This scoring notice will publish in the Federal Register on February 23, 2011. The published notice will establish the deadline for submission of public comments. No comments should be submitted nor will they be accepted prior to publication of the notice in the Federal Register.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. FR-5094-N-03]

Changes to the Public Housing Assessment System (PHAS): Physical Condition Scoring Notice

AGENCY: Office of the Assistant Secretary for Public and Indian Housing, HUD.

ACTION: Notice.

SUMMARY: This notice provides additional information to public housing agencies (PHAs) and members of the public about HUD's process for issuing scores under the physical condition indicator of the Public Housing Assessment System (PHAS). This notice amends the current Physical Condition Scoring Process notice that was published on June 29, 2000 , as corrected and updated by the Physical Condition Scoring Process notice that was published on November 26, 2001, and reflects the changes in the PHAS interim rule published elsewhere in today's Federal Register. The changes made in this notice are discussed in the Supplementary Information section below.

DATES: Effective Date: [Insert date 30 days after date of publication in the FEDERAL REGISTER].

Comment Due Date: [Insert date 60 days after date of publication in the FEDERAL REGISTER].

ADDRESSES: Interested persons are invited to submit comments on this notice to the Regulations Division, Office of General Counsel, Department of Housing and Urban Development, 451 7th Street, SW, Room 10276, Washington, DC 20410-0500.

Communications must refer to the above docket number and title. There are two methods for submitting public comments. All submissions must refer to the above docket number and title.

1. Submission of Comments by Mail. Comments may be submitted by mail to the Regulations Division, Office of General Counsel, Department of Housing and Urban Development, 451 7th Street, SW, Room 10276, Washington, DC 20410-0500.

2. Electronic Submission of Comments. Interested persons may submit comments electronically through the Federal eRulemaking Portal at www.regulations.gov. HUD strongly encourages commenters to submit comments electronically. Electronic submission of comments allows the commenter maximum time to prepare and submit a comment, ensures timely receipt by HUD, and enables HUD to make them immediately available to the public. Comments submitted electronically through the www.regulations.gov website can be viewed by other commenters and interested members of the public. Commenters should follow the instructions provided on that site to submit comments electronically.

Note: To receive consideration as public comments, comments must be submitted through one of the two methods specified above. Again, all submissions must refer to the docket number and title of the rule.

No Facsimile Comments. Facsimile (FAX) comments are not acceptable.

Public Inspection of Public Comments. All properly submitted comments and communications submitted to HUD will be available for public inspection and copying between 8 a.m. and 5 p.m. weekdays at the above address. Due to security measures at the HUD Headquarters building, an advance appointment to review the public comments must be scheduled by calling the Regulations Division at 202-402-3055 (this is not a toll-free number). Individuals with speech or hearing impairments may access this number via TTY by calling the

Federal Information Relay Service, toll-free, at 800-877-8339. Copies of all comments submitted are available for inspection and downloading at http://www.regulations.gov.

FOR FURTHER INFORMATION CONTACT: Claudia Yarus, Department of Housing and Urban Development, Office of Public and Indian Housing, Real Estate Assessment Center (REAC), 550 12th Street, SW, Suite 100, Washington, DC 20410 at 202-475-8830 (this is not a toll-free number). Persons with hearing or speech impairments may access this number through TTY by calling the toll-free Federal Information Relay Service at 800-877-8339. Additional information is available from the REAC Internet site at http://www.hud.gov/offices/reac/.

SUPPLEMENTARY INFORMATION:

I. Purpose of this Notice

The purpose of this notice is to describe the physical condition scoring process under the PHAS interim regulation published elsewhere in today's Federal Register and to prescribe the frequency of individual project inspections.

II. Purpose of the PHAS Physical Condition Assessment

The purpose of the PHAS physical condition assessment is to ensure that public housing units are decent, safe, sanitary, and in good repair, as determined by an inspection conducted in accordance with HUD's Uniform Physical Condition Standards (UPCS) codified at 24 CFR part 5, subpart G. The physical condition assessment under the PHAS utilizes uniform physical inspection procedures to determine compliance with uniform standards and is an important indicator of performance for a project and a PHA. All projects will be assessed under the physical condition indicator, even if a PHA has not converted to asset management.

The physical condition indicator score is based on a maximum of 40 points. In order to receive a passing score under this indicator, a project must achieve at least 24 points or 60 percent of the points available under this indicator. Under the PHAS physical condition indicator, REAC will calculate a score for each project, as well as for the overall physical condition of a PHA. The physical condition score, based on a 40-point scale, is included in each PHA's aggregate PHAS score.

III. Transition to Asset Management and Frequency of Inspections

The number of units in a PHA's Low-Rent program and the PHAS designation for small PHAs will determine the frequency of physical inspections during and after the transition to asset management. Pursuant to § 902.13(a) of the PHAS interim rule published elsewhere in today's Federal Register, the deregulation of small PHAs provides that PHAs with less than 250 public housing units will receive a PHAS assessment, based on its PHAS designation, as follows:

(1) A small PHA that is a high performer will receive a PHAS assessment every 3 years;

(2) A small PHA that is a standard or substandard performer will receive a PHAS assessment every other year; and

(3) All other small PHAs will receive a PHAS assessment every year, including a PHA that is designated as troubled or Capital Fund troubled, in accordance with § 902.75.

For PHAs with 250 or more units of any PHAS designation, the inspection score of each project (not the overall physical indicator score) will determine the frequency of inspections for that project. Projects that score 90 points or higher based on a possible 100-point project score will be inspected triennially. Projects that score less than 90 points and at least 80 points based on a possible 100-point project score will be inspected biennially. Projects that score less than 80 points based on a possible 100-point scale will be inspected annually. The performance

incentive will change from PHA-based to project-based. Project inspections for PHAs with 250 or more units will be based on the project's prior year inspection score.

Projects for any PHA designated as troubled will be inspected annually regardless of any project's individual score. PHAs of 250 units or more with unit-weighted project scores from 2 or 3 different years will have all their prior year scores of 90 and above or 80 and above (and current year scores for each project that was inspected), multiplied by 40 percent, totaled together, and rounded to produce an overall physical indicator score.

In the first year of implementation of the interim PHAS rule, the baseline year, every PHA will receive an overall PHAS score and in all four of the PHAS indicators: physical condition; financial condition; management operations; and Capital Fund program. This will allow a baseline for the physical condition inspections and the 3-2-1 inspection schedule, as well as a baseline year for the small deregulated PHAs.

IV. Item Weights and Criticality Levels, and Dictionary of Deficiency Definitions

The Item Weights and Criticality Levels tables and the Dictionary of Deficiency Definitions, currently in use, were published as Appendices 1 and 2 to the Public Housing Assessment System Physical Condition Scoring Process Interim Scoring, Corrections, and Republication notice (66 FR 59102), dated November 26, 2001. The Federal Register notice along with both appendices is available in HUD's REAC Physical Inspection Library Internet site at:

http://www.hud.gov/offices/reac/library/documents/fr-notice20011126.pdf. A stand-alone, user friendly Dictionary of Deficiency Definitions is found at http:/www.hud.gov/offices/reac/pdf/pass_dict2.3.pdf.

V. Validity and Reliability of the Physical Inspection Protocols

The Conference Report (H.R. Conf. Rep. 106-988; October 18, 2000) accompanying HUD's FY 2001 Appropriations Act (Pub. L. 106-377, approved October 27, 2000) directed HUD to continue to assess the accuracy and effectiveness of the PHAS system, in particular the physical condition inspection protocol. HUD was also directed to perform a statistically valid test of PHAS, conduct a thorough analysis of the results, and have the methodology and results reviewed by an independent expert before taking any adverse action against a PHA based solely on its PHAS score. HUD retained the Louis Berger Group (the contractor) to conduct the review of the methodology and results of the statistically valid test.

The findings of the contractor's study concluded that the physical condition inspection protocol is repeatable and reliable. A report addressing the issues raised in the Conference Report, entitled the Review and Assessment of the REAC Study of the Physical Assessment Sub-System (PASS) Process, was provided to the House and Senate Committees on Appropriations on March 1, 2001.

VI. The Physical Inspection Scoring Process

The PHAS physical inspection generates comprehensive results, including physical inspection scores reported at the project level; area level scores for each of the five physical inspection areas, as applicable; and observations of deficiencies recorded electronically by the inspector at the time of the inspection.

1. Definitions

The following are the definitions of the terms used in the physical condition scoring process:

Criticality means one of five levels that reflect the relative importance of the deficiencies for an inspectable item. Appendix 1 lists all deficiencies with their designated criticality levels,

which vary from 1 to 5, with 5 being the most critical. Based on the criticality level, each deficiency has an assigned value that is used in scoring. Those values are as follows:

Criticality	Level	Value
Critical	5	5.00
Very Important	4	3.00
Important	3	2.25
Contributes	2	1.25
Slight Contribution	1	0.50

Based on the importance of the deficiency as reflected by its criticality value, points are deducted from the project score. For example, a clogged drain in the kitchen is more critical than a damaged surface on a countertop. Therefore, more points will be deducted for a clogged drain than for a damaged surface.

Deficiencies refer to specific problems that are recorded for inspectable items, such as a hole in a wall or a damaged refrigerator in the kitchen.

Inspectable area means any of the five major components of the project: site, building exteriors, building systems, common areas, and dwelling units.

Inspectable items refer to walls, kitchens, bathrooms, and other features that are inspected in an inspectable area. The number of inspectable items varies for each inspectable area, from 8 to 17. Weights are assigned to each item to reflect their relative importance and are shown in the Item Weights and Criticality Levels tables. The tables refer to the weight of each item as the nominal item weight, which is also known as the amenity weight.

Normalized area weight represents weights used with area scores to calculate project-level scores. The weights are adjusted to reflect the inspectable items actually present at the time of the inspection. These weights are proportional, as follows:

- For dwelling units, the area score is the weighted average of sub-area scores for each unit, weighted by the total of item weights present for inspection in each unit, which is referred to as the amenity weight.
- For common areas, the area score is the weighted average of sub-area common area scores weighted by the total weights for items available for inspection (or amenity weight) in each residential building common area or common building. Common buildings refer to any inspectable building that contains no dwelling units. All common buildings are inspected.
- For building exteriors or building systems, the area scores are weighted averages of sub-area scores.
- For sites, the area score is calculated as follows: (1) the amenity weights found on a site, (2) minus deductions for deficiencies, and (3) normalized to a 100-point scale.

Normalized sub-area weight means the weight used with sub-area scores to compute an inspectable area score. These weights are proportional:

- For dwelling units, the item weight of amenities available in the unit at the time of inspection is the amenity weight.
- For common areas, the common area amenity weight is divided by a building's probability of being selected for inspection. All residential buildings with common areas may not be selected for inspection; however, all buildings with common areas are selected to determine the amenity weight.
- For building exterior and building systems, the building exterior or building system amenity weight is multiplied by the building's size (number of units) and then divided by its probability of being selected for inspection.

- For the site, there is no sub-area score. For each project, there is a single site.

Note that dividing by a building's probability of being selected for inspection is the same as multiplying by the probability weight, since the probability weight is 1 divided by the probability of being selected for inspection.

Project is used synonymously with the term "property."

Severity means one of three levels that reflect the extent of damage associated with each deficiency, with values assigned as follows:

Severity Level	Value
3	1.00
2	0.50
1	0.25

The Item Weights and Criticality Levels tables show the severity levels that are possible for each deficiency. Based on the severity of each deficiency, the score is reduced. Points deducted are calculated by multiplying the item weight by the values for criticality and severity, as described below. For specific definitions of each severity level, see the Dictionary of Deficiency Definitions.

Score means a number between 0 and 100 that reflects the physical condition of a project, inspectable area, dwelling area, or sub-area. A property score includes both an alphabetical and a numerical component. The number represents an overall score for the basic physical condition of a property, including points deducted for health and safety deficiencies other than those associated with smoke detectors. The letter code specifically indicates whether health and safety deficiencies were detected, as shown in the chart below:

Physical Inspection Score	No Health and Safety Deficiencies	Health and Safety Deficiencies		
		Non-Life Threatening	Life Threatening (LT)/Exigent	Fire Safety

Alphanumeric Codes		(NLT)	Health and Safety (EHS)		
				No Smoke Detector Problems	Smoke Detector Problems
a	X			X	
a*	X				X
b		X		X	
b*		X			X
c			X	X	
c*			X		X

To record a health or safety problem, a letter is added to the project score (a, b, or c); and to note that one or more smoke detectors are inoperable or missing, an asterisk (*) is added to the project score.

Sub-area means an area that will be inspected for all inspectable areas except the site. For example, the building exterior for building "2" is a sub-area of the building exterior area. Likewise, unit "5" would be a sub-area of the dwelling units area. Each inspectable area for each building in a property is treated as a sub-area.

2. Scoring Protocol

To generate accurate scores, the inspection protocol includes a determination of the appropriate relative weights of the various components of the inspection; that is, which components are the most important, the next most important, and so on. For example, in the building exterior area, a blocked or damaged fire escape is more important than a cracked window, which is more important than a broken light fixture. The Item Weights and Criticality Levels tables provide the nominal weight of observable deficiencies by inspectable item for each area/sub-area. The Dictionary of Deficiency Definitions provides a definition for the severity of each deficiency in each area/sub-area.

3. Equity Principles

In addition to determining the appropriate relative weights, consideration is also given to several issues concerning equity between properties so that scores fairly assess all types of properties:

Proportionality. The scoring methodology includes an important control that does not allow any sub-area scores to be negative. If a sub-area, such as the building exterior for a given building, has so many deficiencies that the sub-area score would be negative, the score is set to zero. This control mechanism ensures that no single building or dwelling unit can affect the overall score more than its proportionate share of the whole.

Configuration of project. The scoring methodology takes into account different numbers of units in buildings. To fairly score projects with different numbers of units in buildings, the area scores are calculated for building exteriors and systems by using weighted averages of the sub-area scores, where the weights are based on the number of units in each building and on the building's probability of being selected for inspection. In addition, the calculation for common areas includes the amenities existing in the residential common areas and common buildings at the time of inspection.

Differences between projects. The scoring methodology also takes into account that projects have different features and amenities. To ensure that the overall score reflects only items that are present to be inspected, weights to calculate area and project scores are adjusted depending on how many items are actually there to be inspected.

4. Deficiency Definitions

During a physical inspection of a project, the inspector looks for deficiencies for each inspectable item within the inspectable areas, such as the walls (the inspectable item) of a dwelling unit (the inspectable area). Based on the observed condition, the Dictionary of

Deficiency Definitions defines up to the three levels of severity for each deficiency: Level 1 (minor), Level 2 (major), and Level 3 (severe). The associated values were shown earlier in the first chart of Section VI. A specific criticality level, with associated values as shown in that chart, is also assigned to each deficiency. The criticality level reflects the importance of the deficiency relative to all other possible observable deficiencies for the inspectable area.

5. Health and Safety Deficiencies

The UPCS physical inspection emphasizes health and safety (H&S) deficiencies because of their crucial impact on the well-being of residents. A subset of H&S deficiencies is exigent health and safety (EHS) deficiencies. These are life threatening (LT) and require immediate action or remedy. EHS deficiencies can substantially reduce the overall project score.
As noted in the definition for the word "score" in the Definitions section, all H&S deficiencies are highlighted by the addition of a letter to the numeric score. The Item Weights and Criticality Levels tables list all H&S deficiencies with an LT designation for those that are EHS deficiencies and an NLT designation for those that are non-life threatening. The LT and NLT designations apply only to severity level 3 deficiencies.

To ensure prompt correction of H&S deficiencies, the inspector gives the project representative a deficiency report identifying every observed EHS deficiency before the inspector leaves the site. The project representative acknowledges receipt of the deficiency report by signature. The inspector also transmits the deficiency report to HUD no later than the morning of the first business day after completing the inspection. HUD makes available to all PHAs an inspection report that includes information about all of the H&S deficiencies recorded by the inspector. The report shows:

- The number of H&S deficiencies (EHS and NLT) that the inspector observed;

- All observed smoke detector deficiencies; and
- A projection of the total number of H&S problems that the inspector potentially would see in an inspection of all buildings and all units.

Problems with smoke detectors do not currently affect the overall score. When there is an asterisk indicating that the project has at least one smoke detector deficiency, that part of the score may be identified as "risk;" for example, "93a, risk" for 93a*, and "71c, risk" for 71c*. There are six distinct letter grade combinations based on the H&S deficiencies and smoke detector deficiencies observed: a, a*, b, b*, c, and c*. For example:

- A score of 90c* means that the project contains at least one EHS deficiency to be corrected, including at least one smoke detector deficiency, but is otherwise in excellent condition.
- A score of 40b* means the project is in poor condition, has at least one non-life threatening deficiency, and has at least one missing or inoperable smoke detector.
- A score of 55a means that the project is in poor condition, even though there are no H&S deficiencies.
- A project in excellent physical condition with no H&S deficiencies would have a score of 90a to 100a.

6. Scoring Process Elements

The physical condition scoring process is based on three elements within each project: (1) five inspectable areas (site, exterior, systems, common areas, and dwelling units); (2) inspectable items in each inspectable area; and (3) observed deficiencies. In broad terms, the score for a property is the weighted average of the five inspectable area scores, where area weights are adjusted to account for all of the inspectable items that are actually present to be

inspected. In turn, area scores are calculated by using weighted averages of sub-area scores (e.g., building area scores for a single building or unit scores for a single unit) for all sub-areas within an area.

7. Scoring Using Weighted Averages

For all areas except the site, normalized sub-area weights are determined using the size of sub-areas, the items available for inspection, and the sub-area's probability of selection for inspection. Sub-area scores are determined by deducting points for deficiencies based on the importance (weight) of the item, the criticality of the deficiency, and the severity of the deficiency. The maximum deduction for a single deficiency will not calculate a score of less than zero. Points will be deducted only for one deficiency of the same kind within a sub-area. For example, if multiple deficiencies for broken windows are recorded, only the most severe deficiency observed (or one of the most severe, if there are multiple deficiencies with the same level of severity) will result in a point deduction.

8. Essential Weights and Levels

The process of scoring a project's physical condition depends on the weights, levels, and associated values of the following quantities:

- Weights for the 5 inspectable areas (site, building exteriors, building systems, common areas, and dwelling units).
- Weights for inspectable items within inspectable areas (8 to 17 per area).
- Criticality levels (critical, very important, important, contributes, and slight contribution) plus their associated values for deficiencies within areas inspected.
- Severity levels (3, 2, and 1) and their associated values for deficiencies.

- Health and safety deductions (exigent/fire safety and non-life threatening for all inspectable areas).

9. Area Weights

Area weights are used to obtain a weighted average of area scores. A project's overall physical condition score is a weighted average of all inspectable area scores. The approximate relative weights are:

Inspectable Area	Weight
Site	15%
Building Exterior	15%
Building Systems	20%
Common Areas	15%
Dwelling Units	35%

These weights are assigned for all inspections when all inspectable items are present for each area and for each building and unit. All of the inspectable items may not be present in every inspectable area. When items are missing in an area, the area weights are modified to reflect the missing items so that within that area they will add up to 100 percent. Area weights are recalculated when some inspectable items are missing in one or more area(s).

Although rare, it is possible that an inspectable area could have no inspectable items available; for example, there could be no common areas in the inspected residential buildings and no common buildings. In this case, the weight of the "common areas" would be 0 percent and its original 15 percent weight would be equitably redistributed to the other inspectable areas, as shown in the example below:

Inspectable Area	Normal Weight	Missing Common Areas	Adjustment	Adjusted Weight
Site	15%	15%	.15/.85=	18%
Building Exterior	15%	15%	.15/.85=	18%
Building Systems	20%	20%	.20/.85=	23%
Common Areas	15%	0%		0%
Dwelling Units	35%	35%	.35/.85=	41%
Total	100%	85%		100%

The original 15 percent weight for the common areas is redistributed by totaling the weights of other inspectable areas (100 percent – 15 percent = 85 percent) and dividing the weights of each other area by that amount (0.85). The modified weights would then be 18 percent for site, 18 percent for building exterior, 23 percent for building systems, 0 percent for common areas, 41 percent for dwelling units, and again be equal to (be normalized to) 100 percent.

10. Area and Sub-Area Scores

For inspectable areas with sub-areas (all areas except sites), the inspectable area score is a weighted average of the sub-area scores within that area. The scoring protocol determines the amenity weight for the site and each sub-area as noted in Section VI.1 under the definition for normalized sub-area weight. For example, a property with no fencing or gates in the inspectable area of the site would have an amenity weight of 90 percent or 0.9 (100 percent minus 10 percent for lack of fencing and gates), and a single dwelling unit with all items available for inspection, except a call-for-aid would have an amenity weight of 0.98 or 98 percent (100 percent minus 2 percent for lack of call-for-aid). A call-for-aid is a system designed to provide elderly residents the opportunity to call for help in the event of an emergency.

The amenity weight excludes all health and safety items. Each deficiency as weighted and normalized are subtracted from the sub-area or site-weighted amenity score. Sub-area and site area scores are further reduced for any observed health and safety deficiencies. These deductions are taken at the site, building, or unit level. At this point, a control is applied to prevent a negative site, building, or unit score. The control ensures that no single building or unit can affect an area score more than its weighted share.

11. Overall Project Score

The overall project score is the weighted average of the five inspectable area scores, with the five areas weighted by their normalized weights. Normalized area weights reflect both the initial weights and the relative weights between areas of inspectable items actually present. For reporting purposes, the number of possible points is the normalized area weight adjusted by multiplying by 100 so that the possible points for the five areas add up to 100. In the Physical Inspection Report for each project that is sent to the PHA, the following items are listed:

- Normalized weights as the "possible points" by area;
- The area scores, taking into account the points deducted for observed deficiencies;
- The deductions for H&S for each inspectable area; and
- The overall project score.

The Physical Inspection Report allows the PHA and the project manager to see the magnitude of the points lost by inspectable area and the impact on the score of the H&S deficiencies.

12. Examples of Physical Condition Score Calculations

The physical inspection scoring is deficiency based. All projects start with 100 points. Each deficiency observed reduces the score by an amount dependent on the importance and severity of the deficiency, the number of buildings and units inspected, the inspectable items actually present to be inspected, and the relative weights between inspectable items and inspectable areas.

The calculation of a physical condition score is illustrated in the examples below. The examples go through a number of interim stages in calculating the score, illustrating how sub-area scores are calculated for a single project, how the sub-area scores are rolled up into area scores, and how area scores are combined to calculate the overall project score. One particular

deficiency is carried through the examples showing the end result.

As will be seen, the deduction starts out as a percent of the sub-area. Then the area score is considerably decreased in the final overall project score because the deduction is averaged across other sub-areas and then averaged across the five inspectable areas. Although interim results in the examples are rounded, only the final results are rounded for actual calculations.

To illustrate how physical condition scores are calculated, three examples are provided below. Following this section, another example is given specifically for public housing projects to show how project scores are rolled up into the PHAS physical indicator score for the PHA as a whole.

Example #1 illustrates how the score for a sub-area of building systems is calculated. Consider a 10-unit residential building in which the five inspectable areas are present. During the inspection, damaged vents in the roof are observed. This deficiency reflected a severity level of 1, which has a severity weight of 0.25; a criticality level of 4, which has a criticality weight of 3; and an item weight of 16.0. The amount of the points deducted is the item weight, multiplied by the criticality weight multiplied by the severity value. This is illustrated in the table below.

Area: Building Exterior

Item: Roof

Deficiency: Damaged Vents

Criticality Level: 4, Severity Level: 1

Element	**Associated Value**
Item Weight	16
Criticality Weight	3.0
Severity Weight	0.25
Calculation of Points Deducted for Deficiency	16 x 3 x 0.25 = 12

If this building exterior has all inspectable items except for a fire escape, the amenity weight for the first building exterior adds up to 84 percent (100 percent starting point minus 16 percent for the lack of a fire escape, excluding H&S items). If the damaged roof vents were the only deficiency observed, then the initial proportionate score for this sub-area (Building Exterior #1) would be the amenity score minus the deficiency points and then normalized to a 100-point basis, as shown below. Additional deficiencies or H&S deficiencies (calculated in the same manner) would further decrease the sub-area score, and if the score dropped below zero, it would be set to zero.

Element	**Associated Value**
Amenity Score	84
Deficiency Points	12
Calculation for the Initial Proportionate Score	84 – 12 = 72
Normalizing Factor	100
Calculation for the Initial Sub-Area Score Building Exterior #1	(72 / 84) x 100 = 85.7

Example #2 illustrates how the area score is calculated. Consider a property with two buildings with the following characteristics:

· Building #1 (from Example #1, above):

—10 units

—84 percent amenity weight for items that are present to be inspected in the building exterior

—Building exterior score is 85.7 points

· Building #2:

—20 units

—100 percent amenity weight for items that are present to be inspected in the building exterior

—Building exterior score is 69.1 points

The building exterior score for the building exterior area is the weighted average of the individual scores for each building exterior. Each building exterior score is weighted by the number of units and the percent of the weight for items present to be inspected in the building exterior.

Building	**Number of Units**	**X**	**Amenity Weight**	**=**	**Unit Weighted Average**	**/**	**Sum of the Building Weights**	**X**	**Initial Proportionate Score**	=	***Building Exterior Area*** **Score**
#1	10		0.84		08.4		28.4		85.7		25.3
#2	20		1.00		20.0		28.4		69.1		48.7
Total	**30**				**28.4**						**74.0**

Example #3 illustrates how the overall weighted average for the building exterior area amenity weight is calculated. The separate amenity weights for buildings #1 and #2, above, are used in conjunction with the total units to calculate the building exterior area amenity weight. Each building amenity weight is multiplied by the number of units in that building and then divided by the total number of units for all buildings, as shown below. For purposes of the next example, the Overall Building Exterior Area Amenity Weight of 94.7 was rounded to 95.

Building Exterior	**Number of Units**	**X**	**Amenity Weight**	**=**	**Unit Weighted Average**	**/**	**Total Units**	**X**	**Normalized to a 100 point basis**	**=**	**Overall Building Exterior Area Weighted Average Amenity Weight**
#1	10		0.84		08.4		30		100		28.0
#2	20		1.00		20.0		30		100		66.7
Total	**30**				**28.4**						94.7

Example #4 illustrates how the score for a property is calculated. Consider a property with the following characteristics:

· Site:

—Score: 90 points

—100 percent amenity weight

—Nominal weight: 15 percent

· Building Exteriors (from example #2 and #3, above):

—Score: 74 points

—95 percent weighted average amenity weight

—Nominal weight: 15 percent

· Building Systems:

—Score: 70 points

—80 percent weighted average amenity weight

—Nominal weight: 20 percent

· Common Areas:

—Score: 60 points

—30 percent weighted average amenity weight

—Nominal weight: 15 percent

· Dwelling Units:

—Score: 80 points

—90 weighted average amenity weight

—Nominal weight: 35 percent

To continue the scoring protocol, the adjusted area weights for all five inspectable areas are determined. For purposes of this example, the adjusted weights and maximum possible points for each of the five inspectable areas are shown in the table below. All of the values in this table, except for the values for building exteriors, are presumed. The values for building exteriors were calculated as part of this ongoing example.

Inspectable Area	**Area Weight**	**X**	**Amenity Weight**	**=**	**Amenity Weighted Average**	**/**	**Total Adjusted Weight**	**X**	**Normalized to 100 Point Scale**	**=**	**Maximum Possible Points**
Site	15		1.00		15.0		81.2		100		18.5
Building Exterior	15		0.95		14.2		81.2		100		17.5
Building Systems	20		0.80		16.0		81.2		100		19.7
Common Are	15		0.30		04.5		81.2		100		05.5
Dwelling Uni	35		0.90		31.5		81.2		100		38.8
Total					**81.2**						**100.0**

The nominal possible points for each inspectable area is multiplied by the amenity weight, divided by the total adjusted amenity weight, and normalized to a 100-point basis, in order to produce the possible points for the inspectable area. The property score is the sum of all weighted area scores for that property. The sample shown below reflects how the deficiency from example #1 in the building exterior area impacts the overall property score. The property score of 77.8 is rounded to 78 for the final example.

Inspectable Area	**Area Points**	**X**	**Area Score**	**/**	**Normalized to a 100 Point Scale**	**=**	**Project #1 Weighted Area Scores**
Site	18.5		90		100		16.7
Building Exterior	**17.5**		**74**		**100**		**13.0**
Building Systems	19.7		70		100		13.8
Common Areas	05.5		60		100		03.3
Dwelling Units	38.8		80		100		31.0
Total	**100.0**						**77.8**

13. Computing the PHAS Physical Inspection Score

The overall physical inspection score for the PHAS for a PHA is the weighted average of the PHA's individual project physical inspection scores, where the weights are the number of units in each project divided by the total number of units in all projects for the PHA. For example, the project described in Example #1 from above has a score of 78 with 30 units. Using another project with a score of 92 and 650 units with project from Example #1 would calculate to an overall physical inspection score of 91. Note the impact on the overall physical inspection of a single property with a large number of units.

Project	Weighted Average Property Score	X	Rescaling to the 40-Point Basis	=	X	Number of Units in the Property	/	Total PHA Units	=	Project Weighted Area Score
#1	78		.4	31.2		30		680		1.4
#2	92		.4	36.8		650		680		35.2
Total	**100**									**36.6**

The physical subsystem indicator score for this PHA provided to HUD's centralized scoring system would be 36.6, rounded to a score of 37. Weighted-average property scores are scaled to a 40-point basis by multiplying by 0.4. The total is then multiplied by the number of units within the property and divided by the total number of PHA units, to produce a unit-weighted average. All of the project's weighted area scores are totaled and rounded using a rounding policy of rounding up to the nearest whole number a score ending in 0.5 and above, and rounding down a score ending in 0.4 and below.

14. Examples of Sampling Weights for Buildings

As shown above, buildings with the most dwelling units have the greatest impact on the project's overall physical score. Buildings with the most dwelling units also have the greatest likelihood of being selected for inspection. The determination of which buildings will be inspected is a two-phase process. In Phase 1 of the process, all buildings that contain dwelling

units are sorted by size and then the units are randomly sorted within each building. A computer program selects a random sample of units to be inspected.

All buildings in a project may not be selected in the building sample during Phase 1 sampling, because a building may have so few units, such as a sole scattered-site single-family unit. A Phase 2 sampling is used to increase the size of the number of buildings selected. In Phase 2, the additional buildings that are included in the sample are selected with equal probability so that the residential building sample size is the lesser of either the dwelling unit sample size or the number of all residential buildings. All common buildings are selected for inspection. To illustrate the process for sampling buildings, 2 examples are provided below:

Example #1. This first example uses a project with 2 buildings where both buildings are selected for inspection. Building A has 10 dwelling units and building B has 20 dwelling units, for a total of 30 dwelling units. The target dwelling unit sample size for a project with 30 dwelling units is 15 units. The sampling ratio for this project is two and is calculated by dividing the 15 target units by the total number of units (30/15=2). In this illustration, every second dwelling unit will be selected from the random sort of the units within each building. Since both buildings have at least 2 dwelling units, both buildings are certain to be selected for inspection in Phase 1. Since all buildings were selected in Phase 1 of sampling, Phase 2 is not required. Both buildings in this example have a selection probability of 1.00 and a sampling weight of 1.00.

Example #2. This example uses a project where only some of the buildings within the project are selected for inspection in Phase 1, so a Phase 2 sampling is required. For this example, a project is comprised of 22 residential buildings. Two buildings each have 10 dwelling units and 20 buildings are scattered-site single-family dwelling units. The project has 40 total dwelling units (two buildings with 10 units each added to 20 single units (20+20)). The

target sample size for a project with 40 dwelling units is 16 units, and the sampling ratio would be 2.5 (40 total dwelling units divided by 16 target dwelling units). Since the target sample size is the lesser of either the dwelling unit sample size (16) or the number of all residential buildings (22), 16 residential buildings would be inspected for this project.

In Phase 1 of sampling, the 2 buildings with 10 dwelling units are selected with certainty since they both have more than 2.5 dwelling units. Each of the scattered-site single family buildings then have a 40 percent probability of selection (100 percent or 1 divided by the 2.5 sampling ratio equals 0.40). Assume that both large buildings and 8 of the single-family buildings (10 buildings in all) were selected in Phase 1. This leaves 12 single-family buildings available for selection during Phase 2. Since 16 residential buildings need to be inspected, the sample of 10 buildings selected in Phase 1 falls 6 buildings short of a full sample. Therefore, the system will select 6 of the 12 previously unselected buildings during Phase 2 sampling. The chance of any single building, of the 12 remaining buildings, being selected during Phase 2 is 0.50 or 50 percent (6 target buildings divided by 12 previously unselected buildings). The overall probability of any one of the 20 single-family units being selected during either Phase 1 or Phase 2 is calculated as follows:

Element	**Protocol**	**Calculation**
Phase 1 Single-family Unit Building Selection	8 of 20 buildings	8 / 20 = .40
Phase 2 Single-family Unit Building Selection	6 of 12 buildings	6 / 12 = .50
Overall Possibility of Single-family Unit Building Selection During Phase 2	100% minus the 40% already selected during Phase 1 and multiplied by the 50% chance of being selected during Phase 2	(1.00 - .40) x .50 = .30
Overall Probability of a Single-family Unit Building Selection	Probability from Phase 1 added to probability from Phase 2	.40 + .30 = .70
Verification - Overall Single-family Unit Building Selection	14 of 20 buildings	14 / 20 = .70

Probability Weight* of Selection for Single-family Unit Building Selection	1 divided by the overall probability of Single-family Unit Building Selection	1.00 / .70 = 1.43

See the note in the definitions section under "VI. The Physical Inspection Scoring Process" in this Appendix A for "normalized sub-area weight."

15. Accessibility Questions

HUD reviews particular elements during the physical inspection to determine possible indications of noncompliance with the Fair Housing Act (42 U.S.C. 3601-3619) and section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794). More specifically, during the physical inspection, the inspector will record if: (1) there is a wheelchair-accessible route to and from the main ground floor entrance of the buildings inspected; (2) the main entrance for every building inspected is at least 32 inches wide, measured between the door and the opposite door jamb; (3) there is an accessible route to all exterior common areas; and (4) for multi-story buildings that are inspected, the interior hallways to all inspected units and common areas are at least 36 inches wide. These items are recorded, but do not affect the score.

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Sandra B. Henriquez
Assistant Secretary for Public and Indian Housing

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