioner to comments #11-14, 16, 17, 20, 27-32 & 35 are acceptable.
37. The response provided by the petitioner to Comment #15 is acceptable. The OUMA must be provided by the petitioner and reviewed by the Village. The petitioner must then provide a signed original for the Village to execute and record. This signed original must be provided to the Engineering Department before any building permit will be approved.
38. The response provided by the petitioner to Comment #18 is acceptable. Per Village requirements, please add a trap for the upper restrictor, since it is less than 4" in diameter.
39. The response provided by the petitioner to Comment #19 is noted. Also provide an exhibit showing the vehicle entering in the Meijer Drive driveway and turning to the front entrance of the building, basically the reverse of what was provided.
40. The response provided by the petitioner to Comment #21 is not acceptable. The comment stands as a requirement for approval. To reiterate: Public sidewalk, 8" thick, to be established across the existing Meijer Drive driveway. Sidewalk takes precedence through the driveway, with curb stopping on either side of the sidewalk. Detectable warning panels are required for sidewalks at stop controlled driveways.
41. The response provided by the petitioner to Comment #22 is noted. We are following up internally about these requirements.
42. The response provided by the petitioner to Comment #23 is not acceptable. None of the required documents have been provided. To reiterate: The plans show offsite pavement improvements. Written permission, whether in the form of an existing easement that allows pavement construction or a letter from the property owner must be provided before this work can be allowed.

Traffic:

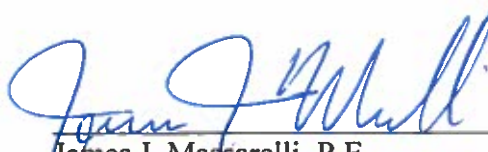
43. The response provided by the petitioner to Comment #24 is noted. Provide hours of operation once a tenant is selected.
44. The response provided by the petitioner to Comment #25 is not acceptable. Under full operation, is truck traffic going to result in lane storage being exceeded? Will the queue result in NB traffic stacking past the private Weber Drive driveway? What is the required storage length for the turn lanes? Provide updated capacity analysis.

RECEIVED
JAN 02 2018
PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT

45. The response provided by the petitioner to Comment #26 is not acceptable. The turning movement exhibits do not show any emergency vehicles entering the RIRO driveway from southbound Meijer Drive. To reiterate: The existing raised barrier median in the center of Meijer Drive must be extended to the end of the striped dual left turn bay markings.
46. Show the existing/proposed pavement striping on Meijer Drive on Sheet 7: Geometric and Paving. Include dimensioning for storage lengths, taper lengths, etc.

Final Plat of Subdivision:

47. The response provided by the petitioner to Comment #33 is noted. The following items from the Final Plat of Subdivision Checklist have not been satisfactorily addressed:
 - h. Include signature blocks for Comcast and WOW cable.
 - m. Include any building setback lines.
 - n. Include the Deed of Dedication as provided.
 - o. Include the Village certificate as provided. Eliminate duplicate certificates.
 - t. Add a block stating "Send Tax Bill To:".
48. The response provided by the petitioner to Comment #34 is acceptable. One of the leader lines for Parcel 1 "B" overlaps Parcel 1 "A". Please fix.


James J. Massarelli, P.E. 1/2/18
Director of Engineering Date



Arlington Heights Fire Department Plan Review Sheet

P. C. Number 17-013

Project Name

Hamilton Partners PUD & Subdivision

Project Location

703-723 W. Algonquin Road

Planning Department Contact Sam Hubbard

General Comments

Round 2

- 1) Please provide an auto turn diagram using the specs that engineering provides for Tower 131.
- 2) The Fire Department Connection (FDC) shall be located at the main front entrance and be fully visible. A fire hydrant is to be located within 100' of the FDC.
- 3) A fully operational annunciator panel or alarm panel is to be located at the main front entrance.
- 4) A Knox Box is to be located at the main front entrance. In addition a Knox Box is to be located at each tenant entrance.

**NOTE: PLAN IS CONCEPTUAL ONLY
SUBJECT TO DETAILED PLAN REVIEW**

Date Dec. 28, 2017

Reviewed By: _____

LT. Mark Aleckson

ARLINGTON HEIGHTS POLICE DEPARTMENT

Community Services Bureau

DEPARTMENT PLAN REVIEW SUMMARY

703-723 W. Algonquin Rd.
PC#17-013

Round 2 Review Comments

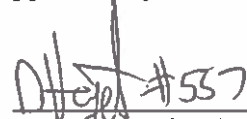
12/19/2017

1. **Character of use:**
The character of use is consistent with the area and is not a concern.
2. **Are lighting requirements adequate?**
Nothing further.
3. **Present traffic problems?**
There are no traffic problems at this location.
4. **Traffic accidents at particular location?**
This is not a problem area in relation to traffic accidents.
5. **Traffic problems that may be created by the development.**
There should be traffic control signage in the parking lot and right turn only designed exit lanes to discourage left turns onto Algonquin Road.
6. **General comments:**
Nothing further.

 #272

Brandi Romag, Crime Prevention Officer
Community Services Bureau

Approved by:

 #557

Supervisor's Signature

Planning & Community Development Dept. Review

January 2, 2018



REVIEW ROUND 2

Project: 703-723 W. Algonquin Rd

Case Number: PC 17-013

44. The response to comments #9 - #11, #13 - #14, #16, #19, #21, #23 - #28, #31, #32, #36, #37, and #43 are acceptable.
45. The responses to #7 and #8 are noted. If the signed mylar and payment of all engineering fees and deposits cannot be provided one week prior to the scheduled Plan Commission meeting, an electronic and paper copy of the Plat document must be provided, which shall be revised to read "Preliminary Plat".
46. The response to #12 is noted. Please revise the construction staging plan to include information on construction entrances and construction fence locations.
47. The response to comment #15 is noted. Please provide a copy of documents #20922014, #24731232, #19977407, & #20097967 to verify that the provisions of the water and sewer easements allow the proposed parking lot and detention area encroachments. If the documentation provided does not clearly illustrate how these encroachments are permitted, a letter granting permission for these encroachments shall be required by the parties which hold rights to these easements.
48. The response to comment #17 is noted. Please provide document #24176554 and #0608244082 to verify that this easement has been abrogated. If the easement has already been abrogated, then why is it shown on the plat and Alta survey? If only the rights to the easement, but not the actual easement, have been abrogated, then the easement shall formally be vacated as part of this development, which would likely required all parties with rights to that easement to sign off on the Plat to authorize its vacation.
49. The response to comment #18 is noted. Since the existing easement provisions do not allow for the construction of pavement and vehicular travel within that easement, permission from the property owner to allow for the proposed improvements shall be required. Please provide this written permission.
50. The response to comment #20 is noted. Prior to appearing before the Plan Commission, the petitioner shall propose a solution to address the multitude access easements along the western edge of the property and immediately abutting the property to the west.
51. The response to comment #22 is not acceptable. The required table has not been added to the plan. Please add the following tables to the conceptual site plan and fill in the corresponding information.

Phase I

	M-2 District Code Required	Proposed
Setbacks		
North (front)		
South (rear)		
East (side)		

West (side)		
South (rear - parking areas)		
F.A.R.		
Building Lot Coverage	None	
Impervious Surface Coverage	None	
Building Height	None	
Off-street Parking Spaces		

Phase I and II

	M-2 District Code Required	Proposed
Lot Size		
Lot Width		
Setbacks		
North (front)		
South (rear)		
East (side)		
West (side)		
South (rear - parking areas)		
F.A.R.		
Building Lot Coverage	None	
Impervious Surface Coverage	None	
Building Height	None	
Off-street Parking Spaces		

52. The response to comment #29 is not acceptable. Section 29-201(b)12 of the Subdivision Code requires the setback lines be shown on all Plats of Subdivision. Please add setback lines showing the required front, side, and rear yard setbacks.
53. The response to comment #30 is not acceptable. There is no reason why the three parcels are shown on the Plat. The purpose of the Plat is to consolidate the entire property into one recorded lot. Therefore, showing these parcels obscures the Plat. Please remove these parcels from the Plat.
54. The response to comment #33 is not acceptable. Section 6.15-1.2(b) of the Zoning Code requires that all parking rows terminate with a landscape island that includes a shade tree. Please incorporate a shade tree into all parking lot islands.
55. The response to comment #34 is noted. The adjusted parking requirement is shown below.

PHASE	PARKING CODE USE	NUMBER OF EMPLOYEES	NUMBER OF VEHICLES	SQUARE FEET	PARKING RATIO	PARKING REQUIRED
Phase I	Office	N/A	N/A	5,460	1 space per 300 sq. ft.	18.2
	Warehouses and Storage	65	26	N/A	1 space per vehicle plus 1 space per every two employees	58.5

Phase II	Office	N/A	N/A	5,460	1 space per 300 sq. ft	18.2
	Warehouses and Storage	65	42	N/A	1 space per vehicle plus 1 space per every two employees	74.5
Total Parking Required						169
Total Parking Provided						308
Parking Surplus/(Deficit)						139

56. The response to comment #35 is noted. Village review and approval would be required for any additional parking area proposed on the site.
57. The response to #38 is noted. The office portion of the development requires 2 bicycle parking spaces, the warehouse portion requires 5 bicycle parking spaces, for a total of 5 bicycle parking spaces. Please confirm that the proposed bicycle parking area on the plans has sufficient room for 5 bicycle parking spaces and please adjust the note on the plan to specify that the bicycle parking area will contain at least 5 bicycle parking spaces.
58. The response to comment #39 is noted. Please note that the Engineering Dept. is requiring a southern extension of the median curb within Meijer Dr.
59. The response to comment #41 is not acceptable. Prior to scheduling a meeting with the Plan Commission, staff must have record of correspondence with IDOT relative to their preliminary review of the timing change.
60. The response to comment #42 is noted. However, no revised traffic study/table was provided.
61. The proposed bike rack location is not shown on the civil plans or the landscape plans. Please revise those plans to incorporate the proposed bike rack.
62. The response to comment #9 from the Public Works Department indicates that there will be a fence around the retaining ponds, with a note that the fence is shown on the landscape plan. However, there is no fence shown on the landscape plan. Please show the location of the proposed fence on all applicable plans and provide a detail for said fence, including height, style, and materials.
63. Please revise plans to address the Design Commission motion from November 28, 2017 as follows: A requirement to provide a minimum of eight feet of space between the northeast corner of the building and the driveway curb to allow for more landscaping at the corner of the building. A requirement to provide additional foundation plantings adjacent to the building, especially along the north and south walls adjacent to the roadways. The plantings should include layering of understory trees, shrubs, and perennials.

Prepared by:


1.2.18

Hamilton Partners PUD Subdivision
702-723 W. Algonquin Road
PC 17-013
December 22, 2017

Tree Preservation

- 1) There are five Bur Oak trees ranging in size from 24-42 inch caliper in the east corner of the site that are identified for removal. The Oak trees are in good condition.

Landscape Issues

- 2) The ends of all parking rows and every twenty spaces must include a landscape island which contains a 4" caliper shade tree. (Chapter 28, section 6.15-1.2b). Increase the size of the proposed trees from 2.5 inch to 4 inch caliper. In addition, provide trees in islands where the trees are absent.
- 3) Continue the code required three foot high screen to the east near the northeast corner adjacent to the drive aisle (west of the drive aisle). The landscaping should not obstruct site lines.
- 4) Provide foundation plantings adjacent to the proposed building. There are areas where the foundation plantings are absent. Infill any areas with shrubs and/or perennials along the base of the building.



MORGAN / HARBOUR
CONSTRUCTION

January 10, 2018

Attn: Sam Hubbard

Development Planner
Department of Planning and Community Development
Village of Arlington Heights
33 S. Arlington Heights Road
Arlington Heights, IL 60005

Tel: 847-368-5223

Re: 703-723 W. Algonquin Road Project – Planning Commission – Response Letter – (Round 2)

Mr. Hubbard,

The following is our Planning Commission Response Letter addressing the comments as outlined in the VAH Review Letter received on January 03, 2018 regarding the aforementioned project:

PLANNING & COMMUNITY DEVELOPMENT DEPT. From Sam Hubbard, dated Jan 2, 2018

44. Noted
45. Noted. The Plat document has been revised to read "Preliminary Plat"
46. Noted. Please see Soil Erosion and Sediment Control Plans (Shts 9 & 10) of the Final Engineering Plans for construction entrance and construction fence locations.
47. A copy of the requested documents is provided. The Owner is working on a plan that in conjunction with other applicable parties would clean-up and clarify these easement rights
48. A copy of the requested documents is provided. As indicated above the Owner is working on a plan that in conjunction with other applicable parties would clean-up and clarify these various easements
49. As noted above, the Owner is working a plan that would clarify/confirm the easement rights.
50. As noted above, the Owner is working on a plan that in conjunction with other applicable parties would clean-up and clarify these easement rights
- 51.

	<i>M-2 District Code Required</i>	<i>Proposed</i>
<i>Setbacks</i>		
<i>North (front)</i>	<i>15'</i>	<i>54.88'</i>
<i>South (rear)</i>	<i>15'</i>	<i>132.47' from existing building to south property line 81.73' between phase 1 and existing building</i>
<i>East (side)</i>	<i>10' or 10% of lot width (whichever is less)</i>	<i>60'</i>
<i>West (side)</i>	<i>10' or 10% of lot width</i>	<i>56.94'</i>

	<i>(whichever is less)</i>	
<i>South (rear – parking areas)</i>	<i>15'</i>	<i>N/A - existing conditions</i>
F.A.R.	<i>2.50 maximum</i>	<i>.38</i>
Building Lot Coverage	<i>No zoning requirement, refer to building code for additional requirements</i>	<i>38.24%</i>
Impervious Surface Coverage	<i>No zoning requirement, refer to building code for additional requirements</i>	<i>81.58%</i>
Building Height	<i>No zoning requirement, refer to building code for additional requirements</i>	<i>39'-0"</i>
Off-street Parking Spaces	<i>77 (new building only)</i>	<i>152 (new building only)</i>

	M-2 District Code Required	Proposed
Lot Size	<i>N/A</i>	<i>671,453 SF (15.41 AC)</i>
Lot Width	<i>N/A</i>	<i>441.74'</i>
Setbacks		
<i>North (front)</i>	<i>15'</i>	<i>54.88'</i>
<i>South (rear)</i>	<i>15'</i>	<i>84.18'</i>
<i>East (side)</i>	<i>10' or 10% of lot width (whichever is less)</i>	<i>60'</i>
<i>West (side)</i>	<i>10' or 10% of lot width (whichever is less)</i>	<i>56.94'</i>
<i>South (rear-parking areas)</i>	<i>15'</i>	<i>15.45'</i>
F.A.R.	<i>2.50 maximum</i>	<i>.49</i>
Building Lot Coverage	<i>No zoning requirement, refer to building code for additional requirements</i>	<i>49.30%</i>
Impervious Surface Coverage	<i>No zoning requirement, refer to building code for additional requirements</i>	<i>88.55%</i>
Building Height	<i>No zoning requirement, refer to building code for additional requirements</i>	<i>39'-0"</i>
Off-street Parking Spaces	<i>169</i>	<i>308</i>

RESPONSE: Noted – see revised architectural site plan and tables above.



52. Copies of the (2) documents requested are included with this submittal. The easement was originally shown on the plat and most likely on the ALTA Surveys by others because it was listed as an exception in the title commitment.
53. Legal lines and labelling of parcels has been removed.
54. The concrete for pedestrian access has been removed and a shade tree provided (see Landscape Plan)
- 55.

<i>Phase</i>	<i>Parking Code Use</i>	<i>Number of Employees</i>	<i>Number of Vehicles</i>	<i>Square Feet</i>	<i>Parking Ratio</i>	<i>Parking Required</i>
<i>Phase 1</i>	<i>Office</i>	<i>N/A</i>	<i>N/A</i>	<i>5,460</i>	<i>1 space per 300 sq. ft.</i>	<i>18.2</i>
<i>Phase 1</i>	<i>Warehouse</i>	<i>65</i>	<i>26</i>	<i>N/A</i>	<i>1 space per vehicle plus 1 space per every two employees</i>	<i>58.5</i>
<i>Phase 2</i>	<i>Office</i>	<i>N/A</i>	<i>N/A</i>	<i>5,460</i>	<i>1 space per 300 sq. ft.</i>	<i>18.2</i>
<i>Phase 2</i>	<i>Warehouse</i>	<i>65</i>	<i>42</i>	<i>N/A</i>	<i>1 space per vehicle plus 1 space per every two employees</i>	<i>74.5</i>
					<i>Total Parking Required</i>	<i>169</i>
					<i>Total Parking Provided</i>	<i>308</i>
					<i>Parking Surplus/(Deficit)</i>	<i>139</i>

RESPONSE: Noted.

56. Noted
57. Noted-Final Engineering Plans updated for bicycle parking per latest Architectural Plan, which will provide minimum of (7) bicycle parking spaces in area noted on plans.
58. Noted. Engineering Plan updated per Engineering Dept. comment
59. Please see letter from IDOT, dated 12-19-2017, is attached for reference.
60. Please see the KLOA Traffic Study, dated 12-15-17, is attached for reference.
61. The concrete pad for the proposed bike rack is shown on the Final Engineering Plans-front of northwest office area. (Please see specifically sht 7)
62. Fence details to be included with landscape plans. When fence location is determined, it will be reflected on engineering plans for reference.
63. The plans were previously modified to obtain the requested additional space for landscaping at the northeast corner of the building. (A minimum distance of 8.35' is provided.) Please see Final Engineering Plans, Sht 7 (Phase 1 Site Geometric Plan). Additional items with this comment to be addressed with Landscape Plans.



TREE PRESERVATION:

1. The trees have been reviewed by the project team and a significant portion of the building will impact the design and function of this building for its intended use.

LANDSCAPE ISSUES:

2. NOTED – Please reference Landscape Plans.
3. NOTED – Please reference Landscape Plans.
4. NOTED – Please reference Landscape Plans.

ENGINEERING DEPARTMENT – From James Massarelli, dated Jan 2, 2018

36. Noted
37. Noted. The OUMA will be provided
38. Noted. The Restrictor Detail for C.B. No. 28, on Sht 19, has been modified to include a trap
39. Noted. A second exhibit is provided reflecting the vehicle entering from Meijer Drive. To avoid the barrier median, the fire truck is shown entering the outbound lanes of Meijer Drive. The wheels are within the pavement area, with the overhang extending over the existing low height median within the driveway access to Meijer Dr.
40. The requested sidewalk is included with the updated Final Engineering Plans. Please see Sht 7, et al
41. Noted
42. Noted. The Owner is working on a plan that in conjunction with other applicable parties would clean-up and clarify these easement rights.
43. Noted and will comply.
44. The dual left-turn lanes on Meijer Drive at their approach to Algonquin Road provides approximately 190 feet of storage. Please refer to the attached capacity analyses for projected conditions, which assumes additional truck traffic on Meijer Drive as a result of the proposed development. The attached queue analysis shows that the exiting queue on Meijer Drive will not exceed the existing storage of 190 feet (36-foot 95th percentile queue in the weekday AM peak hour and 130-foot 95th percentile queue in the weekday PM peak hour). As such, the existing storage will not need to be extended to accommodate the proposed development.
45. The engineering plans have been updated to include the requested raised barrier median extension in the center of Meijer Drive.
46. The existing/proposed pavement striping on Meijer Drive and associated dimensions have been shown on Sht 7

Final Plat of Subdivision – Items 47, 48, the requested items have been addressed.

COMMUNITY SERVICES BUREAU

1. Noted
2. Noted
3. Noted
4. Noted
5. A "Right Turn Only Sign" has been included for the driveway access to Algonquin Rd. (It should be noted that pending comments by IDOT, additional restrictions to this driveway may be incorporated to make this a right-in, right-out, left-in access.)
6. Noted



FIRE DEPARTMENT - From Lt. Mark Aleckson, dated Dec 28, 2017

1. The vehicle used for the auto turn analysis as reflected on the attached Fire Truck Exhibit was prepared based on the specifications provided by the Village Engineering Dept. as reflected on the "Fire Engine Turning Template Village of Arlington Heights Tower 131"
2. The Fire Department Connection (FDC) is located on the north side of the building, facing Algonquin Rd, and proposed Fire Hydrant No 19 is within 100' of the FDC location. Please see Sht 15 of the Final Engineering Plans, as well as the Fire Truck Maneuvering Exhibit
3. Noted and will comply.
4. Noted and will comply.

FIRE SAFETY DIVISION - From Don Lay, dated Dec 19, 2017

1. Please see attached Fire Truck Maneuvering Exhibit, which includes the requested information. For reference, the FDC is located on the north side of the building adjacent to Algonquin Rd.
2. To minimize possible obstructed access to the pump room, the proposed transformer location has been relocated more to the west (closer to the driveway and farther from the building.) If there are still questions regarding the transformer location, we will discuss and work with the Village to identify an acceptable location; however, it is noted that there are several constraints impacting the location of the electrical transformer pad.
3. The emergency lighting battery back-up system will be addressed during the building permit submittal.

PUBLIC WORKS DEPT - From Cris Papierniak, dated Dec 28, 2017

1. The referenced water main connection has been modified to a pressure connection. The Valve Vault with Pressure Connection Detail on Sht 19 reflects the minimum 60" diameter vault
2. The referenced Note 11 on the Demolition Plans has been updated as requested.
3. The reference to a "Traverse City Hydrant" has been removed from the detail.
4. Note 7 on Sht 11 (Soil Erosion & Sediment Control Notes & Details) has been included with the engineering plans to address this item.
5. A Maintenance Plan will be provided
6. Noted and will comply.

Please contact me directly if any of these responses are insufficient or if any further clarification is required in order to obtain jurisdictional approval.

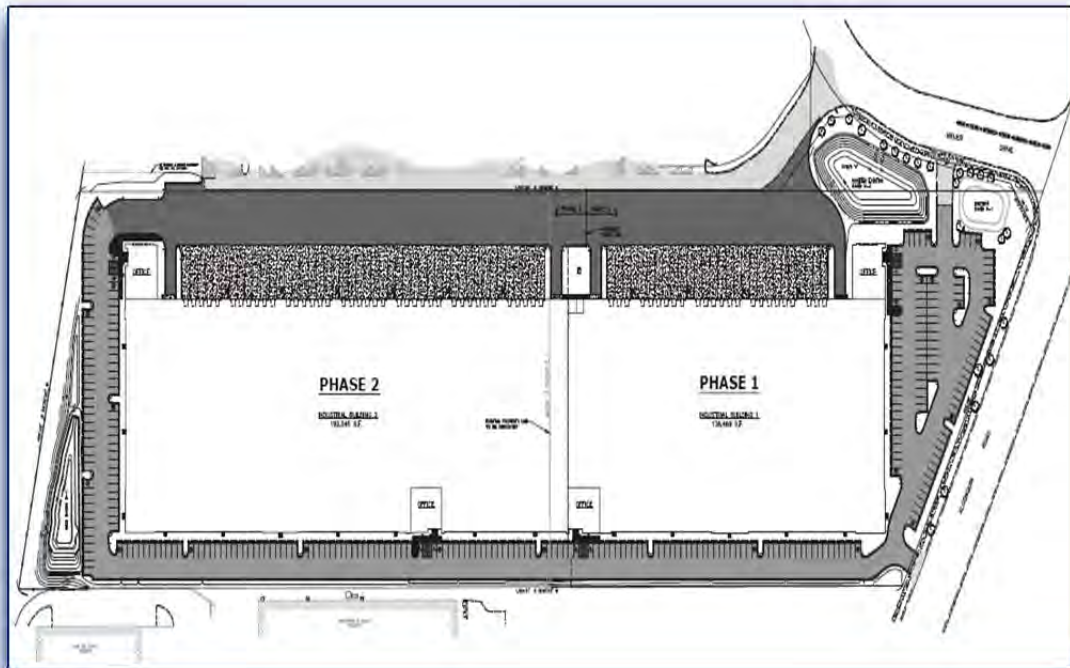
Sincerely,

A handwritten signature in blue ink, appearing to read "Joshua Spinks".

Joshua Spinks
Senior Project Manager
Morgan / Harbour Construction, L.L.C.

Traffic Impact Study

Proposed Arlington Heights Industrial Arlington Heights, Illinois



Prepared for

HAMILTON
PARTNERS

Prepared by



October 25, 2017
Revised December 15, 2017



Executive Summary

A traffic impact study was conducted for the proposed Arlington Heights Industrial development to be located in the southeast quadrant of the signalized intersection of Algonquin Road (IL 62) and Meijer Drive in Arlington Heights, Illinois.

The plans call for the site to be developed in two phases, with the ultimate/final phase to include an approximate 331,014 square-foot warehouse/distribution center. For the purposes of this study, only the final phase of the site development was analyzed.

Truck access to the development will be from a proposed full access drive on Meijer Drive. Access to the development for passenger vehicles will be from a restricted access drive on Meijer Drive, as well as from an existing full access drive on Algonquin Road, east of Meijer Drive.

Traffic projections include the existing weekday morning and weekday afternoon peak hour traffic volumes, and the traffic estimated to be generated by the proposed ultimate buildout of the development.

Based on the proposed development and the related traffic capacity analyses, the findings and recommendations of this study are outlined below.

- Overall, the development will have a low impact on the surrounding roadway network.
- The traffic generated by the existing land uses on the site was retained in the projected traffic volumes, thereby providing for a conservative analysis.
- IL 62 (Algonquin Road), IL 58 (Golf Road), and Arlington Heights Road are all established truck routes and all are under the jurisdiction and maintained by IDOT. Truck traffic will primarily be oriented along IL 62 to the north of Golf Road (IL 58) and to the east of Arlington Heights Road. Further, truck traffic is anticipated to arrive to/from the west on IL 58 and to/from the south on Arlington Heights Road. This derived directional distribution is supported by existing truck traffic counts conducted as part of this study and further supported by IDOT truck traffic volume ADTs on surrounding roadways.
- The traffic signals along IL 62 that includes the intersections at IL 58, Meijer Drive, and Arlington Heights Road, are part of a traffic signal interconnect network that includes 21 traffic signals/intersections and is maintained by the Illinois Department of Transportation (IDOT). The IL 62/Arlington Heights Road traffic signal is the master controller of this system.

- The signalized intersections on IL 62 at IL 58 and Arlington Heights Road will continue to operate at the same level of service and delay under existing conditions. As such, no traffic control or roadway improvements are recommended or needed at these two intersections in conjunction with the proposed development.
- At the signalized intersection of IL 62 and Meijer Drive, it is recommended that three additional seconds of green time be given to Meijer Drive for both peak hour periods. The three seconds can be taken from the access drive located on the east side of IL 62 in alignment with Meijer Drive that operates under a split-phase condition and has a low volume of exiting traffic during the peak hours. Reallocation of greentime from the minor approaches does not typically require the recalibration and optimization of the traffic signal interconnect system along IL 62. The three additional seconds of greentime is shown to improve the level of service and reduce the exiting queue for the dual left-turn lanes on Meijer Drive.
- Meijer Drive at IL 58 is restricted to right-turn only exiting movements onto eastbound IL 58; however, traffic observations show that left-turn and through traffic movements are occurring during peak hours from both Meijer Drive and the access on the north side of IL 58, which is also restricted to right-out only turning movements. No improvements are recommended at this intersection in conjunction with the proposed development.
- The proposed full access drive on IL 62, east of Meijer Drive will serve passenger vehicles only. The access should provide one lane inbound and one lane outbound under stop sign control. No improvements are recommended on IL 62. On IL 62, there is an existing center lane striped as a continuous two-way left-turn lane to accommodate the proposed northbound left-turning vehicles. Based on the projected right-turn volumes, a right-turn lane on IL 62 is neither warranted nor needed.
- The proposed southerly access drive on Meijer Drive will be for truck usage and should provide one lane inbound and one lane outbound under stop sign control. There is an existing left-turn lane on Meijer Drive at the location of this proposed access drive. A northbound right-turn lane is not needed given the low volume of peak hour turning volumes anticipated.

- The proposed northerly access drive on Meijer Drive will be for passenger vehicles only. Further, the access should be designed to restrict turning movements to right-in/right-out only because of the access drive's close proximity to IL 62, in addition to the dual left-turn lanes on Meijer Drive at its approach to IL 62. The access drive should provide one lane inbound and one lane outbound under stop sign control. No improvements on Meijer Drive at this intersection are needed.

Introduction

A traffic impact study was conducted for the proposed Arlington Heights Industrial development to be located in the southeast quadrant of the signalized intersection of Algonquin Road (IL 62) and Meijer Drive in Arlington Heights, Illinois.

The plans call for the site to be developed in two phases, with the ultimate/final phase to include an approximate 331,014 square-foot warehouse/distribution center. For the purposes of this study, only the final phase of the site development was analyzed.

Truck access to the development will be from a proposed full access drive on Meijer Drive. Access to the development for passenger vehicles will be from a restricted access drive on Meijer Drive, as well as from an existing full access drive on Algonquin Road, east of Meijer Drive.

The following sections of this report present the following.

- Existing roadway conditions including vehicle, pedestrian, and bicycle traffic volumes for the weekday morning and weekday afternoon peak hours
- A detailed description of the proposed development
- Vehicle trip generation for the proposed development
- Directional distribution of development-generated traffic
- Future transportation conditions including access to and from the development

Traffic capacity analyses were conducted for the weekday morning and weekday afternoon peak hours for the following two conditions.

1. Existing Condition - Analyzes the capacity of the existing roadway system using existing peak hour traffic volumes in the surrounding area.
2. Future Condition – Traffic projections include the existing peak hour traffic volumes and the traffic estimated to be generated by the proposed development.

The purpose of this study is as follows:

- Determine the existing vehicular (passenger vehicle and heavy vehicle), pedestrian, and bicycle conditions in the study area to establish a base condition.
- Assess the impact that the proposed development will have on transportation conditions in the area.
- Determine any roadway, traffic control, or access improvements that may be necessary to effectively accommodate and mitigate future conditions.

Existing Conditions

Transportation conditions in the vicinity of the site were inventoried to obtain a basis for projecting future conditions. Three components of existing conditions were considered:

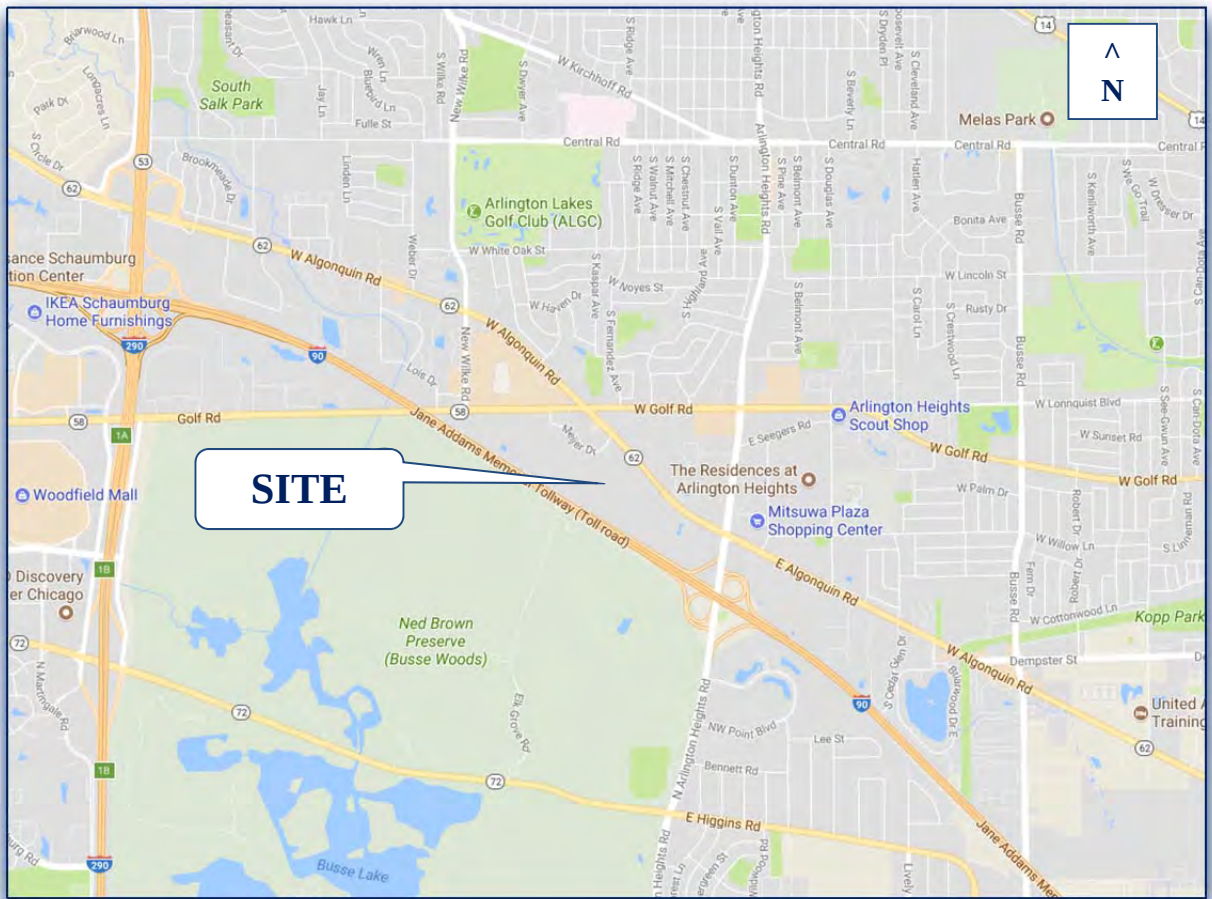
1. The geographic location of the site
2. The characteristics of the adjacent roadway system, including lane geometry and intersection traffic controls
3. The weekday peak-hour vehicle (passenger vehicles and trucks), bicycle, and pedestrian traffic volumes at the study intersections

Site Location

The development site is located in the southeast quadrant of the signalized intersection of Meijer Drive and IL 62 in Arlington Heights, Illinois. The site is currently developed as office/industrial space, and approximately half of the space is currently vacant. As noted, the phased development will result in an ultimate buildout of razing all of the existing structures on the site.

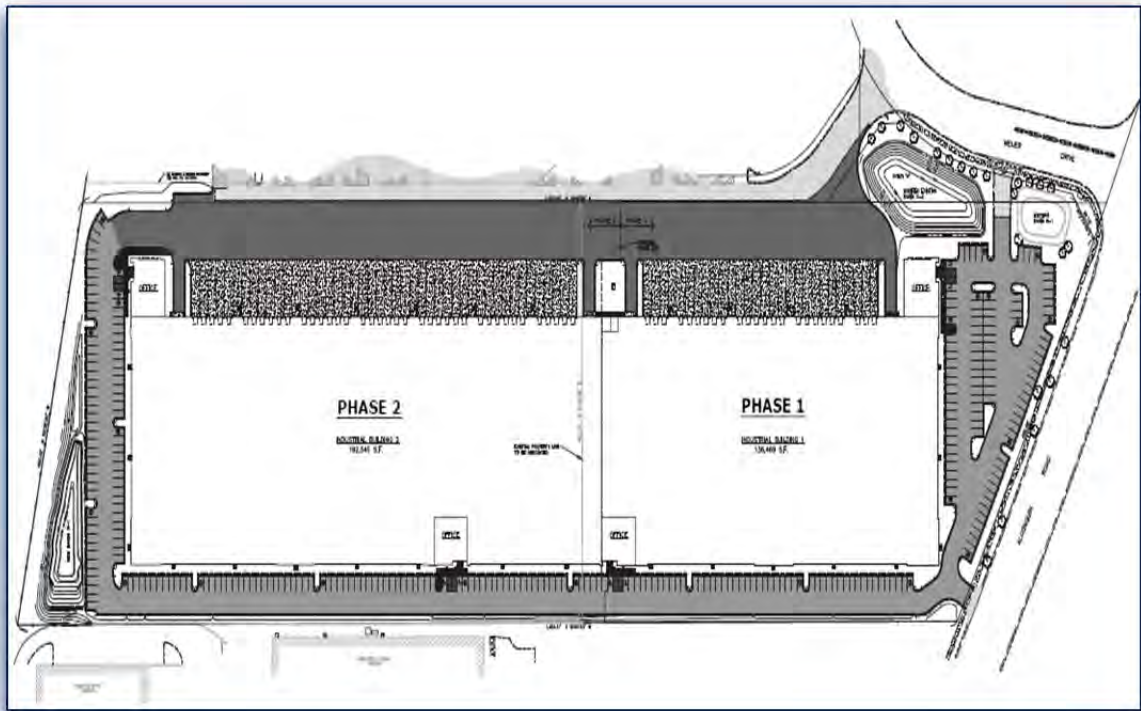
Figure 1 shows the site location on an aerial with respect to the surrounding roadway system.

Figure 2 shows the conceptual site plan for ultimate buildout. The site plan is also included in the Appendix of this report.



SITE LOCATION

Figure 1



CONCEPTUAL SITE PLAN

Figure 2

Existing Roadway System Characteristics

The characteristics of the existing roadways in the study area are illustrated in **Figure 3** and described below.

Algonquin Road (IL 62). IL 62 is a four-lane, northwest/southeast major arterial roadway that is under the jurisdiction of IDOT and is not classified as a Strategic Regional Arterial (SRA). The posted speed limit is 35 mph, and parking is restricted on both sides of the roadway. According to IDOT's website, IL 62 carries an average daily traffic (ADT) volume of 29,900 in the vicinity of Meijer Drive.

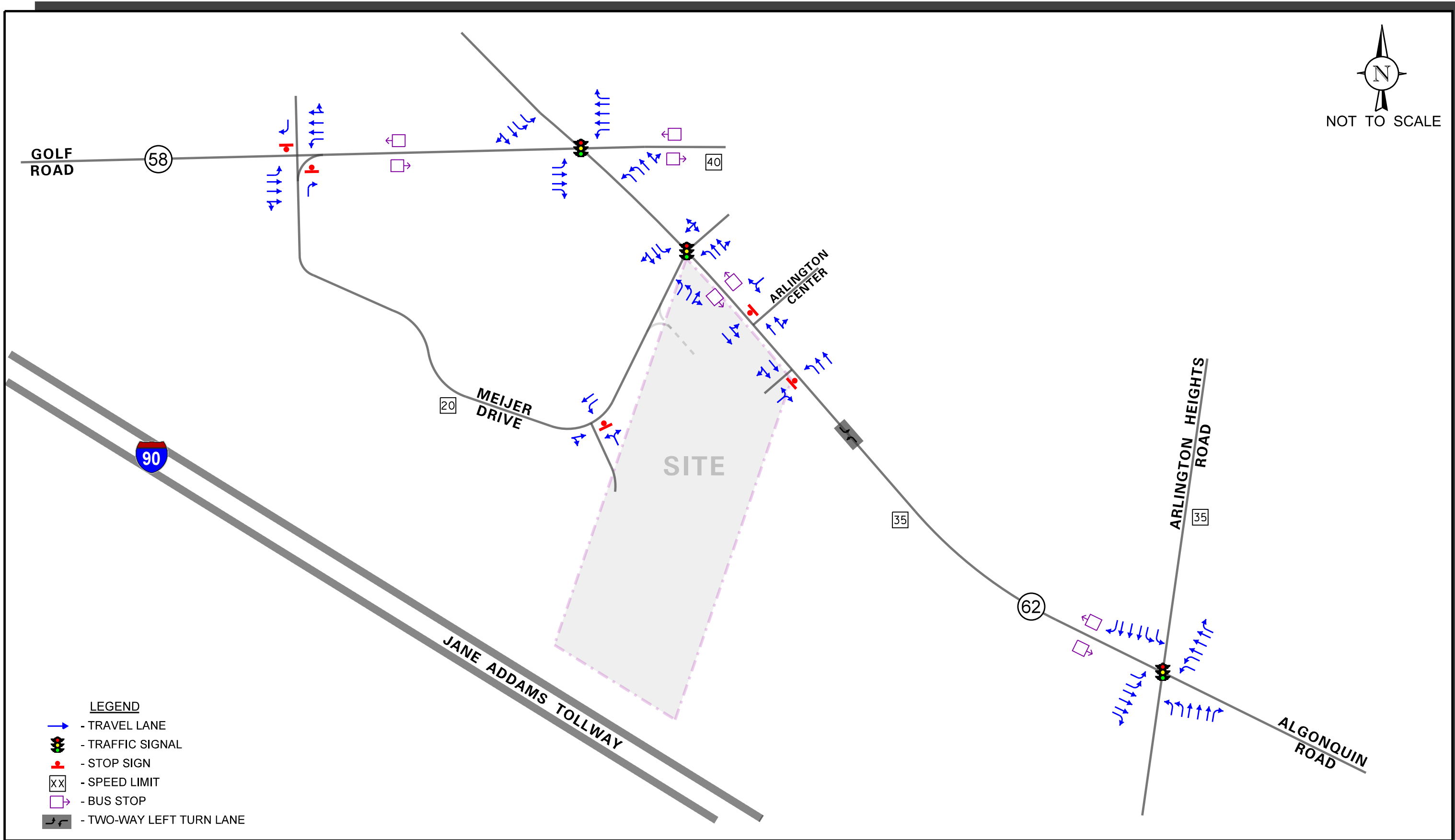
Golf Road (IL 58) is a six-lane, east-west major arterial that is under the jurisdiction of IDOT and is not classified as a SRA. The posted speed limit is 40 mph in the vicinity of IL 62, and parking is restricted on both sides of the roadway. According to IDOT's website, IL 58 carries an ADT volume of 30,900 vehicles in the vicinity of IL 62.

Arlington Heights Road is a six-lane north-south major arterial roadway that is a non-numbered route and is maintained by IDOT. It is not classified as a SRA. The posted speed limit is 35 mph, and parking is restricted on both sides of the roadway. According to IDOT's website, Arlington Heights Road carries an ADT volume of 25,700 vehicles in the vicinity of IL 62.

Meijer Drive is a three-lane boulevard that extends between IL 58 to the north/west to IL 62 to the east/south. The boulevard provides one lane in each direction with a center lane striped as a continuous two-way left-turn lane. Parking is restricted on both sides of the roadway and the posted speed limit is 20 mph. At its stop sign controlled intersection with Golf Road, vehicles are restricted to right-in/right-out/left-in turning movements only. Dual left-turn lanes and a right-turn lane are provided on its eastbound approach with its signalized intersection with IL 62. Meijer Drive and the access drive on the east side of IL 62 in alignment with Meijer Drive operate as a split-phase condition when the respective approaches receive greentime successively rather than concurrently. Meijer Drive provides access to the retail outlots fronting IL 58 and IL 62, the Meijer store, and the existing/remaining warehouse/industrial developments behind the Meijer store. Meijer Drive is under the jurisdiction of the Village of Arlington Heights.

Traffic Signal Interconnect

The traffic signals along IL 62 that includes the intersections at IL 58, Meijer Drive, and Arlington Heights Road, are part of a traffic signal interconnect network that includes 21 traffic signals/intersections and is maintained by IDOT. The IL 62/Arlington Heights Road traffic signal is the master controller of this system.



ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS

EXISTING ROADWAY CHARACTERISTICS

KLOA
Kenig, Lindgren, O'Hara, Aboona, Inc.

Job No: 17-173

Figure: 3

Existing Traffic Volumes

Turning movement vehicle (passenger, truck, and bus), pedestrian, and bicycle traffic counts were conducted during the morning (7:00 to 9:00 A.M.), and the afternoon (4:00 to 6:00 P.M.) on Tuesday, July 25, 2017 at the following five intersections.

1. Golf Road (IL 58) and Algonquin Road (IL 62) (signalized)
2. Meijer Drive and IL 62 (signalized)
3. Arlington Heights Road and IL 62 (signalized)
4. Meijer Drive and IL 58 (unsignalized)
5. Arlington Center Access Drive and IL 62 (unsignalized)

From the turning movement count data, it was determined that the weekday morning peak hour generally occurs between 7:30 and 8:30 A.M. and the weekday afternoon peak hour generally occurs between 4:30 and 5:30 P.M. These two respective peak hours will be used for the traffic capacity analyses and are presented later in this report. Pedestrian and bicycle activity was observed and was reported to be relatively low at the study intersections.

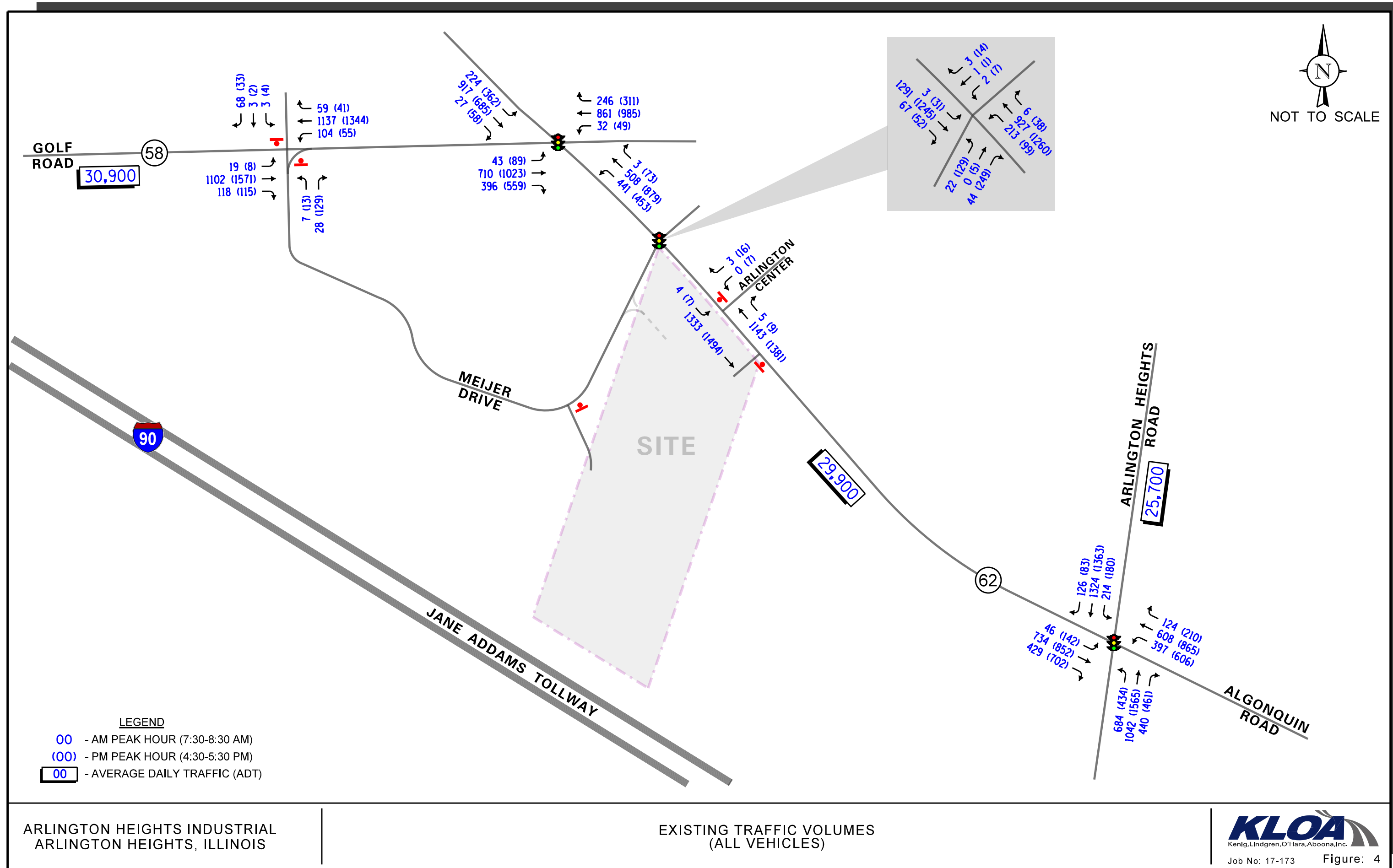
The existing peak hour vehicle traffic volumes (all vehicles) are shown in **Figure 4**.

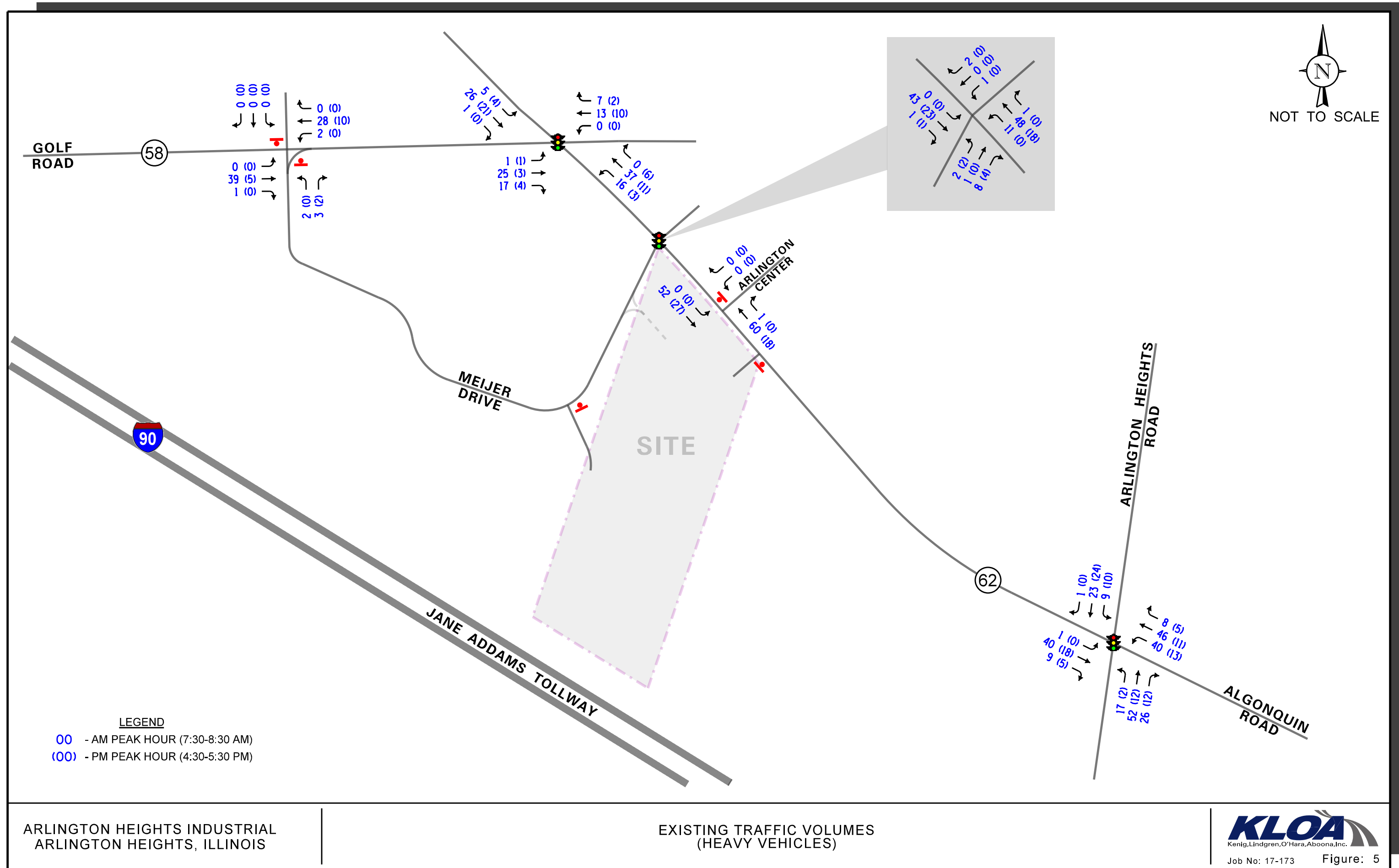
The existing peak hour truck traffic (heavy vehicles) volumes are shown in **Figure 5**.

Observations

Based on a review of the existing traffic volumes and field reconnaissance of the surrounding environs, the following observations are noted.

- Meijer Drive at IL 58 is restricted to right-turn only exiting movements onto eastbound IL 58; however, traffic observations show that left-turn and through traffic movements are occurring during peak hours from both Meijer Drive and the access on the north side of IL 58, which is also restricted to right-out only turning movements.
- The access driveway to the PACE corporate building on IL 62, located approximately 635 feet southeast from the proposed access drive to the subject development and approximately one-fourth of a mile from Meijer Drive is under police officer traffic control to facilitate the exiting traffic during the weekday afternoon peak hours. Officers stop the through traffic on IL 62 in both directions to allow exiting traffic protected passage onto IL 62. Although stopping the vehicles on IL 62 results in a temporary queuing of vehicles, southeastbound through vehicles on IL 62 were not observed to extend to the proposed full access serving the subject development. Further, stopping the through traffic at this access drive results in additional gaps in through traffic along IL 62 at the proposed access drive.





Traffic Characteristics of Proposed Development

To evaluate the impact of the subject development on the area roadway system, it was necessary to quantify the number of vehicle trips the overall site will generate during the weekday morning and weekday afternoon peak hours and then determine the directions from which this traffic will approach and depart the site.

Proposed Site and Development Plan

The plans call for the site to be developed in two phases, with the ultimate/final phase to include an approximate 331,014 square-foot warehouse/distribution center. For the purposes of this study, only the final phase of the site development was analyzed.

Truck (Heavy Vehicle) Access

The proposed southerly access drive on Meijer Drive will be for truck usage and should provide one lane inbound and one lane outbound under stop sign control. There is an existing left-turn lane on Meijer Drive at the location of this proposed access drive.

Passenger Vehicle Access

Two access drives are proposed to serve passenger vehicles, as described below.

Full Access and IL 62. Located east of Meijer Drive, this access will serve passenger vehicles only. The access should provide one lane inbound and one lane outbound under stop sign control. On IL 62, there is an existing center lane striped as a continuous two-way left-turn lane to accommodate the proposed northbound left-turning vehicles.

Restricted Access and Meijer Drive. The proposed northerly access drive on Meijer Drive should be designed to restrict turning movements to right-in/right-out only because of its close proximity to IL 62, in addition to the dual left-turn lanes on Meijer Drive at its approach to IL 62. The access drive should provide one lane inbound and one lane outbound under stop sign control.

Directional Distribution of Development-Generated Traffic

Two separate directional distributions were prepared: one for the truck traffic, and one for the private passenger vehicle traffic. The respective directional distributions of how development traffic will approach and depart the site was estimated based on a combination of existing travel patterns (both passenger vehicle and truck traffic), the location of the site relative to arterial roadways in the area, and the orientation and physical restrictions of the surrounding roadway system.

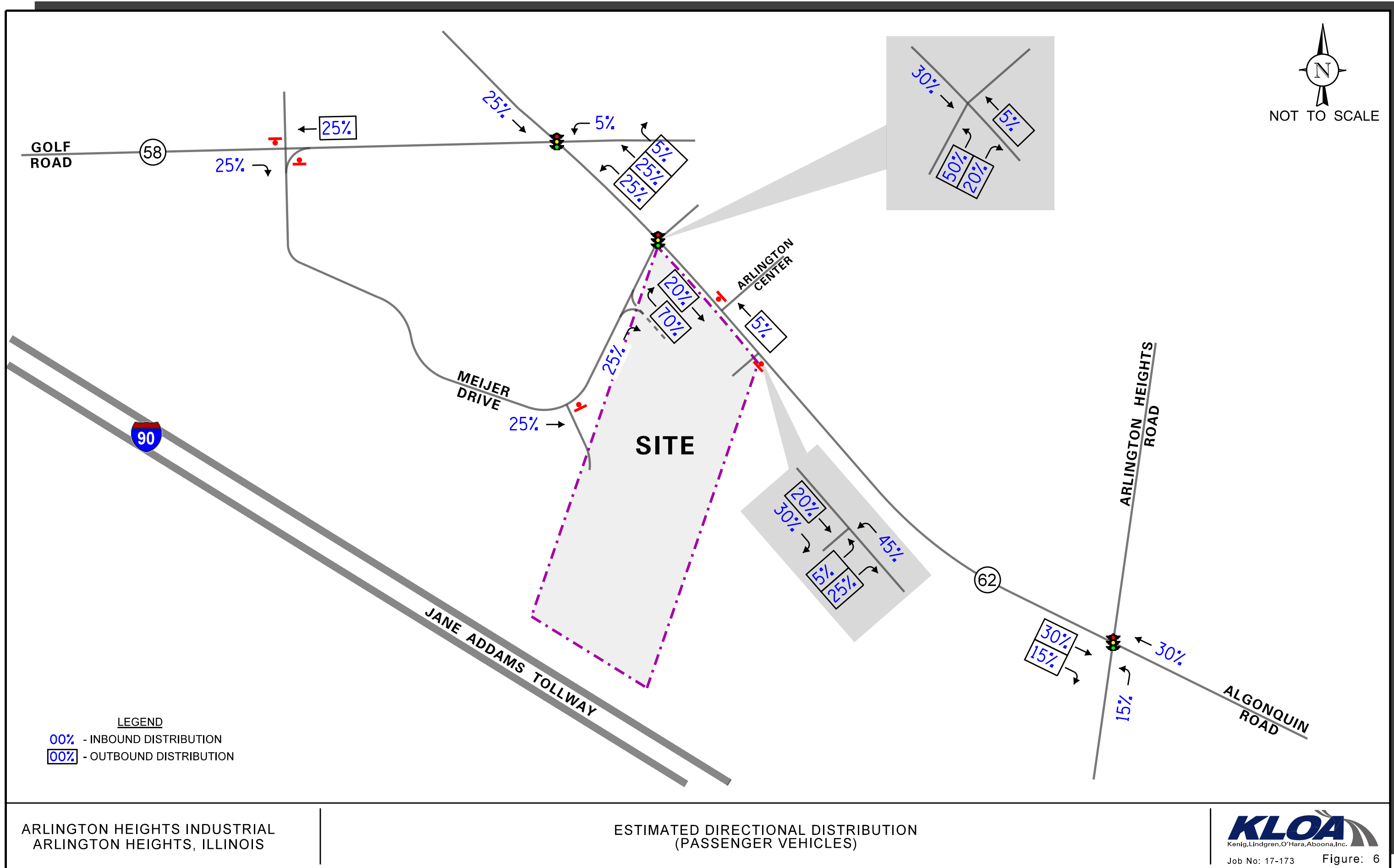
The passenger vehicle estimated directional distribution for the proposed development is illustrated in **Figure 6**.

The truck, or heavy vehicle, estimated directional distribution for the proposed development is illustrated in **Figure 7**.

Development Traffic Generation

The estimates of traffic to be generated by the development are based upon the proposed land use type and size using data published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition. Further, based on other studies of warehouse/distribution centers, it is estimated that approximately 10 to 20 percent of the traffic approaching and departing the development during the peak hours of the day will be trucks, with the remaining 80 to 90 percent being passenger vehicles.

Table 1 shows the truck and passenger vehicle trips estimated to be generated for the proposed ultimate buildout of the development during the weekday morning and weekday afternoon peak hours, in addition to the weekday daily (two-way) volumes.



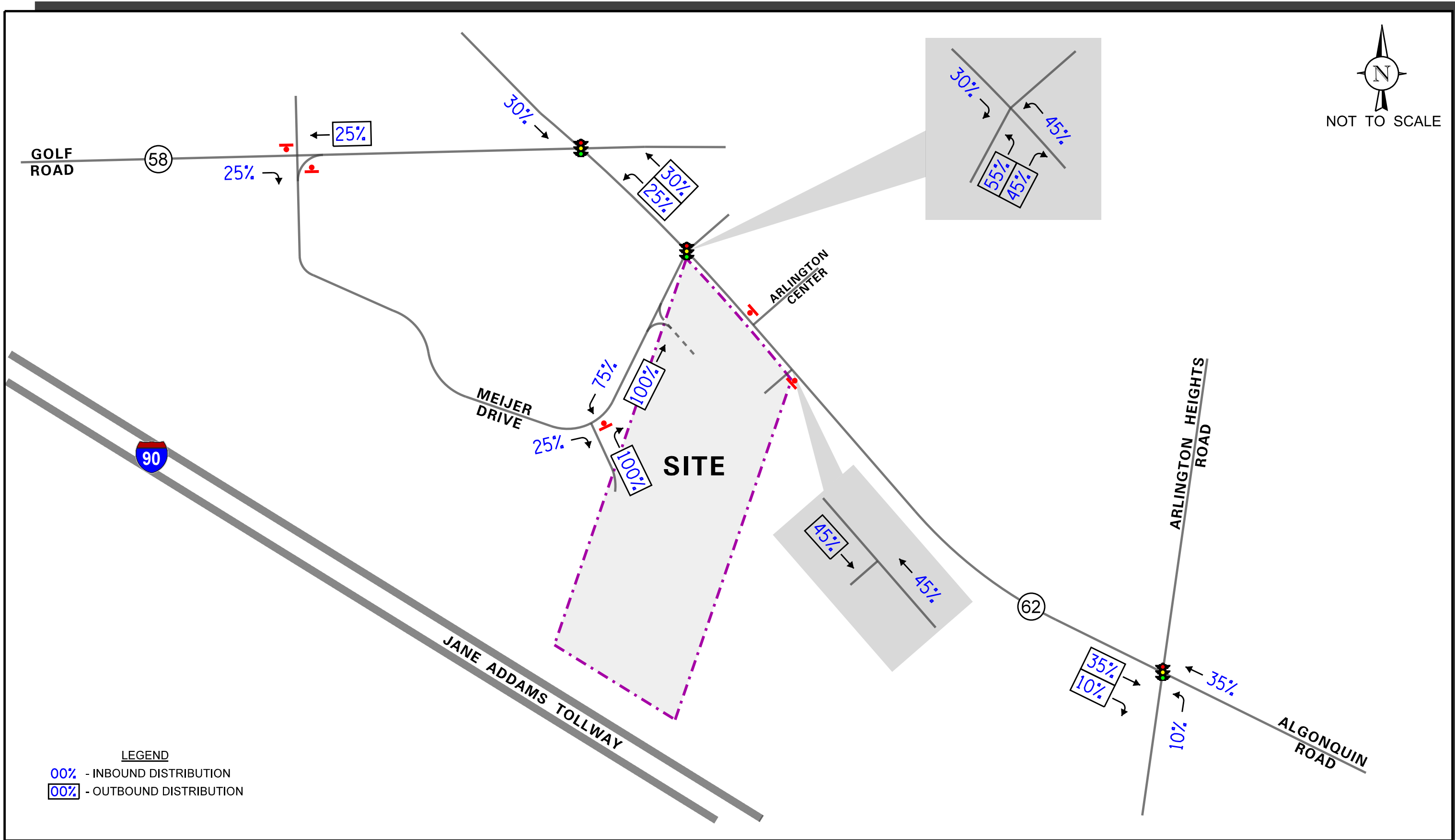


Table 1

ESTIMATED VEHICLE TRIP GENERATION FOR PROPOSED DEVELOPMENT

Development	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Weekday Daily
	In	Out	In	Out	
Warehouse/Distribution					
331,014 s.f. (LUC 150)	126	33	32	96	1,380
TOTAL					
Truck Traffic (20%) ¹	25	7	6	19	276
Passenger Vehicle Traffic (80%)	101	26	26	77	1,104

¹Maximum 20 percent assumed in study for conservative analysis purposes.

Development Traffic Assignment

The peak hour traffic volumes projected to be generated by the proposed development (refer to Table 1) were assigned to the area roadways based on the directional distributions established (Figure 6).

Figure 8 shows the assignment of the development-generated passenger traffic volumes.

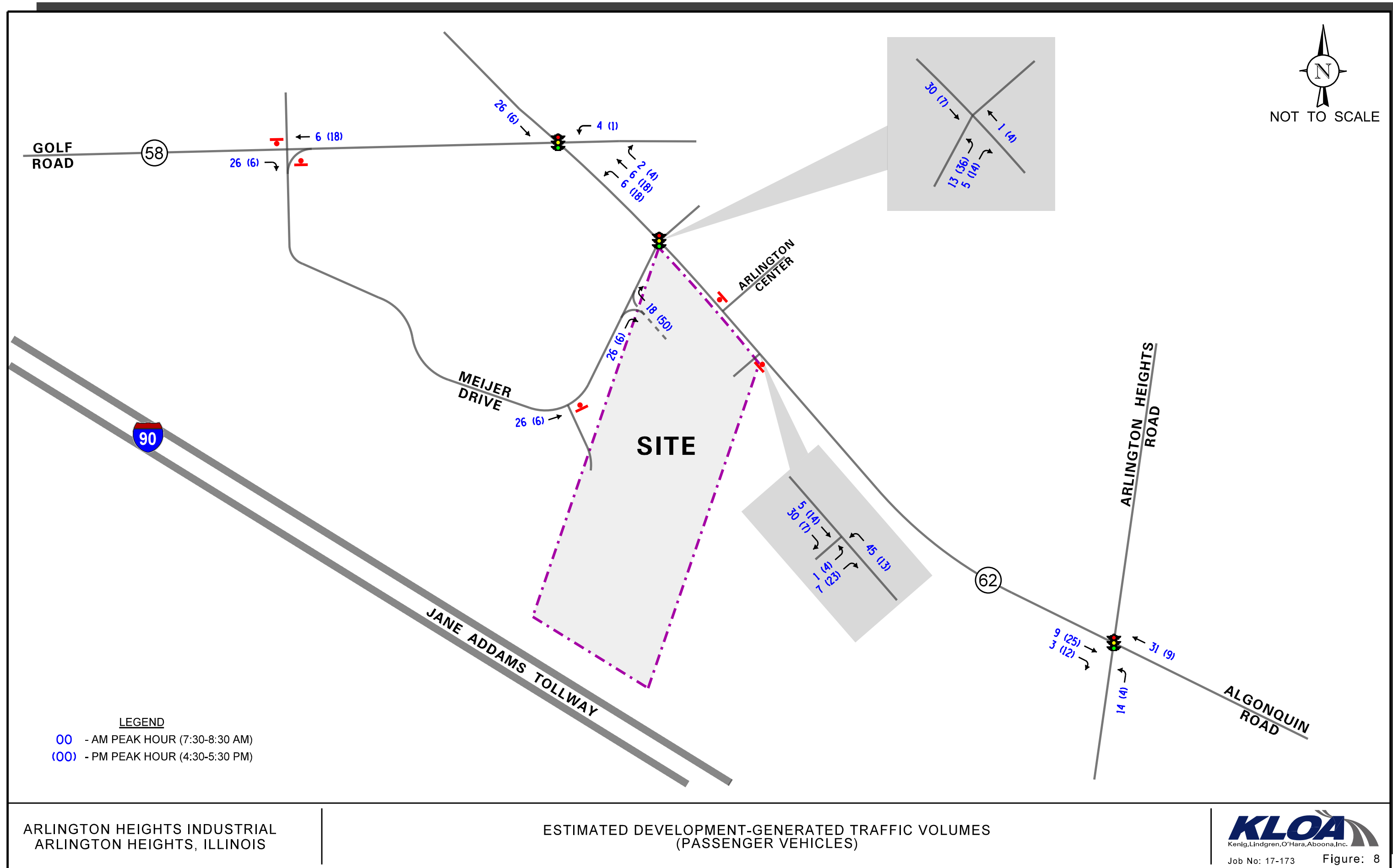
Figure 9 shows the assignment of the development-generated truck traffic volumes.

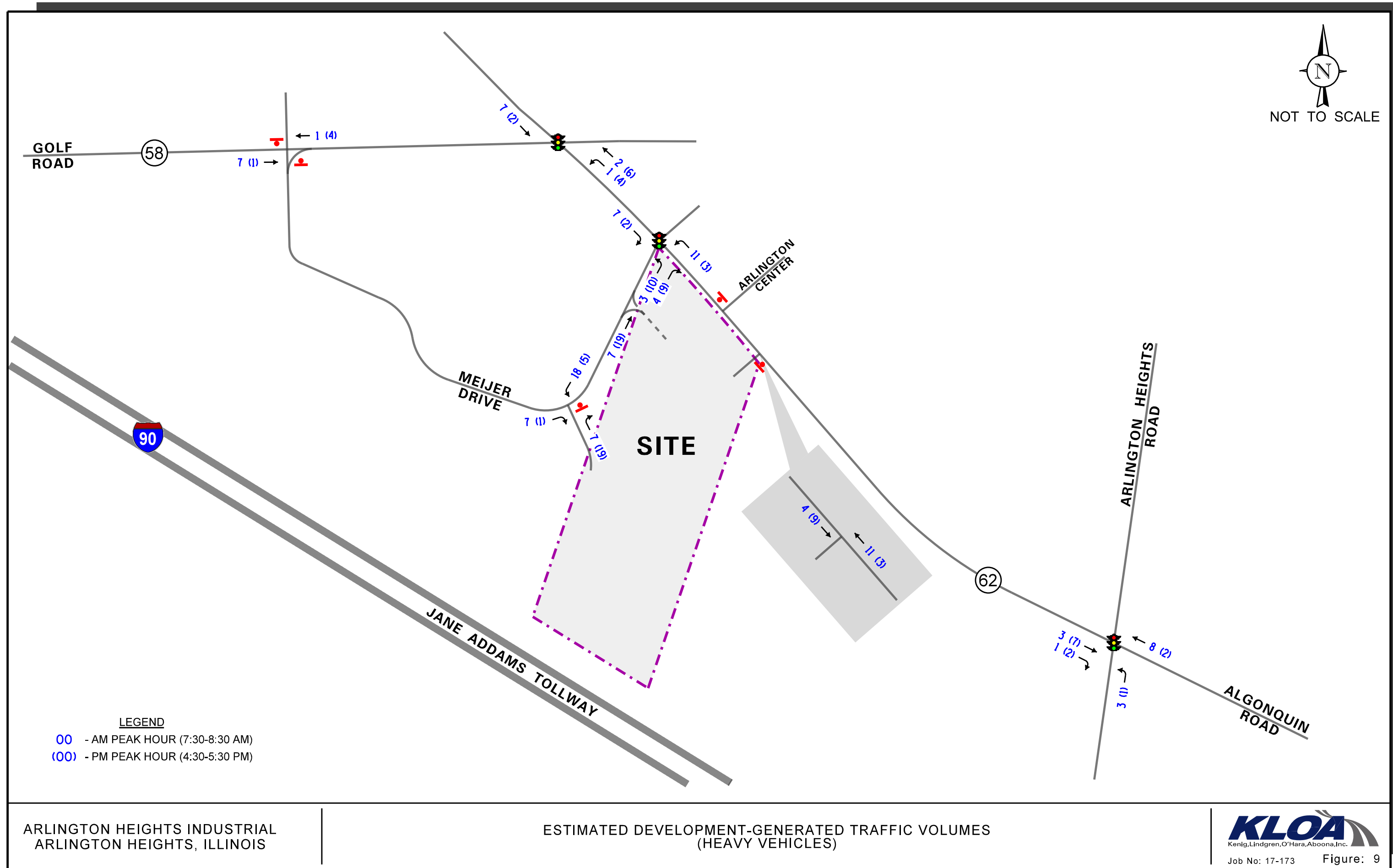
Total Projected Traffic Conditions

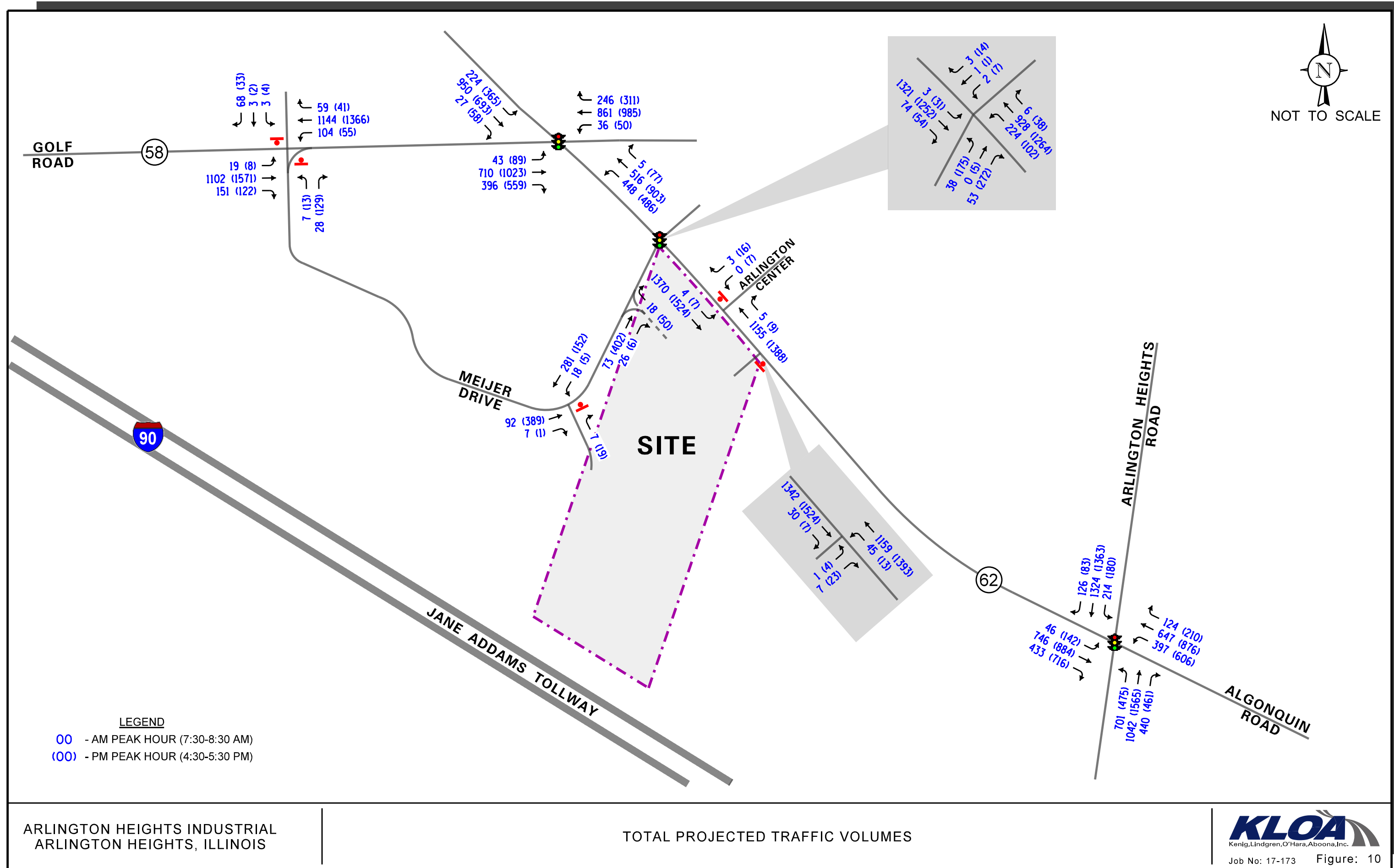
Traffic projections include the existing weekday morning and weekday afternoon peak hour traffic volumes (Figure 4), and the traffic estimated to be generated by the proposed ultimate buildout of the development (Figure 8 and Figure 9).

Based on Year 2040 traffic projections received by the Chicago Metropolitan Area for Planning (CMAP), the average daily traffic volumes (ADT) on the surrounding roadways are anticipated to see a slight decline from existing ADTs due to the resulting add-lanes on the Jane Addams Tollway (I-90). As such, no increase in regional growth was applied to the existing peak hour traffic volumes.

Figure 10 shows the total projected traffic volume conditions. As noted, the traffic currently generated by the existing land uses on the site was not redacted from the existing peak hour traffic volumes to provide for a conservative study.







Traffic Analysis and Recommendations

Capacity analyses were performed for the key intersections included in the study area to determine the ability of the existing roadway system to accommodate existing and future traffic demands. Analyses were performed for the weekday morning and weekday afternoon peak hours for both existing and future conditions.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM)*, 2010 and using Synchro-SimTraffic analysis software.

The analysis for the traffic-signal controlled intersections along IL 62 were completed using existing cycle lengths (150 seconds for both weekday morning and weekday afternoon), phasings, and offsets to determine the average overall vehicle delay, volume-to-capacity ratios, and levels of service.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for signalized intersections and unsignalized intersections are included in the Appendix of this report.

A summary of the level of service/delay results for both existing and future conditions for each analyzed intersection are presented in **Tables 2 through 6**, respectively.

A discussion of the capacity analysis results and recommendations follows.

Table 2

CAPACITY ANALYSES RESULTS – MEIJER DRIVE AND ALGONQUIN ROAD (IL 62)

Peak Hour	Condition	Operating Conditions by Approach												Overall
		Eastbound Meijer Drive			Westbound Access Drive			Northbound IL 62			Southbound IL 62			
		L	T	R	L	T	R	L	T	R	L	T	R	
Wkdy AM	Existing	E 70.6	E 70.9	A 7.0	--	E 57.7	--	C 21.8	A 5.0	--	A 4.3	B 18.1	A 7.8	B – 13.7
		B – 17.5			E – 57.7			C – 28.2			A – 8.1			
	Future ¹	E 78.6	E 78.6	B 10.9	--	E 57.7	--	C 28.7	A 5.2	--	A 6.0	C 22.8	B 10.5	B – 17.4
		D – 39.1			E – 57.7			C – 22.1			A – 9.7			
Wkdy PM	Existing	F 96.5	F 95.3	C 28.0	--	D 44.3	--	A 7.9	B 11.8	--	A 5.7	B 16.7	A 6.7	B – 18.6
		D – 51.8			D – 44.3			B – 11.5			B – 16.0			
	Future ¹	F 94.1	F 94.3	D 42.7	--	D 45.9	--	A 9.8	B 12.6	--	A 6.6	B 18.3	A 6.3	C – 21.9
		E – 63.5			D – 45.9			B – 12.4			B – 17.5			
¹ Includes reallocation of greentime of 3 additional seconds for eastbound approach; 3 less seconds for westbound approach.														

Table 3

CAPACITY ANALYSES RESULTS – GOLF ROAD (IL 58) AND ALGONQUIN ROAD (IL 62)

Peak Hour	Condition	Operating Conditions by Approach												Overall
		Eastbound IL 58			Westbound IL 58			Northbound IL 62			Southbound IL 62			
		L	T	R	L	T	R	L	T	R	L	T	R	
Wkdy AM	Existing	E 78.4	E 62.9	C 26.5	E 76.7	E 55.4	C 33.6	E 68.2	C 26.3	--	E 68.2	E 59.8	--	D – 52.7
		D – 50.2			D – 50.6			E – 61.4			D – 45.7			
	Future	E 78.4	E 62.0	C 26.1	E 77.2	D 54.6	C 33.0	E 67.9	C 26.7	--	E 68.1	E 67.8	--	D – 54.1
		D – 50.2			D – 50.6			E – 67.9			D – 45.8			
Wkdy PM	Existing	F 80.6	D 48.7	C 33.3	E 79.0	D 44.6	C 27.4	E 79.1	D 48.5	--	F 117.4	E 56.3	--	D – 54.9
		D – 45.3			D – 41.9			E – 58.5			E – 76.0			
	Future	F 80.6	D 48.8	C 33.4	E 78.9	D 44.6	C 27.4	E 79.4	D 48.8	--	F 137.1	E 57.1	--	E – 57.2
		D – 45.3			D – 41.9			E – 58.7			F – 83.6			

Table 4

CAPACITY ANALYSES RESULTS – ARLINGTON HEIGHTS ROAD AND ALGONQUIN ROAD (IL 62)

Peak Hour	Condition	Operating Conditions by Approach												Overall
		Eastbound IL 62			Westbound IL 62			Northbound Arlington Heights Rd			Southbound Arlington Heights Rd			
		L	T	R	L	T	R	L	T	R	L	T	R	
Wkdy AM	Existing	E 60.5	D 39.2	D 41.1	F 300.8	C 33.6	C 21.5	F 100.7	D 43.5	D 36.3	F 95.9	F 161.3	D 41.3	F – 91.0
		D – 38.2			F – 126.2			E – 60.1			F – 143.8			
	Future	E 60.9	C 34.6	D 42.1	F 300.8	C 34.0	C 21.5	F 108.6	D 43.5	D 36.3	F 95.9	F 161.3	D 41.3	F – 91.0
		D – 38.2			F – 126.4			E – 63.0			F – 143.8			
Wkdy PM	Existing	E 66.6	E 58.1	D 36.5	F 430.8	D 38.0	C 26.5	E 71.9	D 52.0	C 33.1	F 99.7	F 94.5	C 32.4	F – 88.6
		D – 49.9			F – 178.1			D – 51.9			F – 91.9			
	Future	E 66.5	E 58.5	D 37.6	F 430.8	D 38.1	C 26.5	E 75.2	D 52.0	C 33.1	F 99.7	F 101.9	C 32.7	F – 89.8
		D – 50.1			F – 178.5			D – 52.9			F – 98.1			

Table 5
CAPACITY ANALYSIS RESULTS FOR EXISTING CONDITIONS
UNSIGNALIZED INTERSECTIONS

Intersection	Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
	LOS	Delay	LOS	Delay
Meijer Drive and Golf Road (IL 58) (two-way stop)				
• Eastbound IL 58 Left-turn	A	9.7	B	10.8
• Westbound IL 58 Left-turn	B	13.3	C	17.7
• Northbound Meijer Right-turn	B	12.1	C	17.2
• Southbound Access Right-turn	A	9.2	A	9.0
Delay is measured in seconds.				

Table 6
CAPACITY ANALYSIS RESULTS FOR FUTURE CONDITIONS
UNSIGNALIZED INTERSECTIONS

Intersection	Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
	LOS	Delay	LOS	Delay
Meijer Drive and Golf Road (IL 58) (two-way stop)				
• Eastbound IL 58 Left-turn	A	9.8	B	10.9
• Westbound IL 58 Left-turn	B	13.6	C	17.8
• Northbound Meijer Right-turn	B	12.3	C	17.3
• Southbound Access Right-turn	A	9.2	A	9.0
Access and Algonquin Road (IL 62) (two-way stop)				
• Eastbound Access Approach	B	11.6	B	14.8
• Northbound IL 62 Left-turn	B	12.5	B	13.7
Truck Access and Meijer Drive (two-way stop)				
• Westbound Meijer Left-turn	A	8.5	A	8.2
• Northbound Truck Access Approach	A	9.9	B	10.9
Restricted Access and Meijer Drive (two-way stop)				
• Northbound Access Right-turn	A	8.8	B	11.3
Delay is measured in seconds.				

Discussion and Recommendations

The following summarizes how the intersections within the study area currently operate and are projected to operate assuming the total projected traffic volumes. It will also identify any roadway and traffic control improvements and/or modifications necessary to accommodate the projected traffic volumes.

Meijer Drive and Algonquin Road (IL 62)

This intersection will continue to operate at an overall acceptable LOS and delay under future projected conditions. As noted, dual left-turn lanes and a right-turn lane are provided on its eastbound approach with its signalized intersection with IL 62. The capacity analysis shows that the outbound queue during the weekday evening peak hour extends to the existing/proposed access drive that will be restricted to right-in/right-out turning movements. The future capacity analysis takes into consideration the addition of the trucks from the proposed facility by having increased the heavy vehicle percentages for the turning movements at this signalized intersection.

Meijer Drive and the access drive opposite Meijer Drive operate as a split phase operation where each receives greentime successively, rather than concurrently. Further, the cycle length is 150 seconds during the weekday evening peak hour. As such, the combination of a long cycle length, split phase operation, and the limited greentime given to Meijer Drive all contribute to the less than desirable LOS/delay for the outbound movements on Meijer Drive, particularly during the weekday evening peak hour. It is recommended that three additional seconds of green time be given to Meijer Drive for both peak hour periods. The three seconds can be taken from the access drive greentime since the access drive has a low volume of exiting traffic during the peak hours. Reallocation of greentime from the minor approaches does not typically require the recalibration and optimization of the traffic signal interconnect system along IL 62. The three additional seconds of greentime as shown in Table 2 above, is shown to improve the level of service and reduce the exiting queue for the dual left-turn lanes on Meijer Drive. Further, the traffic simulation shows that vehicles (a combination of both passenger vehicles and heavy vehicles) will be able to exit Meijer Drive without extensive queuing.

No further roadway or traffic control improvements are needed or recommended at this intersection in conjunction with the proposed development.

Golf Road (IL 58) and Algonquin Road (IL 62)

The signalized intersection of two major arterial highways results in a high volume of traffic traversing through this intersection. A comparison of the existing and future traffic capacity analysis results shows that this intersection will continue to operate at the same overall LOS and delay with the addition of the subject development. As such, no roadway or traffic control improvements are needed or recommended at this intersection in conjunction with the proposed development.

Arlington Heights Road and Algonquin Road (IL 62)

Similar to its intersection at Golf Road (IL 58), this signalized intersection of two major arterial highways results in a high volume of traffic traversing through this intersection. The intersection provides dual left-turn lanes, three through lanes, and a right-turn lane on all four approaches. The intersection currently operates at an undesirable LOS and delay during the peak hours, which can be attributed to the high cycle length (150 seconds), the high volume of vehicles traversing the intersection from all directions and therefore demanding equal greentime, and the protected-only left-turn movements, which receive limited greentime. A comparison of the existing and future traffic capacity analysis results shows that this intersection will continue to operate at the same overall LOS and delay with the addition of the subject development traffic. Further, the subject development traffic represents approximately one percent of the total traffic traversing this intersection during the peak hours and will have a low impact on the overall operations at this intersection. As such, no roadway or traffic control improvements are needed or recommended at this intersection in conjunction with the proposed development.

Meijer Drive and Golf Road (IL 58)

Meijer Drive and the access drive to the north, are restricted to right-in/right-out/left-in exiting movements only. Exiting left-turn movements onto Golf Road are restricted via a shallow raised median and posted signage. Traffic observations show that left-turn and through traffic movements are occurring during peak hours from both Meijer Drive and the access on the north side of IL 58. The intersection will continue to operate at an acceptable LOS and delay under projected traffic conditions. No roadway or traffic control improvements are needed or recommended at this intersection in conjunction with the proposed development.

Full Access and Algonquin Road (IL 62)

The proposed full access drive on IL 62, southeast of Meijer Drive will serve passenger vehicles only. The access should provide one lane inbound and one lane outbound under stop sign control. No improvements are recommended on IL 62. On IL 62, there is an existing center lane striped as a continuous two-way left-turn lane to accommodate the proposed northbound left-turning vehicles. Based on the projected right-turn volumes, a right-turn lane on IL 62 is neither warranted nor needed.

As noted, the police-controlled intersection at the PACE access drive during the weekday afternoon peak periods helps create additional gaps in through traffic on IL 62 in the vicinity of the proposed access drive. As such, between this traffic regulator and the traffic signal at Meijer Drive, effective gaps in traffic were observed at the location of this proposed access drive, which will allow left-turning movements to occur with minimal delay.

Truck Access and Meijer Drive

The proposed southerly access drive on Meijer Drive will be for truck usage and should provide one lane inbound and one lane outbound under stop sign control. There is an existing left-turn lane on Meijer Drive at the location of this proposed access drive. A northbound right-turn lane is not needed given the low volume of peak hour turning volumes anticipated.

Passenger Vehicle Access and Meijer Drive

The proposed northerly access drive on Meijer Drive will be for passenger vehicles only. The capacity analyses show that the eastbound queue on Meijer Drive at its signalized intersection with IL 62 will extend beyond the location of this proposed access drive during the weekday peak hours. Further, there are dual left-turn lanes on Meijer Drive, which are difficult to crossover. As such, the access should be designed to restrict turning movements to right-in/right-out only. The existing access drive that served the former development on the site was designed to also restrict turning movements to right-in/right-out only turning movements. The access drive should provide one lane inbound and one lane outbound under stop sign control. No improvements on Meijer Drive at this intersection are needed.

Truck Routes

IL 62 (Algonquin Road), IL 58 (Golf Road), and Arlington Heights Road are all established truck routes and all are under the jurisdiction and maintained by IDOT. Truck traffic will primarily be oriented along IL 62 to the north of Golf Road (IL 58) and to the east of Arlington Heights Road. Further, truck traffic is anticipated to arrive to/from the west on IL 58 and to/from the south on Arlington Heights Road. This derived directional distribution is supported by existing truck traffic counts conducted as part of this study and further supported by IDOT truck traffic volume ADTs on surrounding roadways.

Conclusion

A traffic impact study was conducted for the proposed Arlington Heights Industrial development to be located in the southeast quadrant of the signalized intersection of Meijer Drive and Algonquin Road (IL 62) in Arlington Heights, Illinois. The plans call for the site to be developed in two phases, with the ultimate/final phase to include an approximate 331,014 square-foot warehouse/distribution center. For the purposes of this study, only the final phase of the site development was analyzed.

Based on the preceding analyses and recommendations, the following conclusions have been made.

- Overall, the development will have a low impact on the surrounding roadway network.
- The traffic generated by the existing land uses on the site was retained in the projected traffic volumes, thereby providing for a conservative analysis.
- IL 62 (Algonquin Road), IL 58 (Golf Road), and Arlington Heights Road are all established truck routes and all are under the jurisdiction and maintained by IDOT. Truck traffic will primarily be oriented along IL 62 to the north of Golf Road (IL 58) and to the east of Arlington Heights Road. Further, truck traffic is anticipated to arrive to/from the west on IL 58 and to/from the south on Arlington Heights Road. This derived directional distribution is supported by existing truck traffic counts conducted as part of this study and further supported by IDOT truck traffic volume ADTs on surrounding roadways.
- The traffic signals along IL 62 that includes the intersections at IL 58, Meijer Drive, and Arlington Heights Road, are part of a traffic signal interconnect network that includes 21 traffic signals/intersections and is maintained by the Illinois Department of Transportation (IDOT). The IL 62/Arlington Heights Road traffic signal is the master controller of this system.
- The signalized intersections on IL 62 at IL 58 and Arlington Heights Road will continue to operate at the same level of service and delay under existing conditions. As such, no traffic control or roadway improvements are recommended or needed at these two intersections in conjunction with the proposed development.

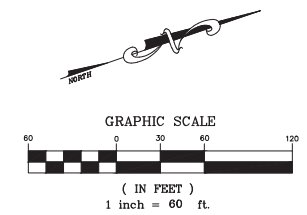
- At the signalized intersection of IL 62 and Meijer Drive, it is recommended that three additional seconds of green time be given to Meijer Drive for both peak hour periods. The three seconds can be taken from the access drive located on the east side of IL 62 in alignment with Meijer Drive that operates under a split-phase condition and has a low volume of exiting traffic during the peak hours. Reallocation of greentime from the minor approaches does not typically require the recalibration and optimization of the traffic signal interconnect system along IL 62. The three additional seconds of greentime is shown to improve the level of service and reduce the exiting queue for the dual left-turn lanes on Meijer Drive.
- Meijer Drive at IL 58 is restricted to right-turn only exiting movements onto eastbound IL 58; however, traffic observations show that left-turn and through traffic movements are occurring during peak hours from both Meijer Drive and the access on the north side of IL 58, which is also restricted to right-out only turning movements. No improvements are recommended at this intersection in conjunction with the proposed development.
- The proposed full access drive on IL 62, east of Meijer Drive will serve passenger vehicles only. The access should provide one lane inbound and one lane outbound under stop sign control. No improvements are recommended on IL 62. On IL 62, there is an existing center lane striped as a continuous two-way left-turn lane to accommodate the proposed northbound left-turning vehicles. Based on the projected right-turn volumes, a right-turn lane on IL 62 is neither warranted nor needed.
- The proposed southerly access drive on Meijer Drive will be for truck usage and should provide one lane inbound and one lane outbound under stop sign control. There is an existing left-turn lane on Meijer Drive at the location of this proposed access drive. A northbound right-turn lane is not needed given the low volume of peak hour turning volumes anticipated.
- The proposed northerly access drive on Meijer Drive will be for passenger vehicles only. Further, the access should be designed to restrict turning movements to right-in/right-out only because of the access drive's close proximity to IL 62, in addition to the dual left-turn lanes on Meijer Drive at its approach to IL 62. The access drive should provide one lane inbound and one lane outbound under stop sign control. No improvements on Meijer Drive at this intersection are needed.

Appendix

*Arlington Heights Industrial
Arlington Heights, Illinois*

Site Plan

TOTAL LOT SIZE	=	671,453 S.F. (15.41 AC)
<u>PROPOSED SITE CONDITIONS:</u>		
PROPOSED BUILDING & FOOTPRINT	=	331,014 S.F. (49.30%)
PROPOSED PAV'T./SIDEWALK	=	263,778 S.F. (39.28%)
PROPOSED GREENSPACE	=	76,661 S.F. (11.42%)
PROPOSED CONDITION IMPERVIOUS AREA	=	594,792 S.F. (13.65 AC)
<u>PROPOSED PARKING SUMMARY:</u>		
REGULAR STALLS	=	300
PHASE 2 ADA ACCESSIBLE STALLS	=	3
TOTAL STALLS PROVIDED	=	308 (0.93/1,000 SF)



2"= 100' N. 89°00' W. 458.10' N. 89°00' W.

1537.50' N. 18°40'00" E.

PHASE 2 PHASE 1

PROPOSED PHASE LINE

OFFICE

PHASE 2

INDUSTRIAL BUILDING 2
192,545 S.F.

EXISTING PROPERTY LINE TO BE ABRIGATED

4417.34' S. 71°20'30" E.

PHASE 1

INDUSTRIAL BUILDING 1
138,469 S.F.

OFFICE

OFFICE

NEW BASIN S-1

MODIFIED EXISTING BASIN N-2

EXISTING BASIN N-1

MEIJER DRIVE

ALGONQUIN ROAD

1454.11' S. 18°40'43" W.

HIGH BRIDGE & METAL BUILDING

HIGH ONE STORY BUILDING

ARLINGTON HEIGHTS INDUSTRIAL
ARLINGTON HEIGHTS, ILLINOIS
MASTER DEVELOPMENT PLAN - PHASE 1 & 2

Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management

975 E. 22nd St., Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

PROJECT NO. 32212717
DATE 10/17/17
SCALE 1"=60'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET

6 OF 20

Traffic Count Data



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin and Golf
Site Code:
Start Date: 07/25/2017
Page No: 1

Turning Movement Data

Start Time	Golf Road Eastbound					App. Total	Golf Road Westbound					App. Total	Algonquin Road Northbound					App. Total	Algonquin Road Southbound					Int. Total
	U-Turn	Left	Thru	Right	Peds		U-Turn	Left	Thru	Right	Peds		U-Turn	Left	Thru	Right	Peds		U-Turn	Left	Thru	Right	Peds	
7:00 AM	0	4	160	78	0	242	0	8	139	47	0	194	0	74	103	0	177	0	42	185	8	0	235	848
7:15 AM	2	7	179	99	0	287	0	6	187	48	0	241	0	102	112	0	214	0	54	223	7	0	284	1026
7:30 AM	0	11	170	95	0	276	0	5	216	65	0	286	0	111	141	0	252	0	58	223	6	0	287	1101
7:45 AM	1	10	165	124	0	300	0	8	238	64	0	310	0	104	124	0	228	0	61	251	8	0	320	1158
Hourly Total	3	32	674	396	0	1105	0	27	780	224	0	1031	0	391	480	0	871	0	215	882	29	0	1126	4133
8:00 AM	0	8	183	97	0	288	0	10	195	53	0	258	0	109	123	0	232	0	54	240	7	0	301	1079
8:15 AM	0	13	192	80	0	285	0	9	212	64	0	285	0	117	120	0	237	0	51	203	6	0	260	1067
8:30 AM	0	4	174	80	0	258	0	6	199	57	0	262	0	97	130	0	229	0	68	185	7	1	260	1007
8:45 AM	1	11	177	72	0	261	0	11	178	75	0	264	0	76	133	0	209	0	67	179	8	0	254	988
Hourly Total	1	36	726	329	0	1092	0	36	784	249	0	1069	0	399	506	0	905	0	240	807	28	1	1075	4141
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	2	15	221	148	0	386	0	6	234	91	0	331	0	132	216	0	348	2	95	163	13	0	273	1338
4:15 PM	0	27	281	126	0	434	0	14	267	105	0	386	0	142	211	0	353	0	77	152	16	0	245	1418
4:30 PM	2	28	217	157	0	404	0	16	232	86	0	334	0	127	197	0	324	2	78	159	15	0	254	1316
4:45 PM	1	21	272	150	0	444	0	15	262	76	1	353	0	101	218	1	319	1	85	167	16	0	269	1385
Hourly Total	5	91	991	581	0	1668	0	51	995	358	1	1404	0	502	842	1	1344	5	335	641	60	0	1041	5457
5:00 PM	4	17	252	148	0	421	0	5	236	71	0	312	0	114	229	0	343	0	101	179	12	0	292	1368
5:15 PM	3	13	282	104	0	402	0	13	255	78	0	346	0	111	235	0	346	0	95	180	15	0	290	1384
5:30 PM	2	21	226	101	0	350	0	14	268	85	0	367	0	110	209	0	319	0	94	181	15	0	290	1326
5:45 PM	0	20	204	100	1	324	1	6	270	92	0	369	0	105	214	0	319	0	108	161	11	1	280	1292
Hourly Total	9	71	964	453	1	1497	1	38	1029	326	0	1394	0	440	887	0	1327	0	398	701	53	1	1152	5370
Grand Total	18	230	3355	1759	1	5362	1	152	3588	1157	1	4898	0	1732	2715	1	4447	5	1188	3031	170	2	4394	19101
Approach %	0.3	4.3	62.6	32.8	-	-	-	0.0	3.1	73.3	23.6	-	-	0.0	38.9	61.1	-	-	0.1	27.0	69.0	3.9	-	-
Total %	0.1	1.2	17.6	9.2	-	28.1	0.0	0.8	18.8	6.1	-	25.6	0.0	9.1	14.2	-	23.3	0.0	6.2	15.9	0.9	-	23.0	
Lights	18	226	3284	1698	-	5226	1	149	3526	1138	-	4814	0	1688	2612	-	4300	5	1171	2931	169	-	4276	18616
% Lights	100.0	98.3	97.9	96.5	-	97.5	100.0	98.0	98.3	98.4	-	98.3	-	97.5	96.2	-	96.7	100.0	98.6	96.7	99.4	-	97.3	97.5
Buses	0	0	15	19	-	34	0	1	12	0	-	13	0	16	13	-	29	0	1	4	0	-	5	81
% Buses	0.0	0.0	0.4	1.1	-	0.6	0.0	0.7	0.3	0.0	-	0.3	-	0.9	0.5	-	0.7	0.0	0.1	0.1	0.0	-	0.1	0.4
Single-Unit Trucks	0	2	44	32	-	78	0	1	35	16	-	52	0	19	60	-	79	0	5	67	0	-	72	281
% Single-Unit Trucks	0.0	0.9	1.3	1.8	-	1.5	0.0	0.7	1.0	1.4	-	1.1	-	1.1	2.2	-	1.8	0.0	0.4	2.2	0.0	-	1.6	1.5
Articulated Trucks	0	2	12	10	-	24	0	1	15	3	-	19	0	9	30	-	39	0	11	29	1	-	41	123
% Articulated Trucks	0.0	0.9	0.4	0.6	-	0.4	0.0	0.7	0.4	0.3	-	0.4	-	0.5	1.1	-	0.9	0.0	0.9	1.0	0.6	-	0.9	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin and Golf
Site Code:
Start Date: 07/25/2017
Page No: 2

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Golf Road Eastbound						Golf Road Westbound						Algonquin Road Northbound						Algonquin Road Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total	
7:30 AM	0	11	170	95	0	276	0	5	216	65	0	286	0	111	141	0	252	0	58	223	6	0	287	1101	
7:45 AM	1	10	165	124	0	300	0	8	238	64	0	310	0	104	124	0	228	0	61	251	8	0	320	1158	
8:00 AM	0	8	183	97	0	288	0	10	195	53	0	258	0	109	123	0	232	0	54	240	7	0	301	1079	
8:15 AM	0	13	192	80	0	285	0	9	212	64	0	285	0	117	120	0	237	0	51	203	6	0	260	1067	
Total	1	42	710	396	0	1149	0	32	861	246	0	1139	0	441	508	0	949	0	224	917	27	0	1168	4405	
Approach %	0.1	3.7	61.8	34.5	-	-	0.0	2.8	75.6	21.6	-	-	0.0	46.5	53.5	-	-	0.0	19.2	78.5	2.3	-	-	-	-
Total %	0.0	1.0	16.1	9.0	-	26.1	0.0	0.7	19.5	5.6	-	25.9	0.0	10.0	11.5	-	21.5	0.0	5.1	20.8	0.6	-	-	26.5	-
PHF	0.250	0.808	0.924	0.798	-	0.958	0.000	0.800	0.904	0.946	-	0.919	0.000	0.942	0.901	-	0.941	0.000	0.918	0.913	0.844	-	-	0.913	0.951
Lights	1	41	681	376	-	1099	0	32	846	239	-	1117	0	419	468	-	887	0	219	890	26	-	-	1135	4238
% Lights	100.0	97.6	95.9	94.9	-	95.6	-	100.0	98.3	97.2	-	98.1	-	95.0	92.1	-	93.5	-	97.8	97.1	96.3	-	-	97.2	96.2
Buses	0	0	4	3	-	7	0	0	2	0	-	2	0	6	3	-	9	0	0	1	0	-	-	1	19
% Buses	0.0	0.0	0.6	0.8	-	0.6	-	0.0	0.2	0.0	-	0.2	-	1.4	0.6	-	0.9	-	0.0	0.1	0.0	-	-	0.1	0.4
Single-Unit Trucks	0	1	20	13	-	34	0	0	8	7	-	15	0	10	26	-	36	0	2	18	0	-	-	20	105
% Single-Unit Trucks	0.0	2.4	2.8	3.3	-	3.0	-	0.0	0.9	2.8	-	1.3	-	2.3	5.1	-	3.8	-	0.9	2.0	0.0	-	-	1.7	2.4
Articulated Trucks	0	0	5	4	-	9	0	0	5	0	-	5	0	6	11	-	17	0	3	8	1	-	-	12	43
% Articulated Trucks	0.0	0.0	0.7	1.0	-	0.8	-	0.0	0.6	0.0	-	0.4	-	1.4	2.2	-	1.8	-	1.3	0.9	3.7	-	-	1.0	1.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	0	-	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin and Golf
Site Code:
Start Date: 07/25/2017
Page No: 3

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Golf Road Eastbound						Golf Road Westbound						Algonquin Road Northbound						Algonquin Road Southbound						App. Total	Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total		
4:30 PM	2	28	217	157	0	404	0	16	232	86	0	334	0	127	197	0	324	2	78	159	15	0	254	1316		
4:45 PM	1	21	272	150	0	444	0	15	262	76	1	353	0	101	218	1	319	1	85	167	16	0	269	1385		
5:00 PM	4	17	252	148	0	421	0	5	236	71	0	312	0	114	229	0	343	0	101	179	12	0	292	1368		
5:15 PM	3	13	282	104	0	402	0	13	255	78	0	346	0	111	235	0	346	0	95	180	15	0	290	1384		
Total	10	79	1023	559	0	1671	0	49	985	311	1	1345	0	453	879	1	1332	3	359	685	58	0	1105	5453		
Approach %	0.6	4.7	61.2	33.5	-	-	0.0	3.6	73.2	23.1	-	-	0.0	34.0	66.0	-	-	0.3	32.5	62.0	5.2	-	-	-		
Total %	0.2	1.4	18.8	10.3	-	30.6	0.0	0.9	18.1	5.7	-	24.7	0.0	8.3	16.1	-	24.4	0.1	6.6	12.6	1.1	-	20.3	-		
PHF	0.625	0.705	0.907	0.890	-	0.941	0.000	0.766	0.940	0.904	-	0.953	0.000	0.892	0.935	-	0.962	0.375	0.889	0.951	0.906	-	0.946	0.984		
Lights	10	78	1019	548	-	1655	0	48	971	309	-	1328	0	445	864	-	1309	3	355	663	58	-	1079	5371		
% Lights	100.0	98.7	99.6	98.0	-	99.0	-	98.0	98.6	99.4	-	98.7	-	98.2	98.3	-	98.3	100.0	98.9	96.8	100.0	-	97.6	98.5		
Buses	0	0	1	7	-	8	0	1	4	0	-	5	0	5	4	-	9	0	0	1	0	-	1	23		
% Buses	0.0	0.0	0.1	1.3	-	0.5	-	2.0	0.4	0.0	-	0.4	-	1.1	0.5	-	0.7	0.0	0.0	0.1	0.0	-	0.1	0.4		
Single-Unit Trucks	0	0	1	3	-	4	0	0	8	1	-	9	0	2	5	-	7	0	2	13	0	-	15	35		
% Single-Unit Trucks	0.0	0.0	0.1	0.5	-	0.2	-	0.0	0.8	0.3	-	0.7	-	0.4	0.6	-	0.5	0.0	0.6	1.9	0.0	-	1.4	0.6		
Articulated Trucks	0	1	2	1	-	4	0	0	2	1	-	3	0	1	6	-	7	0	2	8	0	-	10	24		
% Articulated Trucks	0.0	1.3	0.2	0.2	-	0.2	-	0.0	0.2	0.3	-	0.2	-	0.2	0.7	-	0.5	0.0	0.6	1.2	0.0	-	0.9	0.4		
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	0	-	0	0		
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0		
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-		



Kenig, Lindgren, O'Hara, Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Meijer and Algonquin
Site Code:
Start Date: 07/25/2017
Page No: 1

Turning Movement Data

Start Time	Meijer Drive Eastbound						Access Drive Westbound						Algonquin Road Northbound						Algonquin Road Southbound						App. Total	Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total		
7:00 AM	0	7	0	13	1	20	0	0	0	0	0	0	0	25	183	1	0	209	0	0	262	10	0	272	501	
7:15 AM	0	1	0	16	0	17	0	0	0	0	0	0	0	41	212	1	0	254	0	0	314	9	0	323	594	
7:30 AM	0	5	0	9	1	14	0	0	0	0	1	0	0	53	259	0	1	312	0	0	317	12	0	329	655	
7:45 AM	0	6	1	9	0	16	0	1	1	1	0	3	0	59	234	4	0	297	1	1	355	9	0	366	682	
Hourly Total	0	19	1	47	2	67	0	1	1	1	1	3	0	178	888	6	1	1072	1	1	1248	40	0	1290	2432	
8:00 AM	0	5	0	13	0	18	0	0	0	1	0	1	0	48	207	0	0	255	1	0	323	20	0	344	618	
8:15 AM	0	6	0	13	0	19	0	1	0	1	0	2	0	53	227	2	1	282	0	0	296	26	0	322	625	
8:30 AM	0	4	0	17	0	21	0	0	0	1	0	1	0	34	220	0	0	254	0	1	263	11	0	275	551	
8:45 AM	0	2	0	10	0	12	0	0	0	0	0	0	0	51	206	1	0	258	1	0	250	11	0	262	532	
Hourly Total	0	17	0	53	0	70	0	1	0	3	0	4	0	186	860	3	1	1049	2	1	1132	68	0	1203	2326	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	0	25	2	54	2	81	0	2	0	6	0	8	0	34	345	5	0	384	1	5	303	18	0	327	800	
4:15 PM	0	22	2	50	0	74	0	6	1	2	2	9	0	29	318	4	0	351	1	4	269	16	0	290	724	
4:30 PM	0	28	2	60	0	90	0	2	0	7	0	9	0	24	297	6	0	327	1	2	307	17	0	327	753	
4:45 PM	0	30	0	58	0	88	0	2	0	4	0	6	0	20	309	10	1	339	1	10	310	14	0	335	768	
Hourly Total	0	105	6	222	2	333	0	12	1	19	2	32	0	107	1269	25	1	1401	4	21	1189	65	0	1279	3045	
5:00 PM	0	44	3	76	0	123	0	1	1	2	1	4	0	27	313	6	0	346	0	8	333	9	0	350	823	
5:15 PM	0	27	0	55	0	82	0	2	0	1	2	3	0	28	341	16	0	385	2	7	295	12	0	316	786	
5:30 PM	0	15	0	47	0	62	0	1	1	4	2	6	0	23	321	12	0	356	0	8	286	12	0	306	730	
5:45 PM	0	23	0	45	1	68	0	4	1	5	3	10	0	24	304	7	0	335	2	5	256	11	2	274	687	
Hourly Total	0	109	3	223	1	335	0	8	3	12	8	23	0	102	1279	41	0	1422	4	28	1170	44	2	1246	3026	
Grand Total	0	250	10	545	5	805	0	22	5	35	11	62	0	573	4296	75	3	4944	11	51	4739	217	2	5018	10829	
Approach %	0.0	31.1	1.2	67.7	-	-	0.0	35.5	8.1	56.5	-	-	0.0	11.6	86.9	1.5	-	-	0.2	1.0	94.4	4.3	-	-	-	
Total %	0.0	2.3	0.1	5.0	-	7.4	0.0	0.2	0.0	0.3	-	0.6	0.0	5.3	39.7	0.7	-	45.7	0.1	0.5	43.8	2.0	-	46.3	-	
Lights	0	245	9	516	-	770	0	20	5	32	-	57	0	547	4137	71	-	4755	11	51	4581	212	-	4855	10437	
% Lights	-	98.0	90.0	94.7	-	95.7	-	90.9	100.0	91.4	-	91.9	-	95.5	96.3	94.7	-	96.2	100.0	100.0	96.7	97.7	-	96.8	96.4	
Buses	0	0	0	1	-	1	0	1	0	0	-	1	0	1	33	2	-	36	0	0	27	0	-	27	65	
% Buses	-	0.0	0.0	0.2	-	0.1	-	4.5	0.0	0.0	-	1.6	-	0.2	0.8	2.7	-	0.7	0.0	0.0	0.6	0.0	-	0.5	0.6	
Single-Unit Trucks	0	1	0	9	-	10	0	1	0	3	-	4	0	6	78	2	-	86	0	0	96	3	-	99	199	
% Single-Unit Trucks	-	0.4	0.0	1.7	-	1.2	-	4.5	0.0	8.6	-	6.5	-	1.0	1.8	2.7	-	1.7	0.0	0.0	2.0	1.4	-	2.0	1.8	
Articulated Trucks	0	4	1	18	-	23	0	0	0	0	-	0	0	19	48	0	-	67	0	0	35	2	-	37	127	
% Articulated Trucks	-	1.6	10.0	3.3	-	2.9	-	0.0	0.0	0.0	-	0.0	-	3.3	1.1	0.0	-	1.4	0.0	0.0	0.7	0.9	-	0.7	1.2	
Bicycles on Road	0	0	0	1	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	
% Bicycles on Road	-	0.0	0.0	0.2	-	0.1	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	
Pedestrians	-	-	-	-	5	-	-	-	-	-	-	11	-	-	-	-	-	3	-	-	-	-	2	-	-	



Kenig, Lindgren, O'Hara, Aboona, Inc.

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Meijer and Algonquin
Site Code:
Start Date: 07/25/2017
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Meijer Drive Eastbound						Access Drive Westbound						Algonquin Road Northbound						Algonquin Road Southbound						Int. Total	
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total		
7:30 AM	0	5	0	9	1	14	0	0	0	0	0	1	0	0	53	259	0	1	312	0	0	317	12	0	329	655
7:45 AM	0	6	1	9	0	16	0	1	1	1	0	3	0	59	234	4	0	297	1	1	355	9	0	366	682	
8:00 AM	0	5	0	13	0	18	0	0	0	1	0	1	0	48	207	0	0	255	1	0	323	20	0	344	618	
8:15 AM	0	6	0	13	0	19	0	1	0	1	0	2	0	53	227	2	1	282	0	0	296	26	0	322	625	
Total	0	22	1	44	1	67	0	2	1	3	1	6	0	213	927	6	2	1146	2	1	1291	67	0	1361	2580	
Approach %	0.0	32.8	1.5	65.7	-	-	0.0	33.3	16.7	50.0	-	-	0.0	18.6	80.9	0.5	-	-	0.1	0.1	94.9	4.9	-	-	-	
Total %	0.0	0.9	0.0	1.7	-	2.6	0.0	0.1	0.0	0.1	-	0.2	0.0	8.3	35.9	0.2	-	44.4	0.1	0.0	50.0	2.6	-	52.8	-	
PHF	0.000	0.917	0.250	0.846	-	0.882	0.000	0.500	0.250	0.750	-	0.500	0.000	0.903	0.895	0.375	-	0.918	0.500	0.250	0.909	0.644	-	0.930	0.946	
Lights	0	20	0	34	-	54	0	1	1	1	-	3	0	202	866	4	-	1072	2	1	1244	66	-	1313	2442	
% Lights	-	90.9	0.0	77.3	-	80.6	-	50.0	100.0	33.3	-	50.0	-	94.8	93.4	66.7	-	93.5	100.0	100.0	96.4	98.5	-	96.5	94.7	
Buses	0	0	0	1	-	1	0	0	0	0	-	0	0	0	13	1	-	14	0	0	4	0	-	4	19	
% Buses	-	0.0	0.0	2.3	-	1.5	-	0.0	0.0	0.0	-	0.0	-	0.0	1.4	16.7	-	1.2	0.0	0.0	0.3	0.0	-	0.3	0.7	
Single-Unit Trucks	0	0	0	1	-	1	0	1	0	2	-	3	0	2	28	1	-	31	0	0	31	1	-	32	67	
% Single-Unit Trucks	-	0.0	0.0	2.3	-	1.5	-	50.0	0.0	66.7	-	50.0	-	0.9	3.0	16.7	-	2.7	0.0	0.0	2.4	1.5	-	2.4	2.6	
Articulated Trucks	0	2	1	7	-	10	0	0	0	0	-	0	0	9	20	0	-	29	0	0	12	0	-	12	51	
% Articulated Trucks	-	9.1	100.0	15.9	-	14.9	-	0.0	0.0	0.0	-	0.0	-	4.2	2.2	0.0	-	2.5	0.0	0.0	0.9	0.0	-	0.9	2.0	
Bicycles on Road	0	0	0	1	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	
% Bicycles on Road	-	0.0	0.0	2.3	-	1.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-	0.0	0.0	0.0	0.0	-	0.0	0.0	
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	0	-	-	



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Meijer and Algonquin
Site Code:
Start Date: 07/25/2017
Page No: 4

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Meijer Drive Eastbound						Access Drive Westbound						Algonquin Road Northbound						Algonquin Road Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	0	28	2	60	0	90	0	2	0	7	0	9	0	24	297	6	0	327	1	2	307	17	0	327	753
4:45 PM	0	30	0	58	0	88	0	2	0	4	0	6	0	20	309	10	1	339	1	10	310	14	0	335	768
5:00 PM	0	44	3	76	0	123	0	1	1	2	1	4	0	27	313	6	0	346	0	8	333	9	0	350	823
5:15 PM	0	27	0	55	0	82	0	2	0	1	2	3	0	28	341	16	0	385	2	7	295	12	0	316	786
Total	0	129	5	249	0	383	0	7	1	14	3	22	0	99	1260	38	1	1397	4	27	1245	52	0	1328	3130
Approach %	0.0	33.7	1.3	65.0	-	-	0.0	31.8	4.5	63.6	-	-	0.0	7.1	90.2	2.7	-	-	0.3	2.0	93.8	3.9	-	-	-
Total %	0.0	4.1	0.2	8.0	-	12.2	0.0	0.2	0.0	0.4	-	0.7	0.0	3.2	40.3	1.2	-	44.6	0.1	0.9	39.8	1.7	-	42.4	-
PHF	0.000	0.733	0.417	0.819	-	0.778	0.000	0.875	0.250	0.500	-	0.611	0.000	0.884	0.924	0.594	-	0.907	0.500	0.675	0.935	0.765	-	0.949	0.951
Lights	0	127	5	245	-	377	0	6	1	14	-	21	-	99	1235	37	-	1371	4	27	1214	51	-	1296	3065
% Lights	-	98.4	100.0	98.4	-	98.4	-	85.7	100.0	100.0	-	95.5	-	100.0	98.0	97.4	-	98.1	100.0	100.0	97.5	98.1	-	97.6	97.9
Buses	0	0	0	0	-	0	0	1	0	0	-	1	0	0	7	1	-	8	0	0	8	0	-	8	17
% Buses	-	0.0	0.0	0.0	-	0.0	-	14.3	0.0	0.0	-	4.5	-	0.0	0.6	2.6	-	0.6	0.0	0.0	0.6	0.0	-	0.6	0.5
Single-Unit Trucks	0	1	0	2	-	3	0	0	0	0	-	0	0	0	13	0	-	13	0	0	15	1	-	16	32
% Single-Unit Trucks	-	0.8	0.0	0.8	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	1.0	0.0	-	0.9	0.0	0.0	1.2	1.9	-	1.2	1.0
Articulated Trucks	0	1	0	2	-	3	0	0	0	0	-	0	0	0	5	0	-	5	0	0	8	0	-	8	16
% Articulated Trucks	-	0.8	0.0	0.8	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.4	0.0	-	0.4	0.0	0.0	0.6	0.0	-	0.6	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400
Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin Road and Arlington Heights Road
Site Code: 07/25/2017
Start Date: 07/25/2017
Page No: 1

Turning Movement Data

Start Time	Algonquin Road Eastbound						Algonquin Road Westbound						Arlington Heights Road Northbound						Arlington Heights Road Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	1	8	139	86	0	234	0	88	108	27	0	223	3	112	220	111	0	446	0	41	262	30	1	333	1236
7:15 AM	0	8	212	103	0	323	0	91	131	36	0	258	0	160	207	123	0	490	0	35	322	17	0	374	1445
7:30 AM	0	13	189	108	0	310	0	137	157	33	0	327	0	167	251	101	0	519	0	51	317	32	0	400	1556
7:45 AM	1	10	194	112	1	317	0	86	151	29	0	266	2	189	279	126	0	596	0	67	356	37	1	460	1639
Hourly Total	2	39	734	409	1	1184	0	402	547	125	0	1074	5	628	957	461	0	2051	0	194	1257	116	2	1567	5876
8:00 AM	0	14	185	110	0	309	0	90	133	35	1	258	1	153	237	102	0	493	0	42	330	24	2	396	1456
8:15 AM	0	8	166	99	0	273	0	84	167	27	0	278	2	170	275	111	0	558	0	54	321	33	0	408	1517
8:30 AM	0	13	175	84	0	272	0	69	147	45	0	261	0	143	256	118	0	517	1	47	248	25	0	321	1371
8:45 AM	3	12	141	77	0	233	0	69	133	46	0	248	0	138	253	90	0	481	1	55	266	26	1	348	1310
Hourly Total	3	47	667	370	0	1087	0	312	580	153	1	1045	3	604	1021	421	0	2049	2	198	1165	108	3	1473	5654
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	31	194	191	1	420	0	154	225	45	1	424	0	114	280	107	1	501	0	40	333	23	1	396	1741
4:15 PM	2	26	191	156	1	375	0	150	222	43	1	415	3	97	358	89	2	547	0	49	388	30	0	467	1804
4:30 PM	3	36	200	184	0	423	0	147	198	54	0	399	0	106	345	104	0	555	0	46	374	25	1	445	1822
4:45 PM	2	34	229	165	2	430	0	142	210	42	0	394	1	102	431	106	0	640	0	45	300	18	1	363	1827
Hourly Total	11	127	814	696	4	1648	0	593	855	184	2	1632	4	419	1414	406	3	2243	0	180	1395	96	3	1671	7194
5:00 PM	1	38	219	181	0	439	0	174	242	62	0	478	2	105	386	121	2	614	0	39	357	18	0	414	1945
5:15 PM	1	27	204	172	1	404	0	143	215	52	0	410	0	118	403	130	0	651	0	50	332	22	0	404	1869
5:30 PM	2	31	188	140	0	361	0	126	212	59	0	397	1	109	368	110	1	588	0	38	303	16	1	357	1703
5:45 PM	3	26	174	121	2	324	0	106	182	60	0	348	3	112	377	113	1	605	0	46	283	21	0	350	1627
Hourly Total	7	122	785	614	3	1528	0	549	851	233	0	1633	6	444	1534	474	4	2458	0	173	1275	77	1	1525	7144
Grand Total	23	335	3000	2089	8	5447	0	1856	2833	695	3	5384	18	2095	4926	1762	7	8801	2	745	5092	397	9	6236	25868
Approach %	0.4	6.2	55.1	38.4	-	-	0.0	34.5	52.6	12.9	-	-	0.2	23.8	56.0	20.0	-	-	0.0	11.9	81.7	6.4	-	-	-
Total %	0.1	1.3	11.6	8.1	-	21.1	0.0	7.2	11.0	2.7	-	20.8	0.1	8.1	19.0	6.8	-	34.0	0.0	2.9	19.7	1.5	-	24.1	-
Lights	23	327	2855	2055	-	5260	0	1763	2695	653	-	5111	18	2049	4795	1685	-	8547	2	708	4995	388	-	6093	25011
% Lights	100.0	97.6	95.2	98.4	-	96.6	-	95.0	95.1	94.0	-	94.9	100.0	97.8	97.3	95.6	-	97.1	100.0	95.0	98.1	97.7	-	97.7	96.7
Buses	0	2	29	2	-	33	0	4	29	6	-	39	0	10	3	3	-	16	0	3	2	3	-	8	96
% Buses	0.0	0.6	1.0	0.1	-	0.6	-	0.2	1.0	0.9	-	0.7	0.0	0.5	0.1	0.2	-	0.2	0.0	0.4	0.0	0.8	-	0.1	0.4
Single-Unit Trucks	0	4	64	20	-	88	0	41	61	30	-	132	0	25	71	33	-	129	0	22	72	5	-	99	448
% Single-Unit Trucks	0.0	1.2	2.1	1.0	-	1.6	-	2.2	2.2	4.3	-	2.5	0.0	1.2	1.4	1.9	-	1.5	0.0	3.0	1.4	1.3	-	1.6	1.7
Articulated Trucks	0	1	49	12	-	62	0	46	48	6	-	100	0	11	57	41	-	109	0	12	22	1	-	35	306
% Articulated Trucks	0.0	0.3	1.6	0.6	-	1.1	-	2.5	1.7	0.9	-	1.9	0.0	0.5	1.2	2.3	-	1.2	0.0	1.6	0.4	0.3	-	0.6	1.2
Bicycles on Road	0	1	3	0	-	4	0	2	0	0	-	2	0	0	0	0	-	0	0	0	1	0	-	1	7
% Bicycles on Road	0.0	0.3	0.1	0.0	-	0.1	-	0.1	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	8	-	-	-	-	-	3	-	-	-	-	-	7	-	-	-	-	-	9	-	-



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin Road and Arlington Heights Road
Site Code: 07/25/2017
Start Date: 07/25/2017
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Algonquin Road Eastbound						Algonquin Road Westbound						Arlington Heights Road Northbound						Arlington Heights Road Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	0	13	189	108	0	310	0	137	157	33	0	327	0	167	251	101	0	519	0	51	317	32	0	400	1556
7:45 AM	1	10	194	112	1	317	0	86	151	29	0	266	2	189	279	126	0	596	0	67	356	37	1	460	1639
8:00 AM	0	14	185	110	0	309	0	90	133	35	1	258	1	153	237	102	0	493	0	42	330	24	2	396	1456
8:15 AM	0	8	166	99	0	273	0	84	167	27	0	278	2	170	275	111	0	558	0	54	321	33	0	408	1517
Total	1	45	734	429	1	1209	0	397	608	124	1	1129	5	679	1042	440	0	2166	0	214	1324	126	3	1664	6168
Approach %	0.1	3.7	60.7	35.5	-	-	0.0	35.2	53.9	11.0	-	-	0.2	31.3	48.1	20.3	-	-	0.0	12.9	79.6	7.6	-	-	-
Total %	0.0	0.7	11.9	7.0	-	19.6	0.0	6.4	9.9	2.0	-	18.3	0.1	11.0	16.9	7.1	-	35.1	0.0	3.5	21.5	2.0	-	27.0	-
PHF	0.250	0.804	0.946	0.958	-	0.953	0.000	0.724	0.910	0.886	-	0.863	0.625	0.898	0.934	0.873	-	0.909	0.000	0.799	0.930	0.851	-	0.904	0.941
% Lights	1	43	688	420	-	1152	0	356	553	112	-	1021	5	660	988	413	-	2066	0	204	1301	124	-	1629	5868
% Lights	100.0	95.6	93.7	97.9	-	95.3	-	89.7	91.0	90.3	-	90.4	100.0	97.2	94.8	93.9	-	95.4	-	95.3	98.3	98.4	-	97.9	95.1
Buses	0	1	6	0	-	7	0	1	9	4	-	14	0	2	2	1	-	5	0	1	0	1	-	2	28
% Buses	0.0	2.2	0.8	0.0	-	0.6	-	0.3	1.5	3.2	-	1.2	0.0	0.3	0.2	0.2	-	0.2	-	0.5	0.0	0.8	-	0.1	0.5
Single-Unit Trucks	0	0	21	6	-	27	0	18	28	8	-	54	0	11	34	10	-	55	0	4	15	1	-	20	156
% Single-Unit Trucks	0.0	0.0	2.9	1.4	-	2.2	-	4.5	4.6	6.5	-	4.8	0.0	1.6	3.3	2.3	-	2.5	-	1.9	1.1	0.8	-	1.2	2.5
Articulated Trucks	0	1	19	3	-	23	0	22	18	0	-	40	0	6	18	16	-	40	0	5	8	0	-	13	116
% Articulated Trucks	0.0	2.2	2.6	0.7	-	1.9	-	5.5	3.0	0.0	-	3.5	0.0	0.9	1.7	3.6	-	1.8	-	2.3	0.6	0.0	-	0.8	1.9
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Kenig, Lindgren, O'Hara, Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin Road and Arlington Heights Road
Site Code: 07/25/2017
Start Date: 07/25/2017
Page No: 4

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Algonquin Road Eastbound						Algonquin Road Westbound						Arlington Heights Road Northbound						Arlington Heights Road Southbound					
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total
4:30 PM	3	36	200	184	0	423	0	147	198	54	0	399	0	106	345	104	0	555	0	46	374	25	1	445
4:45 PM	2	34	229	165	2	430	0	142	210	42	0	394	1	102	431	106	0	640	0	45	300	18	1	363
5:00 PM	1	38	219	181	0	439	0	174	242	62	0	478	2	105	386	121	2	614	0	39	357	18	0	414
5:15 PM	1	27	204	172	1	404	0	143	215	52	0	410	0	118	403	130	0	651	0	50	332	22	0	404
Total	7	135	852	702	3	1696	0	606	865	210	0	1681	3	431	1565	461	2	2460	0	180	1363	83	2	1626
Approach %	0.4	8.0	50.2	41.4	-	-	0.0	36.0	51.5	12.5	-	-	0.1	17.5	63.6	18.7	-	-	0.0	11.1	83.8	5.1	-	-
Total %	0.1	1.8	11.4	9.4	-	22.7	0.0	8.1	11.6	2.8	-	22.5	0.0	5.8	21.0	6.2	-	33.0	0.0	2.4	18.3	1.1	-	21.8
PHF	0.583	0.888	0.930	0.954	-	0.966	0.000	0.871	0.894	0.847	-	0.879	0.375	0.913	0.908	0.887	-	0.945	0.000	0.900	0.911	0.830	-	0.913
% Lights	7	134	825	696	-	1662	0	590	849	205	-	1644	3	428	1553	448	-	2432	0	170	1339	81	-	1590
% Lights	100.0	99.3	96.8	99.1	-	98.0	-	97.4	98.2	97.6	-	97.8	100.0	99.3	99.2	97.2	-	98.9	-	94.4	98.2	97.6	-	97.8
Buses	0	1	7	1	-	9	0	1	5	0	-	6	0	1	0	1	-	2	0	0	0	2	-	2
% Buses	0.0	0.7	0.8	0.1	-	0.5	-	0.2	0.6	0.0	-	0.4	0.0	0.2	0.0	0.2	-	0.1	-	0.0	0.0	2.4	-	0.1
Single-Unit Trucks	0	0	12	3	-	15	0	5	8	5	-	18	0	2	5	6	-	13	0	7	21	0	-	28
% Single-Unit Trucks	0.0	0.0	1.4	0.4	-	0.9	-	0.8	0.9	2.4	-	1.1	0.0	0.5	0.3	1.3	-	0.5	-	3.9	1.5	0.0	-	1.7
Articulated Trucks	0	0	6	2	-	8	0	8	3	0	-	11	0	0	7	6	-	13	0	3	3	0	-	6
% Articulated Trucks	0.0	0.0	0.7	0.3	-	0.5	-	1.3	0.3	0.0	-	0.7	0.0	0.0	0.4	1.3	-	0.5	-	1.7	0.2	0.0	-	0.4
Bicycles on Road	0	0	2	0	-	2	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0.0	0.0	0.2	0.0	-	0.1	-	0.3	0.0	0.0	-	0.1	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	2	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Golf and Meijer
Site Code:
Start Date: 07/25/2017
Page No: 1

Turning Movement Data

Start Time	Golf Road Eastbound					Golf Road Westbound					Meijer Drive Northbound					Access Drive Southbound				
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total	
7:00 AM	0	9	238	19	0	266	0	16	195	14	0	225	0	0	0	4	1	4	509	
7:15 AM	0	3	292	21	0	316	0	28	234	15	0	277	0	1	1	7	0	9	624	
7:30 AM	0	6	297	30	0	333	0	23	293	15	0	331	0	1	0	6	0	7	690	
7:45 AM	0	4	279	32	0	315	0	31	288	11	0	330	0	2	0	7	0	9	671	
Hourly Total	0	22	1106	102	0	1230	0	98	1010	55	0	1163	0	4	1	24	1	29	2494	
8:00 AM	0	4	267	31	0	302	0	24	266	18	0	308	0	0	0	6	0	6	633	
8:15 AM	0	5	259	25	0	289	0	26	290	15	0	331	0	4	0	9	0	13	654	
8:30 AM	0	9	254	18	1	281	0	23	245	15	0	283	0	2	1	10	0	13	591	
8:45 AM	0	7	251	25	0	283	0	20	226	13	2	259	0	3	1	4	0	8	568	
Hourly Total	0	25	1031	99	1	1155	0	93	1027	61	2	1181	0	9	2	29	0	40	2446	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	0	2	380	24	0	406	0	10	352	9	1	371	0	2	1	30	1	33	818	
4:15 PM	0	0	380	21	0	401	0	18	401	7	0	426	0	2	0	36	1	38	872	
4:30 PM	0	0	361	37	0	398	0	16	328	8	0	352	0	1	0	32	0	33	789	
4:45 PM	0	4	406	25	0	435	1	9	336	13	0	359	0	1	3	29	0	33	836	
Hourly Total	0	6	1527	107	0	1640	1	53	1417	37	1	1508	0	6	4	127	2	137	3315	
5:00 PM	0	1	437	30	0	468	0	12	338	8	0	358	0	3	1	37	0	41	880	
5:15 PM	0	3	367	23	0	393	0	17	342	12	0	371	0	4	0	31	0	35	810	
5:30 PM	0	4	334	31	0	369	0	23	337	9	0	369	0	3	1	22	0	26	772	
5:45 PM	0	2	342	30	0	374	2	21	334	16	0	373	0	1	1	24	1	26	778	
Hourly Total	0	10	1480	114	0	1604	2	73	1351	45	0	1471	0	11	3	114	1	128	3240	
Grand Total	0	63	5144	422	1	5629	3	317	4805	198	3	5323	0	30	10	294	4	334	11495	
Approach %	0.0	1.1	91.4	7.5	-	-	0.1	6.0	90.3	3.7	-	-	0.0	9.0	3.0	88.0	-	-	-	
Total %	0.0	0.5	44.7	3.7	-	49.0	0.0	2.8	41.8	1.7	-	46.3	0.0	0.3	0.1	2.6	-	2.9	1.8	
Lights	0	62	5021	419	-	5502	3	309	4699	198	-	5209	0	27	8	286	-	321	209	
% Lights	-	98.4	97.6	99.3	-	97.7	100.0	97.5	97.8	100.0	-	97.9	-	90.0	80.0	97.3	-	96.1	100.0	
Buses	0	0	31	0	-	31	0	1	24	0	-	25	0	1	0	0	-	1	0	
% Buses	-	0.0	0.6	0.0	-	0.6	0.0	0.3	0.5	0.0	-	0.5	-	3.3	0.0	0.0	-	0.3	0.0	
Single-Unit Trucks	0	1	76	3	-	80	0	5	54	0	-	59	0	2	0	3	-	5	144	
% Single-Unit Trucks	-	1.6	1.5	0.7	-	1.4	0.0	1.6	1.1	0.0	-	1.1	-	6.7	0.0	1.0	-	1.5	0.0	
Articulated Trucks	0	0	16	0	-	16	0	1	27	0	-	28	0	0	0	5	-	5	49	
% Articulated Trucks	-	0.0	0.3	0.0	-	0.3	0.0	0.3	0.6	0.0	-	0.5	-	0.0	0.0	1.7	-	1.5	0.0	
Bicycles on Road	0	0	0	0	-	0	0	1	1	0	-	2	0	0	2	0	-	2	4	
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	0.0	0.3	0.0	0.0	-	0.0	-	0.0	20.0	0.0	-	0.6	0.0	
Pedestrians	-	-	-	-	1	-	-	-	-	-	-	4	-	-	-	-	-	6	-	



Kenig, Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Golf and Meijer
Site Code:
Start Date: 07/25/2017
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Golf Road Eastbound						Golf Road Westbound						Meijer Drive Northbound						Access Drive Southbound							
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total	
7:30 AM	0	6	297	30	0	333	0	23	293	15	0	331	0	1	0	0	6	0	7	0	0	0	19	0	19	690
7:45 AM	0	4	279	32	0	315	0	31	288	11	0	330	0	2	0	0	7	0	9	0	1	2	14	0	17	671
8:00 AM	0	4	267	31	0	302	0	24	266	18	0	308	0	0	0	0	6	0	6	0	0	0	17	0	17	633
8:15 AM	0	5	259	25	0	289	0	26	290	15	0	331	0	4	0	0	9	0	13	0	2	1	18	0	21	654
Total	0	19	1102	118	0	1239	0	104	1137	59	0	1300	0	7	0	0	28	0	35	0	3	3	68	0	74	2648
Approach %	0.0	1.5	88.9	9.5	-	-	0.0	8.0	87.5	4.5	-	-	0.0	20.0	0.0	80.0	-	-	-	0.0	4.1	4.1	91.9	-	-	-
Total %	0.0	0.7	41.6	4.5	-	46.8	0.0	3.9	42.9	2.2	-	49.1	0.0	0.3	0.0	1.1	-	1.3	0.0	0.1	0.1	2.6	-	2.8	-	-
PHF	0.000	0.792	0.928	0.922	-	0.930	0.000	0.839	0.970	0.819	-	0.982	0.000	0.438	0.000	0.778	-	0.673	0.000	0.375	0.375	0.895	-	0.881	0.959	
Lights	0	19	1056	117	-	1192	0	102	1104	59	-	1265	0	5	0	25	-	30	0	3	3	68	-	74	2561	
% Lights	-	100.0	95.8	99.2	-	96.2	-	98.1	97.1	100.0	-	97.3	-	71.4	-	89.3	-	85.7	-	100.0	100.0	100.0	-	100.0	96.7	
Buses	0	0	7	0	-	7	0	0	5	0	-	5	0	0	0	0	-	0	0	0	0	0	-	0	12	
% Buses	-	0.0	0.6	0.0	-	0.6	-	0.0	0.4	0.0	-	0.4	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.5	
Single-Unit Trucks	0	0	35	1	-	36	0	1	16	0	-	17	0	2	0	0	-	2	0	0	0	0	-	0	55	
% Single-Unit Trucks	-	0.0	3.2	0.8	-	2.9	-	1.0	1.4	0.0	-	1.3	-	28.6	-	0.0	-	5.7	-	0.0	0.0	0.0	-	0.0	2.1	
Articulated Trucks	0	0	4	0	-	4	0	1	12	0	-	13	0	0	0	3	-	3	0	0	0	0	-	0	20	
% Articulated Trucks	-	0.0	0.4	0.0	-	0.3	-	1.0	1.1	0.0	-	1.0	-	0.0	-	10.7	-	8.6	-	0.0	0.0	0.0	-	0.0	0.8	
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Golf and Meijer
Site Code:
Start Date: 07/25/2017
Page No: 4

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Golf Road Eastbound						Golf Road Westbound						Meijer Drive Northbound						Access Drive Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	0	0	361	37	0	398	0	16	328	8	0	352	0	1	0	32	0	33	0	1	1	4	1	6	789
4:45 PM	0	4	406	25	0	435	1	9	336	13	0	359	0	1	3	29	0	33	0	1	0	8	2	9	836
5:00 PM	0	1	437	30	0	468	0	12	338	8	0	358	0	3	1	37	0	41	0	0	1	12	0	13	880
5:15 PM	0	3	367	23	0	393	0	17	342	12	0	371	0	4	4	31	0	35	0	2	0	9	0	11	810
Total	0	8	1571	115	0	1694	1	54	1344	41	0	1440	0	9	4	129	0	142	0	4	2	33	3	39	3315
Approach %	0.0	0.5	92.7	6.8	-	-	0.1	3.8	93.3	2.8	-	-	0.0	6.3	2.8	90.8	-	-	0.0	10.3	5.1	84.6	-	-	-
Total %	0.0	0.2	47.4	3.5	-	51.1	0.0	1.6	40.5	1.2	-	43.4	0.0	0.3	0.1	3.9	-	4.3	0.0	0.1	0.1	1.0	-	1.2	-
PHF	0.000	0.500	0.899	0.777	-	0.905	0.250	0.794	0.982	0.788	-	0.970	0.000	0.563	0.333	0.872	-	0.866	0.000	0.500	0.500	0.688	-	0.750	0.942
Lights	0	8	1557	115	-	1680	1	53	1326	41	-	1421	0	8	3	127	-	138	0	4	2	33	-	39	3278
% Lights	-	100.0	99.1	100.0	-	99.2	100.0	98.1	98.7	100.0	-	98.7	-	88.9	75.0	98.4	-	97.2	-	100.0	100.0	100.0	-	100.0	98.9
Buses	0	0	9	0	-	9	0	1	8	0	-	9	0	1	0	0	-	1	0	0	0	0	-	0	19
% Buses	-	0.0	0.6	0.0	-	0.5	0.0	1.9	0.6	0.0	-	0.6	-	11.1	0.0	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	0.6
Single-Unit Trucks	0	0	2	0	-	2	0	0	7	0	-	7	0	0	0	2	-	2	0	0	0	0	-	0	11
% Single-Unit Trucks	-	0.0	0.1	0.0	-	0.1	0.0	0.0	0.5	0.0	-	0.5	-	0.0	0.0	1.6	-	1.4	-	0.0	0.0	0.0	-	0.0	0.3
Articulated Trucks	0	0	3	0	-	3	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	6
% Articulated Trucks	-	0.0	0.2	0.0	-	0.2	0.0	0.0	0.2	0.0	-	0.2	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.2
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	25.0	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	100.0



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin and Divided Access
Site Code:
Start Date: 07/25/2017
Page No: 1

Turning Movement Data

Start Time	Westbound Approach				Algonquin Northbound				Algonquin Southbound			
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left
7:00 AM	0	0	0	0	0	0	214	1	0	215	0	1
7:15 AM	0	0	1	0	1	0	263	3	0	266	0	2
7:30 AM	0	0	0	0	0	0	322	1	2	323	0	0
7:45 AM	0	0	0	0	0	0	309	1	0	310	0	2
Hourly Total	0	0	1	0	1	0	1108	6	2	1114	0	5
8:00 AM	0	0	1	2	1	0	247	0	0	247	0	1
8:15 AM	0	0	2	0	2	0	313	3	0	316	0	1
8:30 AM	0	1	2	1	3	0	265	5	0	270	0	2
8:45 AM	0	0	1	2	1	0	256	1	0	257	0	3
Hourly Total	0	1	6	5	7	0	1081	9	0	1090	0	7
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	4	2	4	0	378	3	0	381	0	1
4:15 PM	0	1	6	2	7	0	342	2	0	344	0	3
4:30 PM	0	2	6	0	8	0	351	0	0	351	0	2
4:45 PM	0	4	1	1	5	0	344	2	0	346	0	0
Hourly Total	0	7	17	5	24	0	1415	7	0	1422	0	6
5:00 PM	0	1	3	0	4	0	374	4	0	378	0	3
5:15 PM	0	0	6	5	6	0	348	3	0	351	0	2
5:30 PM	0	3	10	1	13	0	339	0	0	339	0	3
5:45 PM	0	2	1	1	3	0	319	1	0	320	0	0
Hourly Total	0	6	20	7	26	0	1380	8	0	1388	0	8
Grand Total	0	14	44	17	58	0	4984	30	2	5014	0	26
Approach %	0.0	24.1	75.9	-	-	0.0	99.4	0.6	-	-	0.0	0.5
Total %	0.0	0.1	0.4	-	0.6	0.0	48.1	0.3	-	48.4	0.0	0.3
Lights	0	13	44	-	57	0	4781	29	-	4810	0	26
% Lights	-	92.9	100.0	-	98.3	-	95.9	96.7	-	95.9	-	100.0
Buses	0	0	0	-	0	0	39	0	-	39	0	0
% Buses	-	0.0	0.0	-	0.0	-	0.8	0.0	-	0.8	-	0.0
Single-Unit Trucks	0	0	0	-	0	0	99	1	-	100	0	0
% Single-Unit Trucks	-	0.0	0.0	-	0.0	-	2.0	3.3	-	2.0	-	0.0
Articulated Trucks	0	0	0	-	0	0	65	0	-	65	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	-	1.3	0.0	-	1.3	-	0.0
Bicycles on Road	0	1	0	-	1	0	0	0	-	0	0	0
% Bicycles on Road	-	7.1	0.0	-	1.7	-	0.0	0.0	-	0.0	-	0.0
Pedestrians	-	-	-	17	-	-	-	-	2	-	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-



Kenig, Lindgren, O'Hara, Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin and Divided Access
Site Code:
Start Date: 07/25/2017
Page No: 2

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Westbound Approach					Algonquin Northbound					Algonquin Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
7:30 AM	0	0	0	0	0	0	322	1	2	323	0	0	360	0	360	683
7:45 AM	0	0	0	0	0	0	309	1	0	310	0	2	367	0	369	679
8:00 AM	0	0	1	2	1	0	247	0	0	247	0	1	307	0	308	556
8:15 AM	0	0	2	0	2	0	313	3	0	316	0	1	302	0	303	621
Total	0	0	3	2	3	0	1191	5	2	1196	0	4	1336	0	1340	2539
Approach %	0.0	0.0	100.0	-	-	0.0	99.6	0.4	-	-	0.0	0.3	99.7	-	-	-
Total %	0.0	0.0	0.1	-	0.1	0.0	46.9	0.2	-	47.1	0.0	0.2	52.6	-	52.8	-
PHF	0.000	0.000	0.375	-	0.375	0.000	0.925	0.417	-	0.926	0.000	0.500	0.910	-	0.908	0.929
Lights	0	0	3	-	3	0	1109	4	-	1113	0	4	1280	-	1284	2400
% Lights	-	-	100.0	-	100.0	-	93.1	80.0	-	93.1	-	100.0	95.8	-	95.8	94.5
Buses	0	0	0	-	0	0	10	0	-	10	0	0	4	-	4	14
% Buses	-	-	0.0	-	0.0	-	0.8	0.0	-	0.8	-	0.0	0.3	-	0.3	0.6
Single-Unit Trucks	0	0	0	-	0	0	44	1	-	45	0	0	39	-	39	84
% Single-Unit Trucks	-	-	0.0	-	0.0	-	3.7	20.0	-	3.8	-	0.0	2.9	-	2.9	3.3
Articulated Trucks	0	0	0	-	0	0	28	0	-	28	0	0	12	-	12	40
% Articulated Trucks	-	-	0.0	-	0.0	-	2.4	0.0	-	2.3	-	0.0	0.9	-	0.9	1.6
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	1	-	1	1
% Bicycles on Road	-	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.1	-	0.1	0.0
Pedestrians	-	-	-	2	-	-	-	-	2	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-



Kenig, Lindgren, O'Hara, Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Algonquin and Divided Access
Site Code:
Start Date: 07/25/2017
Page No: 3

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Westbound Approach					Algonquin Northbound					Algonquin Southbound				
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total
4:30 PM	0	2	6	0	8	0	351	0	0	351	0	2	376	0	378
4:45 PM	0	4	1	1	5	0	344	2	0	346	0	0	365	0	365
5:00 PM	0	1	3	0	4	0	374	4	0	378	0	3	429	0	432
5:15 PM	0	0	6	5	6	0	348	3	0	351	0	2	339	0	341
Total	0	7	16	6	23	0	1417	9	0	1426	0	7	1509	0	1516
Approach %	0.0	30.4	69.6	-	-	0.0	99.4	0.6	-	-	0.0	0.5	99.5	-	-
Total %	0.0	0.2	0.5	-	0.8	0.0	47.8	0.3	-	48.1	0.0	0.2	50.9	-	51.1
PHF	0.000	0.438	0.667	-	0.719	0.000	0.947	0.563	-	0.943	0.000	0.583	0.879	-	0.877
Lights	0	7	16	-	23	0	1389	9	-	1398	0	7	1476	-	1483
% Lights	-	100.0	100.0	-	100.0	-	98.0	100.0	-	98.0	-	100.0	97.8	-	97.8
Buses	0	0	0	-	0	0	10	0	-	10	0	0	8	-	8
% Buses	-	0.0	0.0	-	0.0	-	0.7	0.0	-	0.7	-	0.0	0.5	-	0.5
Single-Unit Trucks	0	0	0	-	0	0	13	0	-	13	0	0	14	-	14
% Single-Unit Trucks	-	0.0	0.0	-	0.0	-	0.9	0.0	-	0.9	-	0.0	0.9	-	0.9
Articulated Trucks	0	0	0	-	0	0	5	0	-	5	0	0	11	-	11
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.4	0.0	-	0.4	-	0.0	0.7	-	0.7
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Road	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0
Pedestrians	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-

Capacity Analyses – Existing Conditions

Lanes, Volumes, Timings
1: Meijer Dr & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	3	1291	67	213	927	6	22	0	44	2	1	3
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	85		140	275		0	0		0	0		0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (ft)	130			185			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.999				0.850		0.932	
Flt Protected	0.950			0.950			0.950	0.950			0.984	
Satd. Flow (prot)	1805	3654	1583	1719	3365	0	1573	1573	1313	0	1158	0
Flt Permitted	0.292			0.153			0.950	0.950			0.984	
Satd. Flow (perm)	555	3654	1583	277	3365	0	1573	1573	1313	0	1158	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									91		3	
Link Speed (mph)		35			35			20			20	
Link Distance (ft)		794			361			215			250	
Travel Time (s)		15.5			7.0			7.3			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	2%	5%	7%	33%	9%	0%	23%	50%	2%	67%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	3	1359	71	224	982	0	11	12	46	0	6	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6	4	5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Detector Phase	1	6	4	5	2		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	13.0	90.0	26.0	16.0	93.0		26.0	26.0	26.0	18.0	18.0	
Total Split (%)	8.7%	60.0%	17.3%	10.7%	62.0%		17.3%	17.3%	17.3%	12.0%	12.0%	
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5		4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0		6.0	6.0	6.0		6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	C-Max		None	None	None	None	None	
Act Effect Green (s)	119.7	111.6	124.4	131.0	126.7		6.8	6.8	6.8		6.2	
Actuated g/C Ratio	0.80	0.74	0.83	0.87	0.84		0.05	0.05	0.05		0.04	
v/c Ratio	0.01	0.50	0.05	0.61	0.35		0.16	0.17	0.32		0.12	

Weekday AM - Existing
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings
1: Meijer Dr & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	4.3	17.6	7.8	21.8	5.0		70.6	70.9	7.0		57.7	
Queue Delay	0.0	0.4	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	4.3	18.1	7.8	21.8	5.0		70.6	70.9	7.0		57.7	
LOS	A	B	A	C	A		E	E	A		E	
Approach Delay		17.5			8.1			28.2			57.7	
Approach LOS		B			A			C			E	
Queue Length 50th (ft)	0	521	17	74	119		9	11	1		3	
Queue Length 95th (ft)	m1	674	m60	m113	m148		m23	m27	m4		19	
Internal Link Dist (ft)		714			281			135			170	
Turn Bay Length (ft)	85		140	275								
Base Capacity (vph)	536	2719	1452	384	2841		209	209	253		95	
Starvation Cap Reductn	0	770	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.01	0.70	0.05	0.58	0.35		0.05	0.06	0.18		0.06	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 39 (26%), Referenced to phase 2:NWTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meijer Dr & Algonquin Rd (IL 62)

			
ø1	ø2 (R)	ø4	ø8
13 s	93 s	26 s	18 s
			
ø5	ø6		
16 s	90 s		

Lanes, Volumes, Timings
2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		 			  		 	 		 	 	
Volume (vph)	43	710	396	32	861	246	224	917	27	441	508	3
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	220		0	270		115	420		0	335		0
Storage Lanes	1		1	1		1	2		0	2		0
Taper Length (ft)	185			105			240			190		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	0.95	0.97	0.95	0.95
Ped Bike Factor												
Frt			0.850			0.850		0.996			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3654	1538	1805	5353	1568	3433	3490	0	3335	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3654	1538	1805	5353	1568	3433	3490	0	3335	3340	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		707			953			921			794	
Travel Time (s)		12.1			16.2			17.9			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	5%	0%	2%	3%	2%	3%	4%	5%	8%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	747	417	34	906	259	236	993	0	464	538	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8	1	1	6		5	2	
Permitted Phases			4			8						
Detector Phase	7	4	5	3	8	1	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5		9.0	22.5	
Total Split (s)	31.0	45.0	19.0	33.0	47.0	15.0	15.0	53.0		19.0	57.0	
Total Split (%)	20.7%	30.0%	12.7%	22.0%	31.3%	10.0%	10.0%	35.3%		12.7%	38.0%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	
All-Red Time (s)	1.5	2.0	1.5	1.5	2.0	1.5	1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	6.5	5.0	5.0	6.5	5.0	5.0	6.5		5.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	9.2	36.5	79.4	8.3	35.7	60.2	18.0	47.9		36.4	66.3	
Actuated g/C Ratio	0.06	0.24	0.53	0.06	0.24	0.40	0.12	0.32		0.24	0.44	
v/c Ratio	0.42	0.84	0.51	0.34	0.71	0.41	0.57	0.89		0.57	0.36	

Weekday AM - Existing
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings
2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Control Delay	78.4	62.9	26.4	76.7	55.4	33.6	68.2	59.8		68.2	26.3	
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	78.4	62.9	26.5	76.7	55.4	33.6	68.2	59.8		68.2	26.3	
LOS	E	E	C	E	E	C	E	E		E	C	
Approach Delay	50.9			51.3			61.4			45.7		
Approach LOS	D			D			E			D		
Queue Length 50th (ft)	43	366	264	33	298	180	114	488		238	127	
Queue Length 95th (ft)	85	417	377	70	330	235	159	#620		#317	350	
Internal Link Dist (ft)	627			873			841			714		
Turn Bay Length (ft)	220			270			420			335		
Base Capacity (vph)	306	970	814	336	1460	629	411	1113		808	1475	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	24	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.15	0.77	0.53	0.10	0.62	0.41	0.57	0.89		0.57	0.36	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 127 (85%), Referenced to phase 2:NWT and 6:SET, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 52.7

Intersection LOS: D

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

 p1	 p2 (R)	 p3	 p4
15 s	57 s	33 s	45 s
 p5	 p6 (R)	 p7	 p8
19 s	53 s	31 s	47 s

Lanes, Volumes, Timings

3: Arlington Heights Rd & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	734	429	397	608	124	684	1042	440	214	1324	126
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		400	360		210	335		385	270		270
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	240			205			290			260		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	5151	1583	3183	5009	1468	3400	5200	1524	3335	5353	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3367	5151	1583	3183	5009	1468	3400	5200	1524	3335	5353	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1230			1043			925			1183	
Travel Time (s)		24.0			20.3			18.0			23.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	6%	2%	10%	9%	10%	3%	5%	6%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	781	456	422	647	132	728	1109	468	228	1409	134
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5	9.0
Total Split (s)	31.0	58.0	36.0	18.0	45.0	17.0	36.0	57.0	18.0	17.0	38.0	31.0
Total Split (%)	20.7%	38.7%	24.0%	12.0%	30.0%	11.3%	24.0%	38.0%	12.0%	11.3%	25.3%	20.7%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	Max	None	None	Max	None
Act Effect Green (s)	7.6	52.0	89.0	13.0	57.4	75.4	31.0	51.0	70.0	12.0	32.0	45.6
Actuated g/C Ratio	0.05	0.35	0.59	0.09	0.38	0.50	0.21	0.34	0.47	0.08	0.21	0.30
v/c Ratio	0.29	0.44	0.49	1.53	0.34	0.18	1.04	0.63	0.66	0.86	1.23	0.28

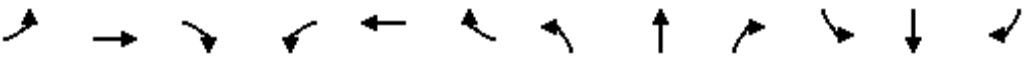
Weekday AM - Existing
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings

3: Arlington Heights Rd & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	60.5	39.2	41.1	300.8	33.6	21.5	100.7	43.5	36.3	95.9	161.3	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	39.2	41.1	300.8	33.6	21.5	100.7	43.5	36.3	95.9	161.3	41.3
LOS	E	D	D	F	C	C	F	D	D	F	F	D
Approach Delay	40.7			126.2			60.1			143.8		
Approach LOS	D			F			E			F		
Queue Length 50th (ft)	25	273	413	~296	163	69	~393	333	347	115	~622	100
Queue Length 95th (ft)	41	302	571	#408	203	115	#522	384	479	#189	#720	157
Internal Link Dist (ft)	1150			963			845			1103		
Turn Bay Length (ft)	115		400	360		210	335		385	270		270
Base Capacity (vph)	583	1785	939	275	1916	737	702	1768	711	266	1141	675
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.44	0.49	1.53	0.34	0.18	1.04	0.63	0.66	0.86	1.23	0.20

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.53

Intersection Signal Delay: 91.0

Intersection LOS: F

Intersection Capacity Utilization 86.9%

ICU Level of Service E

Analysis Period (min) 15

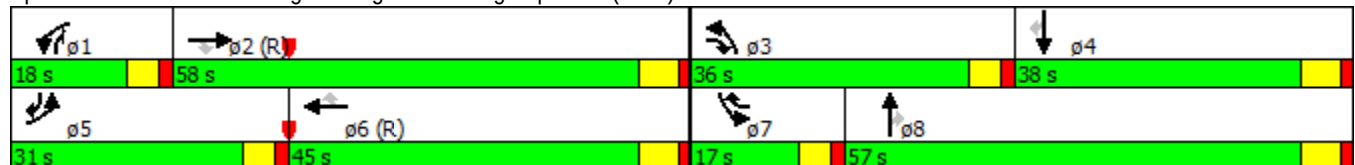
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Arlington Heights Rd & Algonquin Rd (IL 62)



HCM Unsignalized Intersection Capacity Analysis

4: Meijer Dr & Golf Rd (IL 58)

10/25/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	19	1102	118	104	1137	59	0	0	28	0	0	68
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	20	1148	123	108	1184	61	0	0	29	0	0	71
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					707							
pX, platoon unblocked	0.85						0.85	0.85		0.85	0.85	0.85
vC, conflicting volume	1246			1271			1931	2711	444	1883	2742	426
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	692			1271			1494	2407	444	1437	2443	0
tC, single (s)	4.1			4.1			8.1	6.5	7.1	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.8	4.0	3.4	3.5	4.0	3.3
p0 queue free %	97			80			100	100	95	100	100	92
cM capacity (veh/h)	780			542			43	22	537	64	21	932
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	20	459	459	352	108	474	474	298	29	71		
Volume Left	20	0	0	0	108	0	0	0	0	0		
Volume Right	0	0	0	123	0	0	0	61	29	71		
cSH	780	1700	1700	1700	542	1700	1700	1700	537	932		
Volume to Capacity	0.03	0.27	0.27	0.21	0.20	0.28	0.28	0.18	0.05	0.08		
Queue Length 95th (ft)	2	0	0	0	18	0	0	0	4	6		
Control Delay (s)	9.7	0.0	0.0	0.0	13.3	0.0	0.0	0.0	12.1	9.2		
Lane LOS	A				B				B	A		
Approach Delay (s)	0.1				1.1				12.1	9.2		
Approach LOS									B	A		
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			36.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

5: Algonquin Rd (IL 62) & Arlington Ctr

10/25/2017



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations		↑↑	↑↑		↑↑	
Volume (veh/h)	4	1333	1143	5	0	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	1433	1229	5	0	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh			2			
Upstream signal (ft)		361				
pX, platoon unblocked					0.82	
vC, conflicting volume	1234				1957	617
vC1, stage 1 conf vol					1232	
vC2, stage 2 conf vol					725	
vCu, unblocked vol	1234				1731	617
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	99
cM capacity (veh/h)	571				225	438
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1	
Volume Total	482	956	819	415	3	
Volume Left	4	0	0	0	0	
Volume Right	0	0	0	5	3	
cSH	571	1700	1700	1700	438	
Volume to Capacity	0.01	0.56	0.48	0.24	0.01	
Queue Length 95th (ft)	1	0	0	0	1	
Control Delay (s)	0.2	0.0	0.0	0.0	13.3	
Lane LOS	A				B	
Approach Delay (s)	0.1		0.0		13.3	
Approach LOS					B	
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			49.6%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
1: Meijer Dr & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	31	1245	52	99	1260	38	129	5	249	7	1	14
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	85		140	275		0	0		0	0		0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (ft)	130			185			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.996				0.850		0.912	
Flt Protected	0.950			0.950			0.950	0.956			0.985	
Satd. Flow (prot)	1805	3725	1583	1805	3524	0	1681	1694	1583	0	1637	0
Flt Permitted	0.164			0.166			0.950	0.956			0.985	
Satd. Flow (perm)	312	3725	1583	315	3524	0	1681	1694	1583	0	1637	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									242		15	
Link Speed (mph)		35			35			20			20	
Link Distance (ft)		794			361			215			250	
Travel Time (s)		15.5			7.0			7.3			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	2%	0%	2%	3%	2%	0%	2%	14%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	33	1311	55	104	1366	0	71	70	262	0	23	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6	4	5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Detector Phase	1	6	4	5	2		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	13.0	100.0	16.0	18.0	105.0		16.0	16.0	16.0	16.0	16.0	
Total Split (%)	8.7%	66.7%	10.7%	12.0%	70.0%		10.7%	10.7%	10.7%	10.7%	10.7%	
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5		4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0		6.0	6.0	6.0		6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	C-Max		None	None	None	None	None	
Act Effect Green (s)	118.2	109.7	125.1	121.4	112.7		9.5	9.5	9.5		6.7	
Actuated g/C Ratio	0.79	0.73	0.83	0.81	0.75		0.06	0.06	0.06		0.04	
v/c Ratio	0.11	0.48	0.04	0.32	0.52		0.67	0.66	0.80		0.26	

Weekday PM - Existing
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings
1: Meijer Dr & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	5.7	16.3	6.7	7.9	11.8		96.5	95.3	28.0		44.3	
Queue Delay	0.0	0.3	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	5.7	16.7	6.7	7.9	11.8		96.5	95.3	28.0		44.3	
LOS	A	B	A	A	B		F	F	C		D	
Approach Delay		16.0			11.5			51.8			44.3	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	11	412	20	16	324		71	71	12		8	
Queue Length 95th (ft)	m16	457	m34	m43	375		m#138	m#135	m#135		39	
Internal Link Dist (ft)		714			281			135			170	
Turn Bay Length (ft)	85		140	275								
Base Capacity (vph)	347	2723	1326	402	2648		112	112	331		123	
Starvation Cap Reductn	0	722	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.10	0.66	0.04	0.26	0.52		0.63	0.63	0.79		0.19	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 59 (39%), Referenced to phase 2:NWTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 18.6

Intersection LOS: B

Intersection Capacity Utilization 66.4%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meijer Dr & Algonquin Rd (IL 62)

			
ø1	ø2 (R)	ø4	ø8
13 s	105 s	16 s	16 s
			
ø5	ø6		
18 s	100 s		

Lanes, Volumes, Timings
2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	89	1023	559	49	985	311	362	685	58	453	879	73
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	220		0	270		115	420		0	335		0
Storage Lanes	1		1	1		1	2		0	2		0
Taper Length (ft)	185			105			240			190		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	0.95	0.97	0.95	0.95
Ped Bike Factor												
Frt			0.850			0.850		0.988			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3762	1583	1770	5406	1599	3433	3497	0	3467	3474	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3762	1583	1770	5406	1599	3433	3497	0	3467	3474	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		707			953			921			794	
Travel Time (s)		12.1			16.2			17.9			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%	2%	2%	2%	1%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	1044	570	50	1005	317	369	758	0	462	971	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8	1	1	6		5	2	
Permitted Phases			4			8						
Detector Phase	7	4	5	3	8	1	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5		9.0	22.5	
Total Split (s)	36.0	47.0	15.0	34.0	45.0	15.0	15.0	54.0		15.0	54.0	
Total Split (%)	24.0%	31.3%	10.0%	22.7%	30.0%	10.0%	10.0%	36.0%		10.0%	36.0%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	
All-Red Time (s)	1.5	2.0	1.5	1.5	2.0	1.5	1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	6.5	5.0	5.0	6.5	5.0	5.0	6.5		5.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	13.0	52.7	78.6	9.6	47.1	73.0	19.4	47.5		19.4	47.5	
Actuated g/C Ratio	0.09	0.35	0.52	0.06	0.31	0.49	0.13	0.32		0.13	0.32	
v/c Ratio	0.59	0.79	0.69	0.44	0.59	0.41	0.83	0.68		1.03	0.88	

Weekday PM - Existing
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings
2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Control Delay	80.6	48.7	33.3	79.0	44.6	27.4	79.1	48.5		117.4	56.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	80.6	48.7	33.3	79.0	44.6	27.4	79.1	48.5		117.4	56.3	
LOS	F	D	C	E	D	C	E	D		F	E	
Approach Delay	45.3			41.9			58.5			76.0		
Approach LOS	D			D			E			E		
Queue Length 50th (ft)	87	486	419	48	300	195	186	341		~256	530	
Queue Length 95th (ft)	144	547	600	92	337	295	#373	415		#475	#600	
Internal Link Dist (ft)	627			873			841			714		
Turn Bay Length (ft)	220				270	115	420				335	
Base Capacity (vph)	369	1321	829	342	1698	778	443	1107		447	1100	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.79	0.69	0.15	0.59	0.41	0.83	0.68		1.03	0.88	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 2 (1%), Referenced to phase 2:NWT and 6:SET, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 54.9

Intersection LOS: D

Intersection Capacity Utilization 86.3%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

			
15 s	54 s	34 s	47 s
			
15 s	54 s	36 s	45 s

Lanes, Volumes, Timings

3: Arlington Heights Rd & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	142	852	702	606	865	210	434	1565	461	180	1363	83
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		400	360		210	335		385	270		270
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	240			205			290			260		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5301	1599	3400	5353	1583	3467	5406	1568	3335	5353	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5301	1599	3400	5353	1583	3467	5406	1568	3335	5353	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1230			1043			925			1183	
Travel Time (s)		24.0			20.3			18.0			23.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	1%	3%	2%	2%	1%	1%	3%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	888	731	631	901	219	452	1630	480	188	1420	86
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5	9.0
Total Split (s)	33.0	57.0	31.0	20.0	44.0	15.0	31.0	58.0	20.0	15.0	42.0	33.0
Total Split (%)	22.0%	38.0%	20.7%	13.3%	29.3%	10.0%	20.7%	38.7%	13.3%	10.0%	28.0%	22.0%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	Max	None	None	Max	None
Act Effect Green (s)	11.8	51.0	81.4	15.0	54.2	70.2	24.4	52.0	73.0	10.0	37.6	55.4
Actuated g/C Ratio	0.08	0.34	0.54	0.10	0.36	0.47	0.16	0.35	0.49	0.07	0.25	0.37
v/c Ratio	0.55	0.49	0.84	1.86	0.47	0.30	0.80	0.87	0.63	0.85	1.06	0.15

Weekday PM - Existing
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings

3: Arlington Heights Rd & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	66.6	58.1	36.5	430.8	38.0	26.5	71.9	52.0	33.1	99.7	94.5	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	58.1	36.5	430.8	38.0	26.5	71.9	52.0	33.1	99.7	94.5	32.4
LOS	E	E	D	F	D	C	E	D	C	F	F	C
Approach Delay	49.9			178.1			51.9			91.9		
Approach LOS	D			F			D			F		
Queue Length 50th (ft)	75	318	373	~481	247	130	219	546	341	95	~577	57
Queue Length 95th (ft)	m106	369	567	#606	301	201	282	610	468	#163	#675	96
Internal Link Dist (ft)	1150			963			845			1103		
Turn Bay Length (ft)	115		400	360		210	335		385	270		270
Base Capacity (vph)	647	1802	884	340	1935	741	600	1874	763	222	1341	755
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.49	0.83	1.86	0.47	0.30	0.75	0.87	0.63	0.85	1.06	0.11

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 77 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.86

Intersection Signal Delay: 88.6

Intersection LOS: F

Intersection Capacity Utilization 99.1%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

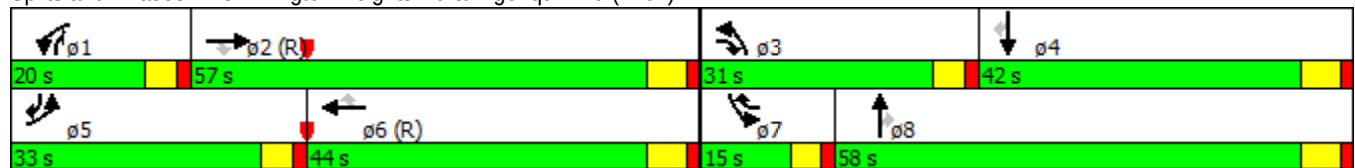
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Arlington Heights Rd & Algonquin Rd (IL 62)



HCM Unsignalized Intersection Capacity Analysis

4: Meijer Dr & Golf Rd (IL 58)

10/25/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	1571	115	55	1344	41	0	0	129	0	0	33
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	9	1671	122	59	1430	44	0	0	137	0	0	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					707							
pX, platoon unblocked	0.85						0.85	0.85		0.85	0.85	0.85
vC, conflicting volume	1473			1794			2378	3340	618	2280	3379	498
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	931			1794			1998	3132	618	1882	3178	0
tC, single (s)	4.1			4.1			7.7	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			83			100	100	68	100	100	96
cM capacity (veh/h)	630			341			22	8	432	22	7	925
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	9	669	669	457	59	572	572	330	137	35		
Volume Left	9	0	0	0	59	0	0	0	0	0		
Volume Right	0	0	0	122	0	0	0	44	137	35		
cSH	630	1700	1700	1700	341	1700	1700	1700	432	925		
Volume to Capacity	0.01	0.39	0.39	0.27	0.17	0.34	0.34	0.19	0.32	0.04		
Queue Length 95th (ft)	1	0	0	0	15	0	0	0	34	3		
Control Delay (s)	10.8	0.0	0.0	0.0	17.7	0.0	0.0	0.0	17.2	9.0		
Lane LOS	B				C				C	A		
Approach Delay (s)	0.1				0.7				17.2	9.0		
Approach LOS									C	A		
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			47.6%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

5: Algonquin Rd (IL 62) & Arlington Ctr

10/25/2017



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations		↑↑	↑↑		↑↑	
Volume (veh/h)	7	1494	1381	9	7	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	8	1642	1518	10	8	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh			2			
Upstream signal (ft)		361				
pX, platoon unblocked					0.84	
vC, conflicting volume	1527				2359	764
vC1, stage 1 conf vol					1523	
vC2, stage 2 conf vol					836	
vCu, unblocked vol	1527				2235	764
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				95	95
cM capacity (veh/h)	442				158	351
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1	
Volume Total	555	1095	1012	516	25	
Volume Left	8	0	0	0	8	
Volume Right	0	0	0	10	18	
cSH	442	1700	1700	1700	256	
Volume to Capacity	0.02	0.64	0.60	0.30	0.10	
Queue Length 95th (ft)	1	0	0	0	8	
Control Delay (s)	0.5	0.0	0.0	0.0	20.6	
Lane LOS	A				C	
Approach Delay (s)	0.2		0.0		20.6	
Approach LOS					C	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			56.2%		ICU Level of Service	B
Analysis Period (min)			15			

Capacity Analyses- Future Conditions

Lanes, Volumes, Timings
1: Meijer Dr & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	3	1321	74	224	928	6	38	0	53	2	1	3
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	85		140	275		0	0		0	0		0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (ft)	130			185			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.999				0.850		0.932	
Flt Protected	0.950			0.950			0.950	0.950			0.984	
Satd. Flow (prot)	1805	3654	1538	1641	3365	0	1491	1491	1262	0	1158	0
Flt Permitted	0.291			0.135			0.950	0.950			0.984	
Satd. Flow (perm)	553	3654	1538	233	3365	0	1491	1491	1262	0	1158	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									91		3	
Link Speed (mph)		35			35			20			20	
Link Distance (ft)		794			361			194			250	
Travel Time (s)		15.5			7.0			6.6			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	5%	10%	7%	33%	15%	0%	28%	50%	2%	67%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	3	1391	78	236	983	0	20	20	56	0	6	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6	4	5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Detector Phase	1	6	4	5	2		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	13.0	90.0	29.0	16.0	93.0		29.0	29.0	29.0	15.0	15.0	
Total Split (%)	8.7%	60.0%	19.3%	10.7%	62.0%		19.3%	19.3%	19.3%	10.0%	10.0%	
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5		4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0		6.0	6.0	6.0		6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	C-Max		None	None	None	None	None	
Act Effect Green (s)	113.4	105.3	118.9	130.2	125.8		7.6	7.6	7.6		6.2	
Actuated g/C Ratio	0.76	0.70	0.79	0.87	0.84		0.05	0.05	0.05		0.04	
v/c Ratio	0.01	0.54	0.06	0.62	0.35		0.27	0.27	0.37		0.12	

Weekday AM - Future
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings
1: Meijer Dr & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	6.0	22.3	10.5	28.7	5.2		78.6	78.6	10.9		57.7	
Queue Delay	0.0	0.6	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	6.0	22.8	10.5	28.7	5.2		78.6	78.6	10.9		57.7	
LOS	A	C	B	C	A		E	E	B		E	
Approach Delay		22.1			9.7			39.1			57.7	
Approach LOS		C			A			D			E	
Queue Length 50th (ft)	1	559	26	94	119		18	18	1		3	
Queue Length 95th (ft)	m1	m709	m0	m148	m146		m43	m43	m10		19	
Internal Link Dist (ft)		714			281			114			170	
Turn Bay Length (ft)	85		140	275								
Base Capacity (vph)	511	2566	1377	378	2822		228	228	270		72	
Starvation Cap Reductn	0	681	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.01	0.74	0.06	0.62	0.35		0.09	0.09	0.21		0.08	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 39 (26%), Referenced to phase 2:NWTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 63.8%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meijer Dr & Algonquin Rd (IL 62)

													
ø1	ø2 (R)							ø4				ø8	
13 s	93 s							29 s				15 s	
													
ø5	ø6												
16 s	90 s												

Lanes, Volumes, Timings
2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		 			  		 	 		 	 	
Volume (vph)	43	710	396	36	861	246	224	950	27	448	516	5
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	220		0	270		115	420		0	335		0
Storage Lanes	1		1	1		1	2		0	2		0
Taper Length (ft)	185			105			240			190		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	0.95	0.97	0.95	0.95
Ped Bike Factor												
Frt			0.850			0.850		0.996			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3654	1538	1805	5353	1568	3433	3490	0	3335	3341	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3654	1538	1805	5353	1568	3433	3490	0	3335	3341	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		707			953			921			794	
Travel Time (s)		12.1			16.2			17.9			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	5%	0%	2%	3%	2%	3%	4%	5%	8%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	747	417	38	906	259	236	1028	0	472	548	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8	1	1	6		5	2	
Permitted Phases			4			8						
Detector Phase	7	4	5	3	8	1	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5		9.0	22.5	
Total Split (s)	31.0	45.0	19.0	33.0	47.0	15.0	15.0	53.0		19.0	57.0	
Total Split (%)	20.7%	30.0%	12.7%	22.0%	31.3%	10.0%	10.0%	35.3%		12.7%	38.0%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	
All-Red Time (s)	1.5	2.0	1.5	1.5	2.0	1.5	1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	6.5	5.0	5.0	6.5	5.0	5.0	6.5		5.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	9.2	36.9	80.4	8.6	36.4	60.9	18.0	46.6		37.0	65.6	
Actuated g/C Ratio	0.06	0.25	0.54	0.06	0.24	0.41	0.12	0.31		0.25	0.44	
v/c Ratio	0.42	0.83	0.51	0.37	0.70	0.41	0.57	0.95		0.57	0.38	

Weekday AM - Future
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings
2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Control Delay	78.4	62.0	25.9	77.2	54.6	33.0	68.1	67.8		67.9	26.7	
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	78.4	62.0	26.1	77.2	54.6	33.0	68.1	67.8		67.9	26.7	
LOS	E	E	C	E	D	C	E	E		E	C	
Approach Delay	50.2			50.6			67.9			45.8		
Approach LOS	D			D			E			D		
Queue Length 50th (ft)	43	366	261	37	298	179	114	519		242	132	
Queue Length 95th (ft)	85	417	380	76	328	234	159	#657		#329	349	
Internal Link Dist (ft)	627			873			841			714		
Turn Bay Length (ft)	220			270			115			420		
Base Capacity (vph)	306	970	824	336	1464	636	412	1084		821	1460	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	55	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.15	0.77	0.54	0.11	0.62	0.41	0.57	0.95		0.57	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 127 (85%), Referenced to phase 2:NWT and 6:SET, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 54.1

Intersection LOS: D

Intersection Capacity Utilization 81.0%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

 p1	 p2 (R)	 p3	 p4
15 s	57 s	33 s	45 s
 p5	 p6 (R)	 p7	 p8
19 s	53 s	31 s	47 s

Lanes, Volumes, Timings

3: Arlington Heights Rd & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Volume (vph)	46	746	433	397	647	124	704	1042	440	214	1324	126
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		400	360		210	335		385	270		270
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	240			205			290			260		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	5151	1583	3183	5009	1468	3400	5200	1524	3335	5353	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3367	5151	1583	3183	5009	1468	3400	5200	1524	3335	5353	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1230			1043			925			1183	
Travel Time (s)		24.0			20.3			18.0			23.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	6%	2%	10%	9%	10%	3%	5%	6%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	794	461	422	688	132	749	1109	468	228	1409	134
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5	9.0
Total Split (s)	31.0	58.0	36.0	18.0	45.0	17.0	36.0	57.0	18.0	17.0	38.0	31.0
Total Split (%)	20.7%	38.7%	24.0%	12.0%	30.0%	11.3%	24.0%	38.0%	12.0%	11.3%	25.3%	20.7%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	Max	None	None	Max	None
Act Effect Green (s)	7.6	52.0	89.0	13.0	57.4	75.4	31.0	51.0	70.0	12.0	32.0	45.6
Actuated g/C Ratio	0.05	0.35	0.59	0.09	0.38	0.50	0.21	0.34	0.47	0.08	0.21	0.30
v/c Ratio	0.29	0.44	0.49	1.53	0.36	0.18	1.07	0.63	0.66	0.86	1.23	0.28

Weekday AM - Future
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings

3: Arlington Heights Rd & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	60.9	34.6	42.1	300.8	34.0	21.5	108.6	43.5	36.3	95.9	161.3	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	34.6	42.1	300.8	34.0	21.5	108.6	43.5	36.3	95.9	161.3	41.3
LOS	E	C	D	F	C	C	F	D	D	F	F	D
Approach Delay	38.2			123.3			63.0			143.8		
Approach LOS	D			F			E			F		
Queue Length 50th (ft)	22	279	455	~296	175	69	~415	333	347	115	~622	100
Queue Length 95th (ft)	m40	253	578	#408	217	115	#545	384	479	#189	#720	157
Internal Link Dist (ft)	1150			963			845			1103		
Turn Bay Length (ft)	115		400	360		210	335		385	270		270
Base Capacity (vph)	583	1785	939	275	1916	737	702	1768	711	266	1141	675
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.44	0.49	1.53	0.36	0.18	1.07	0.63	0.66	0.86	1.23	0.20

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.53

Intersection Signal Delay: 91.0

Intersection LOS: F

Intersection Capacity Utilization 87.7%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

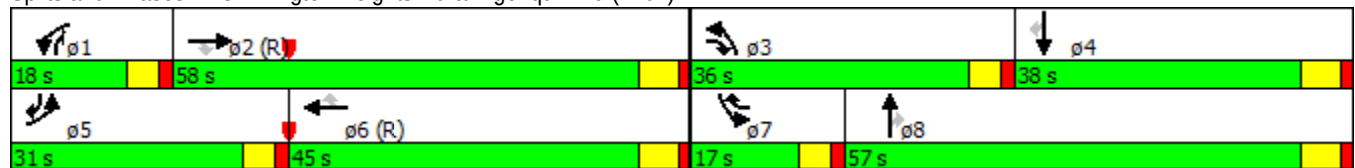
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Arlington Heights Rd & Algonquin Rd (IL 62)



HCM Unsignalized Intersection Capacity Analysis

4: Meijer Dr & Golf Rd (IL 58)

10/25/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	19	1102	151	104	1144	59	0	0	28	0	0	68
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	20	1148	157	108	1192	61	0	0	29	0	0	71
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					707							
pX, platoon unblocked	0.86						0.86	0.86		0.86	0.86	0.86
vC, conflicting volume	1253			1305			1951	2736	461	1890	2784	428
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	704			1305			1520	2438	461	1449	2494	0
tC, single (s)	4.1			4.1			8.1	6.5	7.1	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.8	4.0	3.4	3.5	4.0	3.3
p0 queue free %	97			79			100	100	94	100	100	92
cM capacity (veh/h)	772			526			41	21	523	62	20	933
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	20	459	459	387	108	477	477	300	29	71		
Volume Left	20	0	0	0	108	0	0	0	0	0		
Volume Right	0	0	0	157	0	0	0	61	29	71		
cSH	772	1700	1700	1700	526	1700	1700	1700	523	933		
Volume to Capacity	0.03	0.27	0.27	0.23	0.21	0.28	0.28	0.18	0.06	0.08		
Queue Length 95th (ft)	2	0	0	0	19	0	0	0	4	6		
Control Delay (s)	9.8	0.0	0.0	0.0	13.6	0.0	0.0	0.0	12.3	9.2		
Lane LOS	A				B				B	A		
Approach Delay (s)	0.1				1.1				12.3	9.2		
Approach LOS									B	A		
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			37.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

5: Algonquin Rd (IL 62) & Arlington Ctr

10/25/2017



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations		↑↑	↑↑		↑↑	
Volume (veh/h)	4	1370	1155	5	0	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	1473	1242	5	0	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh			2			
Upstream signal (ft)		361				
pX, platoon unblocked					0.79	
vC, conflicting volume	1247				1990	624
vC1, stage 1 conf vol					1245	
vC2, stage 2 conf vol					745	
vCu, unblocked vol	1247				1721	624
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	99
cM capacity (veh/h)	565				223	433
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1	
Volume Total	495	982	828	419	3	
Volume Left	4	0	0	0	0	
Volume Right	0	0	0	5	3	
cSH	565	1700	1700	1700	433	
Volume to Capacity	0.01	0.58	0.49	0.25	0.01	
Queue Length 95th (ft)	1	0	0	0	1	
Control Delay (s)	0.2	0.0	0.0	0.0	13.4	
Lane LOS	A				B	
Approach Delay (s)	0.1		0.0		13.4	
Approach LOS					B	
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			50.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

6: Access & Algonquin Rd (IL 62)

10/25/2017

						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑		↵	↑↑	↵	
Volume (veh/h)	1342	30	45	1159	1	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1413	32	47	1220	1	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLT			TWLT		
Median storage (veh)	2			2		
Upstream signal (ft)	550					
pX, platoon unblocked			0.79		0.79	0.79
vC, conflicting volume			1444		2133	722
vC1, stage 1 conf vol					1428	
vC2, stage 2 conf vol					705	
vCu, unblocked vol			1027		1901	111
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			91		99	99
cM capacity (veh/h)			530		209	726
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NW 3	NE 1
Volume Total	942	502	47	610	610	8
Volume Left	0	0	47	0	0	1
Volume Right	0	32	0	0	0	7
cSH	1700	1700	530	1700	1700	554
Volume to Capacity	0.55	0.30	0.09	0.36	0.36	0.02
Queue Length 95th (ft)	0	0	7	0	0	1
Control Delay (s)	0.0	0.0	12.5	0.0	0.0	11.6
Lane LOS			B			B
Approach Delay (s)	0.0		0.5			11.6
Approach LOS						B
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			48.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

7: Meijer Dr & Truck Access

10/25/2017

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	0	7	92	8	18	281
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	7	97	8	19	296
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (ft)						374
pX, platoon unblocked	0.99					
vC, conflicting volume	435	101			105	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	423	101			105	
tC, single (s)	7.4	7.2			5.1	
tC, 2 stage (s)						
tF (s)	4.4	4.2			3.1	
p0 queue free %	100	99			98	
cM capacity (veh/h)	427	742			1046	
Direction, Lane #	NW 1	NE 1	SW 1	SW 2		
Volume Total	7	105	19	296		
Volume Left	0	0	19	0		
Volume Right	7	8	0	0		
cSH	742	1700	1046	1700		
Volume to Capacity	0.01	0.06	0.02	0.17		
Queue Length 95th (ft)	1	0	1	0		
Control Delay (s)	9.9	0.0	8.5	0.0		
Lane LOS	A		A			
Approach Delay (s)	9.9	0.0	0.5			
Approach LOS	A					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			24.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Meijer Dr & RIRO Access

10/25/2017

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	0	18	73	26	0	299
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	19	77	27	0	315
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						194
pX, platoon unblocked	0.97					
vC, conflicting volume	405	91			104	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	373	91			104	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	610	967			1487	
Direction, Lane #	NW 1	NE 1	SW 1			
Volume Total	19	104	315			
Volume Left	0	0	0			
Volume Right	19	27	0			
cSH	967	1700	1700			
Volume to Capacity	0.02	0.06	0.19			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		19.1%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
1: Meijer Dr & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	31	1252	54	102	1264	38	175	5	272	7	1	14
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	85		140	275		0	0		0	0		0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (ft)	130			185			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.996				0.850		0.912	
Flt Protected	0.950			0.950			0.950	0.955			0.985	
Satd. Flow (prot)	1805	3725	1538	1719	3524	0	1633	1646	1538	0	1637	0
Flt Permitted	0.160			0.160			0.950	0.955			0.985	
Satd. Flow (perm)	304	3725	1538	290	3524	0	1633	1646	1538	0	1637	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									219		15	
Link Speed (mph)		35			35			20			20	
Link Distance (ft)		794			361			183			250	
Travel Time (s)		15.5			7.0			6.2			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	5%	5%	2%	3%	5%	0%	5%	14%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)							49%					
Lane Group Flow (vph)	33	1318	57	107	1371	0	94	95	286	0	23	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6	4	5	2		4	4		8	8	
Permitted Phases	6		6	2					4			
Detector Phase	1	6	4	5	2		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	13.0	100.0	19.0	18.0	105.0		19.0	19.0	19.0	13.0	13.0	
Total Split (%)	8.7%	66.7%	12.7%	12.0%	70.0%		12.7%	12.7%	12.7%	8.7%	8.7%	
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5		4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0		6.0	6.0	6.0		6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	C-Max		None	None	None	None	None	
Act Effect Green (s)	115.7	107.1	125.2	119.3	110.4		12.2	12.2	12.2		6.2	
Actuated g/C Ratio	0.77	0.71	0.83	0.80	0.74		0.08	0.08	0.08		0.04	
v/c Ratio	0.11	0.50	0.04	0.35	0.53		0.71	0.71	0.88		0.28	

Weekday PM - Future
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings
1: Meijer Dr & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	6.6	17.9	6.3	9.8	12.6		94.1	94.3	43.2		45.9	
Queue Delay	0.0	0.3	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	6.6	18.3	6.3	9.8	12.6		94.1	94.3	43.2		45.9	
LOS	A	B	A	A	B		F	F	D		D	
Approach Delay		17.5			12.4			63.5			45.9	
Approach LOS		B			B			E			D	
Queue Length 50th (ft)	13	417	19	22	338		93	94	58		8	
Queue Length 95th (ft)	m17	461	m32	m53	382		m#173	m#176	m#215		40	
Internal Link Dist (ft)		714			281			103			170	
Turn Bay Length (ft)	85		140	275								
Base Capacity (vph)	336	2659	1292	371	2593		141	142	333		90	
Starvation Cap Reductn	0	682	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.10	0.67	0.04	0.29	0.53		0.67	0.67	0.86		0.26	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 59 (39%), Referenced to phase 2:NWTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 21.9

Intersection LOS: C

Intersection Capacity Utilization 68.1%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meijer Dr & Algonquin Rd (IL 62)

													
ø1	ø2 (R)							ø4				ø8	
13 s	105 s							19 s				13 s	
													
ø5	ø6												
18 s	100 s												

Lanes, Volumes, Timings
2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	89	1023	559	50	985	311	362	693	58	486	903	77
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	220		0	270		115	420		0	335		0
Storage Lanes	1		1	1		1	2		0	2		0
Taper Length (ft)	185			105			240			190		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	0.95	0.97	0.95	0.95
Ped Bike Factor												
Frt			0.850			0.850		0.988			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3762	1583	1770	5406	1599	3433	3497	0	3467	3471	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3762	1583	1770	5406	1599	3433	3497	0	3467	3471	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		707			953			921			794	
Travel Time (s)		12.1			16.2			17.9			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%	2%	2%	2%	1%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	1044	570	51	1005	317	369	766	0	496	1000	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8	1	1	6		5	2	
Permitted Phases			4			8						
Detector Phase	7	4	5	3	8	1	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5		9.0	22.5	
Total Split (s)	36.0	47.0	15.0	34.0	45.0	15.0	15.0	54.0		15.0	54.0	
Total Split (%)	24.0%	31.3%	10.0%	22.7%	30.0%	10.0%	10.0%	36.0%		10.0%	36.0%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	
All-Red Time (s)	1.5	2.0	1.5	1.5	2.0	1.5	1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	6.5	5.0	5.0	6.5	5.0	5.0	6.5		5.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	13.0	52.7	78.5	9.7	47.2	73.0	19.3	47.5		19.3	47.5	
Actuated g/C Ratio	0.09	0.35	0.52	0.06	0.31	0.49	0.13	0.32		0.13	0.32	
v/c Ratio	0.59	0.79	0.69	0.45	0.59	0.41	0.83	0.69		1.11	0.91	

Weekday PM - Future
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings
2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Control Delay	80.6	48.8	33.4	78.9	44.6	27.4	79.4	48.8		137.1	57.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	80.6	48.8	33.4	78.9	44.6	27.4	79.4	48.8		137.1	57.0	
LOS	F	D	C	E	D	C	E	D		F	E	
Approach Delay	45.3			41.9			58.7			83.6		
Approach LOS	D			D			E			F		
Queue Length 50th (ft)	87	486	419	49	300	195	186	345		~294	546	
Queue Length 95th (ft)	144	548	602	94	337	295	#373	421		#512	#635	
Internal Link Dist (ft)	627			873			841			714		
Turn Bay Length (ft)	220				270	115	420				335	
Base Capacity (vph)	369	1320	828	342	1700	778	442	1107		446	1099	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.79	0.69	0.15	0.59	0.41	0.83	0.69		1.11	0.91	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 2 (1%), Referenced to phase 2:NWT and 6:SET, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 57.2

Intersection LOS: E

Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Algonquin Rd (IL 62) & Golf Rd (IL 58)

			
15 s	54 s	34 s	47 s
			
15 s	54 s	36 s	45 s

Lanes, Volumes, Timings

3: Arlington Heights Rd & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Volume (vph)	142	884	716	606	876	210	475	1565	461	180	1363	83
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		400	360		210	335		385	270		270
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	240			205			290			260		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5301	1599	3400	5353	1583	3467	5406	1568	3335	5353	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5301	1599	3400	5353	1583	3467	5406	1568	3335	5353	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1230			1043			925			1183	
Travel Time (s)		24.0			20.3			18.0			23.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	1%	3%	2%	2%	1%	1%	3%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	921	746	631	912	219	495	1630	480	188	1420	86
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5	9.0	9.0	22.5	9.0
Total Split (s)	33.0	57.0	31.0	20.0	44.0	15.0	31.0	58.0	20.0	15.0	42.0	33.0
Total Split (%)	22.0%	38.0%	20.7%	13.3%	29.3%	10.0%	20.7%	38.7%	13.3%	10.0%	28.0%	22.0%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	Max	None	None	Max	None
Act Effect Green (s)	11.8	51.0	82.2	15.0	54.2	70.2	25.2	52.0	73.0	10.0	36.8	54.6
Actuated g/C Ratio	0.08	0.34	0.55	0.10	0.36	0.47	0.17	0.35	0.49	0.07	0.25	0.36
v/c Ratio	0.55	0.51	0.85	1.86	0.47	0.30	0.85	0.87	0.63	0.85	1.08	0.15

Weekday PM - Future
17-173; Arlington Heights, IL

Synchro 8 Report

Lanes, Volumes, Timings

3: Arlington Heights Rd & Algonquin Rd (IL 62)

10/25/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	66.5	57.5	37.8	430.8	38.2	26.5	75.2	52.0	33.1	99.7	101.9	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	57.5	37.8	430.8	38.2	26.5	75.2	52.0	33.1	99.7	101.9	32.7
LOS	E	E	D	F	D	C	E	D	C	F	F	C
Approach Delay	50.1			177.3			52.9			98.1		
Approach LOS	D			F			D			F		
Queue Length 50th (ft)	75	329	427	~481	251	130	243	546	341	95	~577	57
Queue Length 95th (ft)	m106	376	601	#606	305	201	#314	610	468	#163	#675	96
Internal Link Dist (ft)	1150			963			845			1103		
Turn Bay Length (ft)	115		400	360		210	335		385	270		270
Base Capacity (vph)	647	1802	884	340	1935	741	600	1874	763	222	1314	747
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.51	0.84	1.86	0.47	0.30	0.82	0.87	0.63	0.85	1.08	0.12

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 77 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.86

Intersection Signal Delay: 89.8

Intersection LOS: F

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

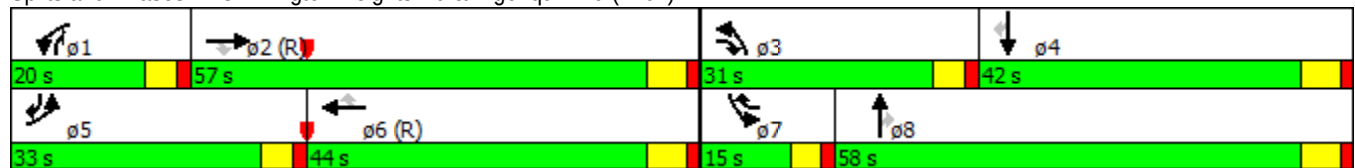
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Arlington Heights Rd & Algonquin Rd (IL 62)



HCM Unsignalized Intersection Capacity Analysis

4: Meijer Dr & Golf Rd (IL 58)

10/25/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	1571	122	55	1366	41	0	0	129	0	0	33
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	9	1671	130	59	1453	44	0	0	137	0	0	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					707							
pX, platoon unblocked	0.85						0.85	0.85		0.85	0.85	0.85
vC, conflicting volume	1497			1801			2390	3367	622	2303	3410	506
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	960			1801			2012	3164	622	1911	3215	0
tC, single (s)	4.1			4.1			7.7	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			83			100	100	68	100	100	96
cM capacity (veh/h)	615			338			22	7	430	21	7	925
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	9	669	669	464	59	581	581	334	137	35		
Volume Left	9	0	0	0	59	0	0	0	0	0		
Volume Right	0	0	0	130	0	0	0	44	137	35		
cSH	615	1700	1700	1700	338	1700	1700	1700	430	925		
Volume to Capacity	0.01	0.39	0.39	0.27	0.17	0.34	0.34	0.20	0.32	0.04		
Queue Length 95th (ft)	1	0	0	0	15	0	0	0	34	3		
Control Delay (s)	10.9	0.0	0.0	0.0	17.8	0.0	0.0	0.0	17.3	9.0		
Lane LOS	B				C				C	A		
Approach Delay (s)	0.1				0.7				17.3	9.0		
Approach LOS									C	A		
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			47.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

5: Algonquin Rd (IL 62) & Arlington Ctr

10/25/2017



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations		↑↑	↑↑		↑↑	
Volume (veh/h)	7	1524	1388	9	7	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	8	1675	1525	10	8	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh			2			
Upstream signal (ft)		361				
pX, platoon unblocked					0.83	
vC, conflicting volume	1535				2383	768
vC1, stage 1 conf vol					1530	
vC2, stage 2 conf vol					853	
vCu, unblocked vol	1535				2254	768
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				95	95
cM capacity (veh/h)	439				156	349
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1	
Volume Total	566	1116	1017	518	25	
Volume Left	8	0	0	0	8	
Volume Right	0	0	0	10	18	
cSH	439	1700	1700	1700	254	
Volume to Capacity	0.02	0.66	0.60	0.30	0.10	
Queue Length 95th (ft)	1	0	0	0	8	
Control Delay (s)	0.5	0.0	0.0	0.0	20.8	
Lane LOS	A				C	
Approach Delay (s)	0.2		0.0		20.8	
Approach LOS					C	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			57.0%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

6: Access & Algonquin Rd (IL 62)

10/25/2017

						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Volume (veh/h)	1524	7	13	1393	4	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1604	7	14	1466	4	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLT			TWLT		
Median storage (veh)	2			2		
Upstream signal (ft)	550					
pX, platoon unblocked			0.83		0.83	0.83
vC, conflicting volume			1612		2368	806
vC1, stage 1 conf vol					1608	
vC2, stage 2 conf vol					761	
vCu, unblocked vol			1324		2237	351
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	95
cM capacity (veh/h)			429		159	535
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NW 3	NE 1
Volume Total	1069	542	14	733	733	28
Volume Left	0	0	14	0	0	4
Volume Right	0	7	0	0	0	24
cSH	1700	1700	429	1700	1700	396
Volume to Capacity	0.63	0.32	0.03	0.43	0.43	0.07
Queue Length 95th (ft)	0	0	2	0	0	6
Control Delay (s)	0.0	0.0	13.7	0.0	0.0	14.8
Lane LOS			B			B
Approach Delay (s)	0.0		0.1			14.8
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			52.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

7: Meijer Dr & Truck Access

10/25/2017

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	0	19	389	1	5	152
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	21	423	1	5	165
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (ft)					380	
pX, platoon unblocked						
vC, conflicting volume	599	423			424	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	599	423			424	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	462	631			1135	
Direction, Lane #	NW 1	NE 1	SW 1	SW 2		
Volume Total	21	424	5	165		
Volume Left	0	0	5	0		
Volume Right	21	1	0	0		
cSH	631	1700	1135	1700		
Volume to Capacity	0.03	0.25	0.00	0.10		
Queue Length 95th (ft)	3	0	0	0		
Control Delay (s)	10.9	0.0	8.2	0.0		
Lane LOS	B		A			
Approach Delay (s)	10.9	0.0	0.3			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			30.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Meijer Dr & RIRO Access

10/25/2017



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	0	50	402	6	0	157
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	53	423	6	0	165
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						183
pX, platoon unblocked	0.99					
vC, conflicting volume	592	426			429	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	583	426			429	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	92			100	
cM capacity (veh/h)	470	628			1130	
Direction, Lane #	NW 1	NE 1	SW 1			
Volume Total	53	429	165			
Volume Left	0	0	0			
Volume Right	53	6	0			
cSH	628	1700	1700			
Volume to Capacity	0.08	0.25	0.10			
Queue Length 95th (ft)	7	0	0			
Control Delay (s)	11.3	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	11.3	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			31.5%		ICU Level of Service	A
Analysis Period (min)			15			