

Appendix 3:

Conceptual Analysis Sites

Conceptual Analysis Site 1: R1-2 with 4-Lot Subdivision

R1-2 District, 25,200 square foot vacant, interior lot

Existing – Special Natural Area District, the Bronx (NA-2)

Proposed – Special Natural Resource District, the Bronx, Base Protection Area

The following plan review site, as shown in the illustrations below, utilizes a 25,200 square foot interior lot in an R1-2 zoning district that shows residential use. Under current regulations, this site would be located within the Special Natural Area District, the Bronx (NA-2), and under proposed regulations the site would be located within the Special Natural Resource District, Base Protection Area. These assumptions were made because they represent typical lot and use conditions found in subdivision proposals.

This plan review site illustrates the opportunity to understand the effects of the following portions of the Proposed Action on development:

- General Authorization for plan review sites that result in four or more lots. This example could also be used to illustrate the four or more buildings or eight dwelling units in Resource Adjacent Areas.
- Maximum lot coverage and hard surface area for Base Protection Areas within the Special Natural Resource District.
- Updated tree credit requirements, planting standards, and tree preservation requirements for residential developments.
- Compliance with biodiversity requirements and landscape elements for Base Protection Areas.

Existing Conditions

The existing condition shows a 25,200 square foot, 105' x 240' vacant interior lot that has 17 native trees (146 credits) within an R1-2 zoning district in the Special Natural Resource District,

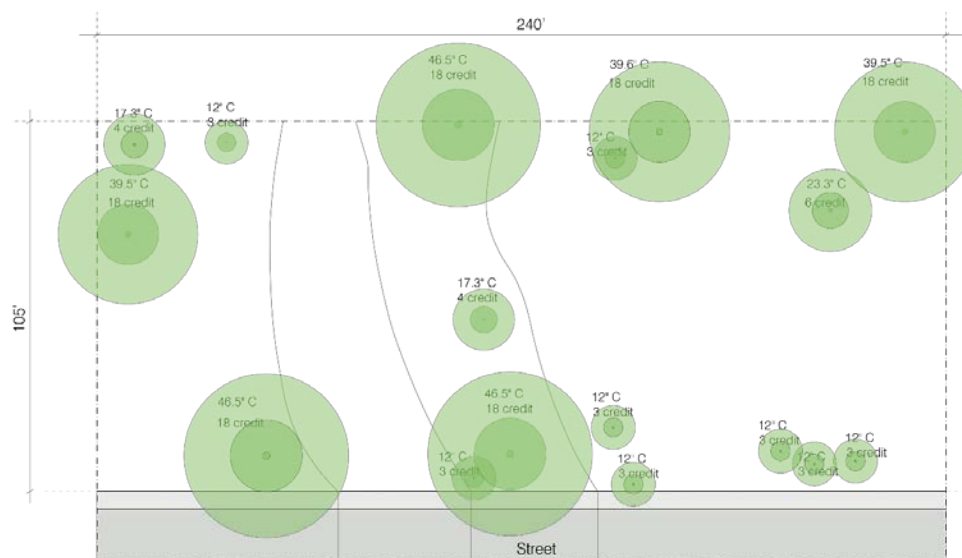


Figure 1 - Original Lot 25,200 square feet (105' x 240')

the Bronx (Figure 1). As shown in the figure below, there are minor topography changes throughout the site.

No-Action Condition

In the No-Action Condition, the site would be assumed to remain vacant. Any development in the future would require an authorization for plan review sites.

With-Action Condition

For R1-2 site in the Base Protection Area, in the With-Action Condition, the site would likely seek the CPC authorization for plan review sites in order to facilitate subdivision of the property into four or more lots. The subdivision authorization would require the demarcation of subdivided property lines, with requirements satisfying minimum lot areas and lot width. The authorization would also require demarcation of areas that should be preserved, such as trees and other features. Following example illustrates the full calculations to understand the how the preservation might occur during a typical subdivision authorization.

Subdivision and Bulk Regulations

As proposed, these provisions shall apply to plan review sites that are proposed to be subdivided so that the total number of zoning lots that did not exist on [date of adoption] is four or more.

The proposed regulations retain existing minimum lot area and lot width requirements for an R1-2 district in the *Special Natural Resource District, the Bronx*. Each proposed zoning lot is 6,300 square feet in lot area and 60 feet wide in width which complies with minimum lot area regulations in R1-2 zoning district. This results in four single-family two-story homes, each allowed a maximum lot coverage of 25 percent (1,575 square feet). The examples illustrate smaller lot coverages for Lot A to show the preservation of natural features. The depth of each proposed lot is 105', with standard front yard setback of 20', rear yard setback of 30', and side yard setback of 8' and 12'. Through the discretionary review process, the most significant natural features, such as old growth trees in front yard and rear yard, would be encouraged to be preserved.

Hard Surface Area Maximum and Tree Preservation Requirements

This site plan illustrates an environmentally conscious site design which preserves natural features. The proposed regulations determine maximum hard surface area for each zoning lot in relation to lot coverage regulations. Each proposed zoning lot would have a maximum permitted hard surface area of 50 percent (3,150 square feet) that will include the building, required parking, driveways and other amenities. Each home would provide required parking – one space within an attached garage.

The proposed regulations require that preserved trees shall have no area disturbed within their structural root zones and no more than 10 percent of their critical root zones disturbed by either hard surface area or topographic modification. Trees with less than 30 percent of their critical root zones disturbed may also be preserved for credit only if such trees have a tree protection plan.

Tree and Biodiversity Requirements

There are 17 native trees (146 credits) existing on-site. The proposed rules require residential uses in R1-2 districts to have three tree credits per 750 square feet of lot area, and one tree (one inch or more in caliper) per 1,000 square feet of lot area. Additionally, zoning lots whose width is 40 feet or greater are required to have a minimum tree credits between the street wall and the street line. In this case, each subdivided lot is 60' in width, which means each lot needs a minimum of 6 tree credits in the front of the property.



Figure 2 - Subdivided Lot with Bulk Requirement, Maximum Hard Surface Area and Tree Preservation Requirements

Each of the proposed zoning lots have a lot area of 6,300 square feet which require a minimum of 25.2 tree credits and 6.3 individual trees (round up to 26 credits and 7 trees). The proposed regulations determine tree credits based on caliper size and target versus non-target species.

Base Protection Areas require four biodiversity points that could be met in a variety of ways. In this example, in order to satisfy biodiversity points, each zoning lot provides a basic garden equivalent to 10% of lot area, or a basic garden of 630 square feet to meet the four points (2.5 percent of lot area equals 1 point). The minimum dimension of the garden shall not be less than 8 feet.

The table below shows how the subdivided lots could meet all the bulk, tree and biodiversity requirements under the proposed regulations, while preserving important old growth trees and other natural features.

Zoning Lot	Lot Coverage	Hard Surface Area	Planting Requirement			Biodiversity 4 points required 2.5% of lot area for each point
			Required tree number & credit	Preserved	Final	
A	1,125 sf. (18.75%)	3,150 sf. (50%)	6.3 trees 25.2 credits	4 trees 43 credits	7 trees 49 credits	630 sf. (basic garden) 10% of lot area
B	1,575 sf. (25%)	3,150 sf. (50%)	6.3 trees 25.2 credits	4 trees 43 credits	7 trees 49 credits	630 sf. (basic garden) 10% of lot area
C	1,575 sf. (25%)	3,150 sf. (50%)	6.3 trees 25.2 credits	4 trees 27 credits	7 trees 33 credits	630 sf. (basic garden) 10% of lot area
D	1,575 sf. (25%)	3,150 sf. (50%)	6.3 trees 25.2 credits	5 trees 33 credits	7 trees 37 credits	630 sf. (basic garden) 10% of lot area

Conceptual Analysis Site 2: R1-1 with Private Road and Habitat Preservation

R1-1 District, 2.75-acre interior lot (119,637 sf.)

Existing - Special Natural Area District, the Bronx (NA-2)

Proposed – Special Natural Resource District, the Bronx, Base Protection Area

The following “plan review site”, as shown in the illustration below, utilizes a regular 2.75-acre interior lot in an R1-1 zoning district that shows residential development with a new private road. Under current regulations, this site would be located within the Special Natural Area District, the Bronx (NA-2), and under proposed regulations, the site would be located within the Special Natural Resource District, Base Protection Area. These assumptions were made because they represent typical lot and use conditions found in connection with the development of larger parcels of land in the project area.

This plan review site illustrates the opportunity to understand the effects of the following portions of the Proposed Action on development:

- General Authorization for a site 1 acre or more including proposed habitat preservation area requirements
- General Authorization involving creation or extension of private roads that would apply to a site under 1 acre
- General Authorization for disturbance of rock outcrop for more 400 square feet, measured both in plan and in elevation that would apply to a site under 1 acre as well
- Authorization for modification of permitted bulk regulations. The effects of authorization for a modification of permitted residential building types could be analyzed similarly
- Special permit being sought in the future for modification of required habitat preservation area

Existing Conditions

The existing condition shows a 2.75 acre (119,637 square feet) lot with an existing house located within an R1-1 zoning district in the Special Natural Area District, the Bronx (NA-2). The site is found to have potential habitat area covering the front portion of the site as well as one side of the site.

No-Action Condition

In the No-Action Condition, the site would be assumed to remain vacant. Any development in the future would require an authorization for plan review sites.

With-Action Condition

In the With-Action Condition, the site would be likely to seek the CPC authorization for plan review sites in order to facilitate development. The following steps outline the process that a typical site may proceed.

Step 1: Site Assessment

As proposed, a site assessment is required for plan review sites with one or more acres that are likely to contain habitat to establish habitat area and then demarcate 25% of the lot area to be

preserved for perpetuity. Based on the survey, 40 percent of the lot area was determined to have habitat, of which 25% of the lot area equal to 29,909 square feet is identified to be preserved to satisfy the requirements of the proposed regulations.

Step 2: Site Development with Private Road

Step 2 illustrates the development of a proposed residential use pursuant to the proposed CPC General Authorization (for “Plan Review Sites”) as well as authorization to modify residential bulk regulations that allow the development to be clustered outside the habitat preservation area. These clustering regulations allow a similar development potential that would have been typical on the zoning lot in absence of the habitat preservation area.

As per underlying zoning, in R1-1 districts, a road accessing five or more homes that are beyond 50 feet of a mapped street, is considered a private road. Street trees and planting strip regulations for private roads are pursuant to ZR 26-20 and 26-30.

To establish the development potential of the site, the applicant is required to show what kind of development is possible without modifications of use and bulk rules when no habitat preservation area is provided. In this development scenario (without habitat preservation), the site can accommodate approximately 5 or 6 detached single-family buildings with a private road width of 34 feet with a total of 48 feet wide including required sidewalks and planting strips. All underlying regulations of height and setback, required yards and distance between buildings apply. This is not illustrated in the narrative.



Figure 3 – With Action Scenario

In the With-Action scenario (illustrated in Figure 3), the site accommodates a habitat preservation area of 25% of the lot area (29,909 square feet combined) at both the front and right side of the property (16,210 square feet and 13,699 square feet respectively). As is typical in the Riverdale area of Bronx, a rock outcrop is also present in the front of the site. Both the habitat area and the rock outcrop are interrupted by a private road which is also provides necessary access required by the Fire Code. The disturbance to the rock outcrop is greater than 400 square feet as measured both in plan and in elevation.

A private road 34 feet in width is proposed with a total of 48 feet including the sidewalks and planting strips on both sides of the private road. Each sidewalk is 4' in width, and each planting strip is 3' in width, with trees of at least 3-inch caliper planted at 25' intervals. The use of the CPC authorization to modify bulk regulations illustrates the modification in rear yard regulations and distance between buildings required pursuant to 23-711.

The proposed development scenario contains a total of 5 new dwelling units accommodate within 5-single family residences. The existing building consists of 2 stories, each occupying 2,955 square feet, and each new house consists of two stories, each occupying 2,400 square feet of lot coverage. The total lot coverage is 14,955 square feet, or 12.5% of lot area that meets

the proposed regulations. One parking space is provided for each dwelling unit totaling to 5 spaces that are all provided within the attached garages outside the private road.

For the purposes of calculating tree and biodiversity requirements for “plan review sites”, habitat preservation area is excluded from lot area. Lot area (excluding preservation area) is 89,728 sf. The proposed rules require to have 3 tree credits per 750 square feet of lot area, and one tree (one inch or more in caliper) per 1,000 square feet of lot area. As a result, a total of 359 tree credits and 90 trees will be required. There are 12 native trees existing on site, which totals 140 tree credits. Trees required as private road trees count toward satisfying the requirement (38 trees planted that satisfy 76 credits). To satisfy the remainder of the tree credits (143 credits), 56 new trees of two-caliper inch will be required to be planted in groups of four satisfying 140 credits. Remaining 3 credits are satisfied by one 2 inch caliper and one 1 inch caliper trees. To satisfy the biodiversity requirement which is calculated based on 4 points required for 89,728 square feet, a wildlife garden of 7,179 sf is required to be provided, which is satisfied by the existing plantings at the bottom right corner of the site.

The buildings comply with all other height, yard and setback regulations pursuant to the underlying district or modifications set forth in the special district or allowed through authorization. The development complies with access requirements under the Fire Code.

Future step: Special Permit for modifying habitat preservation boundaries

After the habitat preservation area boundaries have been established and authorized, new information about a sewer access easement is discovered. A portion of the habitat preservation area that was previously established overlaps with this easement in the front portion of the site. Access to this easement is needed until the private road. Trees and ground cover disturbance will occur, which will temporarily modify the boundaries of the established preservation area.

Pursuant to the special permit for modification of preservation area, CPC may also permit the modification of natural features in a preservation area previously established by an authorization to facilitate a temporary disturbance in the preservation area that will subsequently be restored to a natural state.

Conceptual Analysis Site 3: R4 with Development Plan

Community Facility use development plan site in an R4 District, on an approximately 46-acre campus

Existing – Special Natural Area District (NA-2)

Proposed – Special Natural Resources District, Base Protection Area

The following Plan Review Site shows an example of the development plan process. Under current regulations, this site would be located within the Special Natural Area District (SNAD) (NA-2); under the proposed regulations, the site would be located in the SNRD Riverdale-Fieldston Subdistrict, Base Protection Area. These assumptions were made because they represent a large community facility use campus that would seek to use the development plan.

This Plan Review Site illustrates the opportunity to understand the effects of the following portions of the Proposed Actions on development:

- Authorization for the establishment of a development plan to be applied to zoning lots greater than 1 acre which would permit phased construction over a period of time
- Certification of preliminary plan site within approved development plan
- Authorization for conceptual plan site within approved development plan

Existing Conditions

The existing condition shows an approximately 46-acre (2,000,000 square feet) campus with multiple campus buildings totaling 515,000 square feet of floor area in an R4 zoning district in the SNAD (NA-2).

No Action Scenario

In the No Action scenario, the site is assumed to remain in its existing condition. Any development in the future would require an authorization for modification of natural features because the site is larger than 10,000 square feet.

With Action Scenario

In the With Action scenario, the site would likely to seek CPC authorization for Plan Review Sites and the authorization for establishment of a development plan to facilitate development and phased site planning. The following steps outline the process that a typical site may proceed through.

Step 1: Site Assessment

The initial establishment of a development plan would be pursuant to a CPC authorization. An initial site assessment would be conducted to analyze the entire zoning lot to ensure that it meets the requirements for a Plan Review Site. A “Site Assessment Protocol,” which will be adopted by the City Administrative Procedure Act (CAPA) rule along with this update, would set forth the requirements for the initial site assessment to evaluate and set aside the habitat preservation area.

Residential and community facility plans differ with respect to the overall preservation requirements. Residential developments have a 25 percent preservation requirement, whereas community facility sites have a 35 percent preservation requirement and a 15 percent open space requirement. Both residential and community facility site assessments emphasize contiguous preservation areas that are subject to meeting the requirements of the findings.

In the following community facility example, the initial site assessment has identified the following coverage areas:



Figure 4. Initial Site Assessment

Because the site cannot provide a 35 percent contiguous area for preservation, the preservation area was divided into several larger parcels that meet the requirement. The open space was also split between several large open space areas. As a condition of the authorization for Plan Review Sites, the following areas would be identified as required preservation areas, to be finalized by CPC approval:



Figure 5. Proposed Preservation Areas

Step 2: Development Proposal

The applicant would then propose the location for the initial Plan Review Site development.

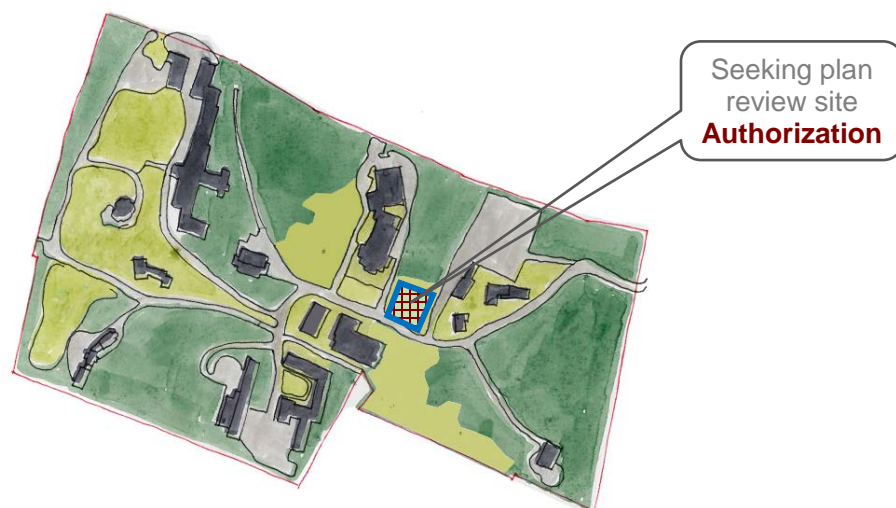


Figure 6. Initial Plan Review Site Authorization

The applicant can then proceed with the following options. They can seek Plan Review Site authorization for the standalone building, or they can seek an authorization for a development plan. To facilitate long-term campus planning, it is assumed that the applicant will seek an authorization for a development plan.

The applicant has a detailed plan for one site and a flexible plan for another site. For the detailed site, the applicant will provide site-specific information as part of the initial development plan authorization approval. This "preliminary plan site" will provide specific information as part of the development plan approval process and will be subject to certification in the future.

The flexible site is identified as a "conceptual plan site" and provides the area of impact and greatest scope of work, including approximate information about floor area, uses, lot coverage, building height, and parking spaces.

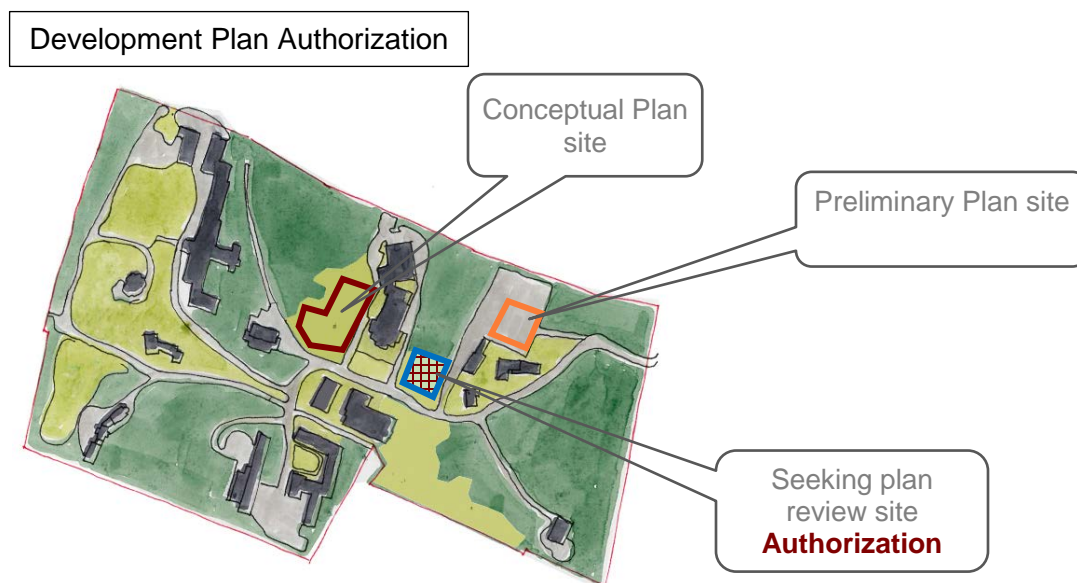


Figure 7. Development Plan Authorization and Plan Review Site Authorization

The applicant would complete an environmental review pursuant to the following:

- Plan review site for proposed building – Authorization
- Development plan proposing two future developments for a preliminary plan site approval and conceptual plan site approval – Authorization

The applicant would seek a Plan Review Site for a two-story, 32-foot-tall recreational facility containing a swimming pool with locker rooms, gym, and lobby area. The 13,000-square foot building would have a 6,500-square-foot building footprint.

The applicant would also seek a development plan with two future developments. The preliminary plan would propose a four-story, 60-foot-tall classroom building. The 24,000-square-foot building would have a 6,000-square-foot footprint.

The applicant would also seek a conceptual plan site approval for a four-story, 56-foot-tall dormitory building. The 16,000-square-foot building would have a 4,000-square-foot footprint. The building would be located within a 10,000-square-foot defined area.

The 2,000,000-square-foot site has a 4,000,000-square-foot development potential (2.0 FAR) under R4 zoning. The existing 515,000 square feet (0.258 FAR) of development would increase to 568,000 square feet (0.284 FAR), with the 53,000 square feet of proposed development for the three new buildings (13,000 square foot recreational facility, 24,000 square foot classroom, and 16,000 square foot dormitory building). The site would have 3,432,000 square feet (1.72 FAR) of remaining development potential.

Step 3: Preliminary Plan Site

Assuming approval of the development plan authorization, the applicant can return to DCP to move forward with the preliminary and/or conceptual plan sites that were approved subject to the development plan authorization. For this scenario, CPC approved the development plan application in 2020.

In a future action, when the applicant is ready to build the preliminary plan site, the applicant would seek a certification for preliminary plan site. The applicant would submit the final site plans to be reviewed per the previous development plan authorization approval. Assuming the plans align with the previously approved development plan preliminary drawings that were approved, the CPC Chair would certify the plans as complete. This action would be a Type II City Environmental Quality Review (CEQR) action because it was already analyzed during the environmental review process for the development plan authorization. In this future action scenario, the CPC Chair certification approval year is 2024.

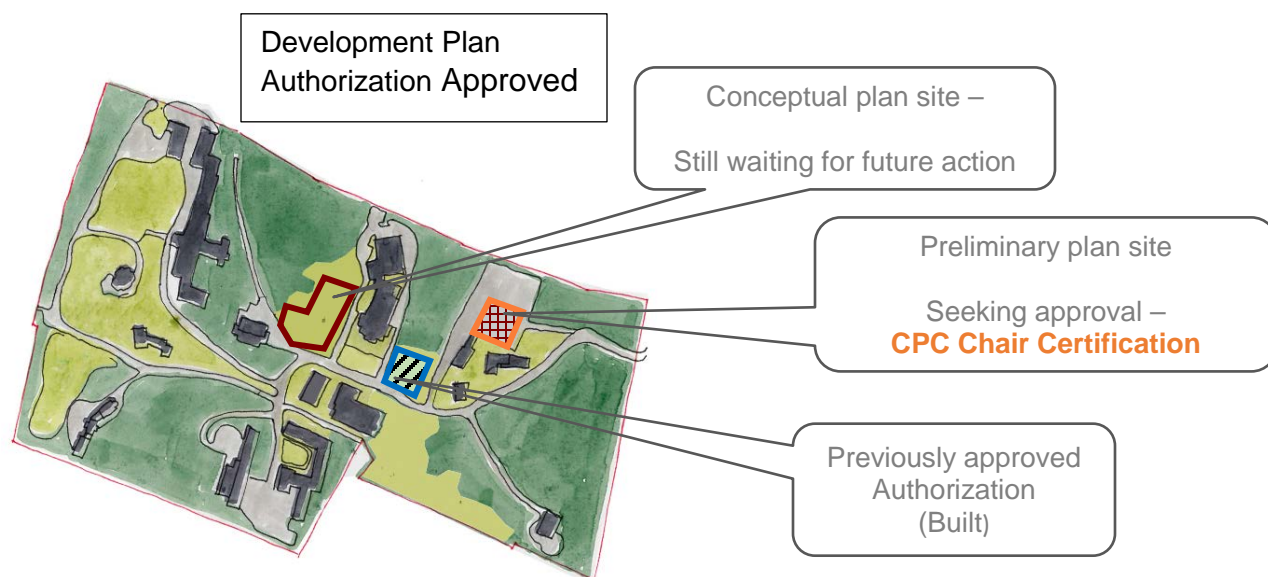


Figure 8. Preliminary Plan Site CPC Chair Certification Approval

Step 4: Conceptual Plan Site

In a future action, when the applicant is ready to build the conceptual plan site, they can return to DCP to submit the proposal specific plans. The applicant would need to demonstrate compliance with the Special Districts rules that were reviewed per the previous development plan authorization approval. In the conceptual plan site application, the application would require an authorization and would be subject to a public referral and CPC approval. The application would be Type II for environmental review because it was already analyzed in the development plan authorization environmental review. In this future action scenario, the CPC Authorization approval year is 2029.

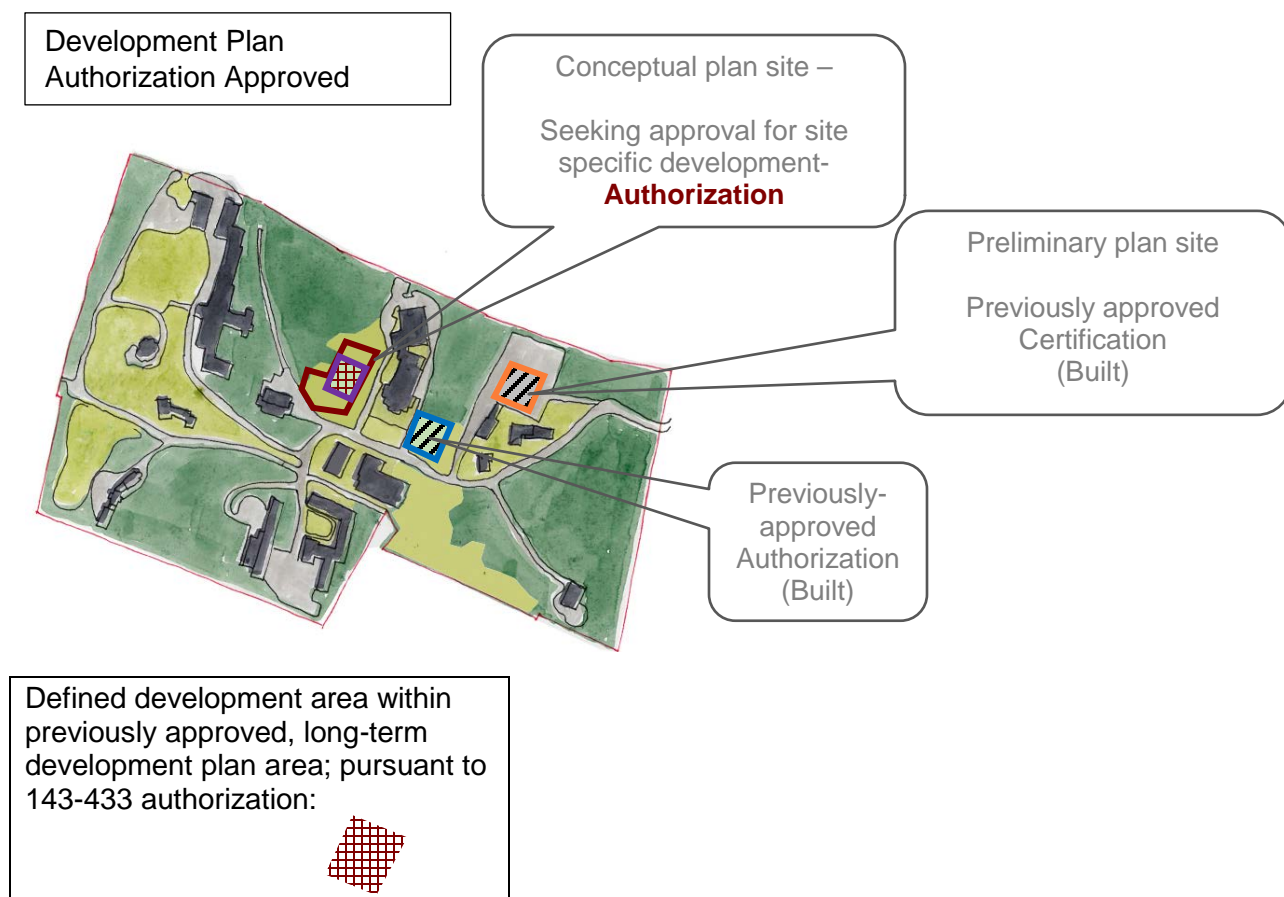


Figure 9. Conceptual Plan Site Authorization Approval

The site assessment preservation and open space areas would remain in perpetuity because they were approved as part of the site plan approval related to the initial authorization for Plan Review Sites.