Dan and Bobby:

Attached is a spreadsheet model developed in response to our discussions earlier today.

As I understand the situation, Crescent is in negotiations with the GSA with respect to the Armed Forces Retirement Center. Crescent has been named the Master Developer and has agreed to a master plan that clearly delineates what can be built. The site is subject to various historic designations, with the result that highest and best use is not necessarily the appropriate valuation methodology.

The land is in raw form. Crescent is responsible for both horizontal and vertical development of the land and has arranged for 60 year ground leases on all relevant parcels. Crescent does not pay rent on the raw land, but "takes down" each parcel upon completion of horizontal development, at which point a land value is determined and rental payments start based on 6% of that land value. When the property is improved with vertical development, the land value is held constant, which is the major business point under negotiation.

The Government wants to capture value (rent) based on the increase in the value of the land and improvements that occurs with vertical construction and over time. They would like to have each parcel reappraised on a periodic basis, with the value of the land component assumed to increase as the parcel (including improvements) increases in value. Crescent maintains that the creation of incremental value is a function of Crescent's efforts, investment and risk, and that Crescent should capture the incremental value.

Negotiations have progressed to the point where Crescent and the Government have agreed to periodically reset the value of the land on a 15-20 year basis. The real question is the methodology and specifications for the appraisal. The Government's position is that the 60 year ground leases approximate fee simple interest in the land, and the calculation of the land values should be based on the fee simple values. Crescent has conceded that 60 year leases can be treated as Fee Simple. But, Crescent has noted that any significantly shorter time period of remaining ground lease term results in a reduced value for the improvements on a leased fee basis. The key difference is in the percentage of the value attributable to the reversion. Mathematically, the closer the lease gets to the end of the term, the greater the percentage of overall value attributable to reversion, as opposed ot income.

Jeff Fisher and I (mostly Jeff) have worked out a valuation model that shows some of the differences between Fee Simple Value and Leased Fee Value over a 60 year period for a theoretical parcel improved with an office building. Based on conversations with Dan, we assumed a 200,000 square foot office building, valued initially a $54,000,000, based on costs of $50 per FAR sq.ft. for land, $20 per FAR sq.ft. for infrastructure and $200 per FAR sq.ft. for the improvements, totaling $270 per FAR sq.ft. The initial NNN rent is expected to be 8.5% of the initial value of $54,000,000 or $4,590,000 or $22.95 psf.

The model assumes that NOI will grow at 3% annually, a terminal cap rate of 7%, and a discount rate of 10.75%. These numbers reflect the assumptions used in negotiating the deal, so they should be familiar to all parties to the transaction. We then calculate the total present value of the building as leased at five year intervals of remaining lease term based on the formula for the Present Value of an increasing annuity. The total Present value is the sum of the NPV of the income stream, and the NPV of the reversion. There is a chart which shows the change in the value of both the income stream and the reversion over time.

You can change any of the assumptions, and the numbers will flow through, calculating the two components of the NPV for every 5 year point in the life of the lease. The general point we are making is that as the term of the ground lease gets shorter, the percentage of the overall value reversion (which Crescent will not be capturing) gets larger. If the ground lease runs out, Crescent loses all value, as they lose the income stream and the improvements. Working backwards from there, it becomes necessary for Crescent to recapture the difference in value between the fee simple interest and the leasehold interest over time in order to compensate for the loss in value.

From Crescent's perspective, all they are entitled to is the present value of the income for the term of the lease since the building reverts to the landowner at the end of the ground lease. For a ground lease with a remaining term of 60 or more years, the present value of the income is essentially the same as a fee simple interest in the property since the present value of the reversion is under 1.5% of the total value. But as the remaining lease term shortens, the present value of the income starts to decrease at a faster and faster rate.

The value Cresent would place on the right to use the land for the term of the lease is the residual of the present value of the income stream and the cost of the improvements and infrastructure. This is how much Crescent could justify paying as a lump sum payment for a leasehold in the land and earn the 10.75% return necessary to compensate for the development risk. By "leasehold in the land" we mean the right to use the land for the term of the lease. The developer is paying for the right to use the land during the term of the lease and collect the income from the improvements the developer had constructed on the land. The residual land leasehold value is close to $14 million until the remaining lease term starts to drop below 50 years. If the ground lease is much less than 20 years, it isn't even feasible to do the development because there won't be enough income generated over the lease term to justify investing in the improvements. . The land rent column is calculated by assuming a 7 percent interest rate solving for the payments that would be made over the lease term to have the same present value as the lump sum payment that could be made for the leasehold. That is, the purchase of the leasehold is amortized over the lease term as rent payments. The developer is purchasing the leasehold right to use the land for the term of the lease. We first solved for the maximum that could be paid as a lump sum for the purchase for the leasehold to be economical for the developer and then converted this to annual installments or rent payments that would have the same present value. As the residual land leasehold value falls, so does the amount that can be justified for land rent.

The main point is that there is a relationship between the lease term for the ground lease and the land rent that can be justified. If the land owner wants to "reset" the land rent higher at some point after the lease begins because property values have risen, and charge a higher rent, then the lease term needs to be extended to compensate Crescent. For example, the difference in land rent that can be justified for a 40 year remaining lease term and a 60 year remaining lease term is about 15%. So if rent was to increase by 15% the ground lease would need to be extended by 20 years to compensate for the higher rent.

Another way to look at this is that if the payments for the leasehold are increased from what was originally determined to provide an adequate return to the developer, this reduces the developer's return because it means more is being paid for the leasehold than was economically justified for the original lease term. In order to still provide the developer with the required rate of return, the lease term must be extended.

This is a first pass, and can certainly be refined. Let us know if this makes sense as an approach and is responsive to your request.

Ron