



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

July 22, 2010

Thomas M. Ray, President
CoreSite Realty Corporation
1050 17th Street
Suite 800
Denver, CO 80265

**Re: CoreSite Realty Corporation
Amendment No. 1 to Registration Statement on
Form S-11
Filed June 29, 2010
File No. 333-166810**

Dear Mr. Ray:

We have reviewed Amendment No.1 to your registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Prospectus Summary, page 1

Our Company, page 1

1. We note you respond to comment 8 of our letter dated June 11, 2010 by using the term "high quality" instead of "premium" to describe your data centers. You rely upon the supplemental materials provided to support your use of this term. Please tell us where this term is defined in the supplemental materials and include the definition of "high-quality" data center in your disclosure.

Balance Sheet Positioned to Fund Continued Growth, page 4

2. We note your response to comment 11 and the revised disclosure that you may incur additional indebtedness. If true, please revise your disclosure to clearly state that there are no limits on the amount of leverage you may use and make similar revisions to the risk factor on page 24.
3. We note that you will have approximately \$122.4 million of total long-term debt which is only 12.1% of the undepreciated book value of your total assets. Please revise to balance this disclosure by quantifying the redemption value of the OP units that will be redeemable for cash, or shares, after the first anniversary of your offering.

The Restructuring Transactions, page 6

4. We note the changes made in response to our prior comment 13. Please clarify for us the business reasons for issuing OP units in exchange for the ownership interests in the entities and subsequently repurchasing them in a cash transaction, instead of just purchasing the ownership interests in the properties directly for cash.

Employment Agreement with Thomas M. Ray, page 9

5. We note that you paid an affiliate of The Carlyle Group \$575,000 as partial reimbursement for the related services rendered to you by Mr. Ray and his executive assistant during the year ended December 31, 2010. Clarify whether these services were rendered during the year ended December 31, 2009. If so revise accordingly.

Restrictions on Transfer, page 10

6. We note your response to comment 14 of our letter. In response to our comment, you state that the holders of the OP units will not be able to tender their units for redemption prior to the first anniversary. However, it appears that the holders will be able to tender a certain number of these units for redemption based on your present intention to use offering proceeds to purchase a certain amount of units. Please revise your disclosure to clarify this. Also, it appears from Section 15.1.A of your OP agreement that the general partner has the discretion to allow redemptions prior to the 12-month period. This appears inconsistent with your response. Please revise to reconcile your disclosure or advise.

Risk Factors, page 17

7. We note your response to comment 19. It appears that the second bullet point in your response addresses a risk that is both material and specific to you. Please revise to restore that risk factor. Additionally, we note your explanation that the risk factor on page 33 regarding your status as a public company is not generic because of “additional costs” and responsibilities. Please note that while the costs and responsibilities are

additional to you, they are incurred by all public companies. Please revise to demonstrate how this risk is specific to you or remove the risk factor.

Distribution Policy, page 40

8. Please supplementally confirm whether the amounts reflected in footnote (1) are net of abatements.
9. In footnote (2) it appears that you have not reflected decreases for lease expirations in which a tenant has undergone a month-to-month lease. Since month-to-month leases are generally cancelable at any time, there does not appear to be an executed contractual lease for the period covered in your distribution table. As such, please provide your basis for not including the decreases for expirations for these customers or revise accordingly.
10. Refer to footnote (7). Given that your distribution table includes the actual contractual obligations for tenant improvements, we are unclear why you have included a tabular disclosure of the average tenant improvement costs and leasing commissions in your footnote as this information does not support the amounts included in your distribution table. Please expand your disclosure to explain how management expects investors to use this information and how it will enhance the investors' understanding of your calculation of cash available for distribution. Please revise.
11. Clarify whether footnote (7) includes the tenant improvement work at 55 S. Market Street as described in footnote (3) on page 60.
12. From footnote (11) we note that you calculate the payout ratio using "estimated cash available for distribution per share" as your dominator. Please note that estimated cash available for distribution is a cash flow or liquidity measure and should not be presented or considered on a per share basis. As such, please revise to define your payout ratio based on the total estimated figures.
13. Please clarify why the cash impact of your scheduled loan repayments or any other material financing cash outflows for the 12 month period are not reflected in your tabular presentation or revise to include.
14. Please revise to clarify the portion of the estimated distribution that would constitute a return of capital, if any.

Capitalization, page 42

15. We have read and considered your response to comment 24 and will monitor your next amendment for compliance. Please note that you need a firm commitment for continued inclusion of this financing activity in your document.
16. Please revise the Capitalization table to include a column that presents the pro forma amounts before the offering.

Management's Discussion and Analysis..., page 48

Redevelopment History, page 49

17. We have read and considered your response to comment 26. Please revise your disclosure to state the first property acquired in February 2000 was by one of the Acquired Properties.

Results of Operations of Our Acquired Properties, page 56

Three Months Ended March 31, 2010 Compared to March 31, 2009, page 56

18. We note that \$4.5 million of your operating revenue for this period was related to management fees. Under the caption "revenues" on page 50, you have not identified management services as part of your revenue earning operations. Please revise to elaborate on the management services portion of your business. Also, please revise to discuss the reason for the increased receipt of leasing, construction management, and property management fees.

Commitments and Contingencies, page 60

19. Refer to footnote (2). We note that your mortgage payments assume the completion of the refinancing transaction set for the Financing Transactions. To the extent you have not obtained a firm commitment for the refinancing of your existing mortgage debt, your table should only reflect your current contractual obligations. Please advise or revise accordingly.

Business and Properties, page 70

20. We note the first risk factor on page 20 indicates that you are dependent on third party providers of network connectivity. Please revise to discuss such dependence in this section and clarify if any of the providers would be considered a major provider to your operations.

Our Portfolio, page 75

21. We note your response to comment 33 that the difference between annualized and effective annual rents is not material and that abatements were immaterial. Please tell us if you provided your tenants with any concessions, in addition to the immaterial abatements. Also, please provide us with the rental disclosure on an effective basis and tell us the adjustments made to arrive at those figures. We note from footnote 6 that the amounts disclosed in the table are shown a gross basis. Please tell us if you have provided grossed up rent disclosure for leases that are not on a gross basis.

Legal Proceedings, page 98

22. We note your disclosure that Mr. Brumer intends to bring suit against you. We further note your statement that you believe his claims are “baseless and lack merit.” The statement that his claims are baseless and without merit is a legal conclusion that you are not qualified to make. Please remove this conclusory language. Please make similar revisions to your disclosure on page F-54.

Executive Officer Compensation, page 104

23. We note your response to comment 44 that you do not intend to utilize a peer group in making compensation decisions. Please ensure that you revise all of your disclosure to remove references to utilizing a peer group. For example only, we note that you continue to refer to the peer group under the section “Base Salaries.”

Other Stock Based Awards, page 114

24. We note your response to comment 46 of our letter. We were not able to locate your revised disclosure. We therefore reissue our comment. To the extent that you have already determined such circumstances, please revise to discuss the conditions under which the holders of long-term incentive units will achieve full parity. If the incentive units could achieve full parity immediately, please revise to confirm that possibility. Please include this disclosure in this section.

Certain Relationships and Related Party Transactions, page 117

25. We note your response to comment 48. Please clarify if the total value you disclose for the consideration to be received by the Carlyle affiliates includes the cash that will be used to purchase the OP units concurrently with the completion of this offering.
26. We note your disclosure that the Carlyle affiliates will be liable for losses if representations and warranties made by the property contributors are determined not be true and correct. We further note that they will only be liable to the extent such losses exceed 1% of the value of the operating partnership units and that they will only be liable for losses up to 10% of the value of the operating partnership units. Please add a risk factor to address the risk that you will be responsible for losses that do not meet the minimum threshold or that exceed the maximum threshold, even if it is determined that the property contributor made a false representation or warranty.

Description of Securities, page 135

Restrictions on Ownership and Transfer, page 132

27. We note your response to comment 51 of our letter. Please clarify what constitutes “contemporaneous notice.”

Coresite Realty Corporation

Pro forma Financial Statements and Notes

1 – Adjustments to the Pro Forma Condensed Consolidated Balance Sheet, page F-10

Adjustment B, page F-10

28. We have read and considered your response to comments 55 through 57. We note that you have deemed the Predecessor as the accounting acquirer. However as we stated in our prior comment, the Predecessor cannot be the accounting acquirer given that it is not a legal entity, although one of the combining entities that comprise the Predecessor may be the accounting acquirer. To the extent that you determine one of the combining entities of Carlyle Realty Partners V is the accounting acquirer, the other combining predecessor entities would still retain the predecessor basis since these entities are under common control. Please advise.
29. In your response to comment 57, you provide various percentages to illustrate the operating partnership interests going to the respective Funds. Tell us whether those percentages reflect the ownership before or after the repurchase of operating units for cash. If they do not reflect the cash-out, please revise your analysis accordingly to address this portion of your transaction.
30. Please note until we have more information surrounding the cash portion of the transaction, we are still evaluating your conclusions regarding the accounting acquirer.

Adjustment (C), page F-10

31. We have read and reviewed the changes made pursuant to comment 58. As previously requested, please disclose the form of the consideration given for the Acquired Properties. In this regard, you should disclose the fair value of each major class of consideration to be given (e.g. cash consideration, equity interests, liabilities incurred).
32. We have read and considered your response to comment 59. Please also disclose the number of units issued and the price per unit.
33. Reference is made to the tabular presentation of the purchase price allocation. The purchase price allocation is not readily apparent when combined with the historical information and pro forma adjustments. Please revise to separately reconcile your purchase price allocation. In addition, please note material pro forma adjustments such as those reflected in this table, should be made on the face of the pro forma financial statements. Please revise accordingly.

Adjustment (D), page F-12

34. We note that you have netted the material adjustments to cash on the face of your pro forma financial statements. As requested above, please separately show these material adjustments on the face of your pro forma financial statements. .
35. We have read and considered your response to comment 61 and will monitor your next amendment for compliance. Please note that you need a firm commitment for continued inclusion of this financing activity in your document.
36. We have read and considered your response to comment 62. It is unclear how you have revised your capitalization table on page 42 to show the effect of the issuance of the shares related to your retirement of the profits interest incentive program. Please advise or revise accordingly. Please also reflect the issuance of these shares in footnote (y) on page 12 and in the Dilution section on page 43.
37. Furthermore, please disclose how you determined the fair value of the common stock and operating units that will be issued in connection with this program.

Adjustment H, page F-12

38. We have read and considered your response to comment 63 and continue to believe that your current disclosure is not sufficient. Please disclose, if true, that the cash payment being paid to the owners of the Predecessor and Acquired Properties represents the purchase of the operating partnership units received by the Carlyle real estate funds as consideration for the contributed or acquired properties. Also disclose the number of units of that will be purchased, the timing of the redemption, the purchase price and how such price was determined. This information should be shown on a disaggregated basis for the Predecessor and the Acquired Properties.
39. Further to our previous comment, the issuance and subsequent purchase of operating partnership units should be transparent on the face of your pro forma financial statements.

CoreSite Acquired Properties

Financial Statements and Notes

Note 1 – Organization, page 40

40. We have read your response to comment 67. As previously requested, please revise your disclosure to clearly identify the common manager or owner of the CoreSite Acquired Properties. In addition, it is unclear why you indicate the CoreSite Acquired Properties are under common control versus common management as reflected in your disclosure.

Part II.

Exhibits

41. We note that you filed an unexecuted version of your articles of incorporation as exhibit 3.1. Please note that the final executed version of this document must be filed prior to effectiveness. Please refer to Item 601(b)(3) of Regulation S-K.
42. We note your response to comment 70 of our letter. Please note that incomplete exhibits may not be incorporated by reference. Please refer to Instruction 1 to Item 601 of Regulation S-K.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Yolanda Crittendon at (202) 551-3472 or Cicely LaMothe, Accounting Branch Chief, at (202) 551-3413 if you have questions regarding comments on the financial statements and related matters. Please contact Stacie Gorman, Attorney – Advisor, at (202) 551-5858 or me at (202) 551-3386 with any other questions.

Sincerely,

Duc Dang
Attorney – Advisor

Cc: Patrick H. Shannon, Esq.
via facsimile (202) 637-2201