

SCHLESINGER AND BUCHBINDER, LLP
ATTORNEYS AT LAW

STEPHEN J. BUCHBINDER
ALAN J. SCHLESINGER
LEONARD M. DAVIDSON
A MIRIAM JAFFE
SHERMAN H. STARR, JR.
JUDITH L. MELIDEO-PREBLE
BARBARA D. DALLIS
PAUL N. BELL
KATHERINE BRAUCHER ADAMS
FRANKLIN J. SCHWARZER
RACHAEL C. CARVER
ADAM M. SCHECTER

1200 Walnut Street
Newton, Massachusetts 02461-1267
Telephone (617) 965-3500

www.sab-law.com
Email: sjbuchbinder@sab-law.com

April 28, 2020

BY ELECTRONIC MAIL

Ms. Nadia Khan
Committee Clerk
Land Use Committee
Newton City Council
1000 Commonwealth Avenue
Newton, MA 02459-1449

Re: Riverside Station/355 Grove Street and 399 Grove Street / #26-20 and #27-20

Dear Nadia,

I am forwarding herewith a memorandum to the City of Newton Peer Review Group from Robert Adams of Halvorson Design in response to the March 17, 2020 peer review comments on site design and landscape design dated April 27, 2020.

Please let me know if you have any questions.

Sincerely,

Stephen J. Buchbinder/mer
Stephen J. Buchbinder

SJB/mer
Attachment

cc: (By Email w/attachment)
Mr. Neil Cronin

project Riverside Station Development Site

date April 27, 2020

to City of Newton
Peer Review Group

from Robert Adams, Halvorson Design

regarding Response to March 17, 2020 Peer Review comments on Site and Landscape

General Comments

Landscape and Trees

1. It is stated in the Guidelines that the Parks and Open Spaces will contain a “diversity of plant life” and that each space has its own character. The Peer Review Response to Stormwater Comments states that the green stormwater infrastructure (GSI) will enhance natural habitat and reconnect Newton residents to the Charles River Basin. The Applicant should submit landscape plans that have preliminary plant lists for review, as well as more detailed engineering plans showing GSI practices and accompanying details.
Response: See attached sample plant list in appendix. The project will strive to use native species or species which have proven to require low maintenance, provide wildlife habitat, seasonal interest, and which varies to respond to open space program, architecture, and micro climates around the project. The final plant list will vary from the attached list as the project develops but the overall objectives will remain. The planting within the GSI will include species tolerant to occasional saturated conditions, with a focus on selecting species native to the Charles River Basin. The GSI will include a specific sand-based bioretention soil matrix for the top 24” with a mulch layer to facilitate ongoing maintenance and sediment removal. If the underlying soils do not have sufficient permeability, an underdrain will be included below the bioretention soil to promote proper draining and nutrient removal.

2. The Applicant should ensure adequate soil volumes for the trees to grow to maturity. HW recommends at least 1 cubic foot of soil for every square foot of crown projection of the mature tree. If needed, the site planting beds should be 36" deep to accommodate the needed volume. The Applicant should submit details of the various conditions that explain how this volume will be accommodated.

Response: The design team agrees with the necessity to provide adequate soil volume. All trees planted in open space areas shall have a 36" depth x 10' radius area of amended soil centered on the root ball and transitioning into the 24" soil depth at beds and 12" depth at lawn for adequate root growth. Trees planted in streetscape conditions shall be placed within a treeway that connects multiple trees with a continuous 36" depth structural soil below a permeable unit paver system including aeration and irrigation.

Site Furnishings and Pavers

3. The Applicant should submit data sheets for the various site furnishings (bike racks, benches, receptacles, bollards) for review. It is important that the quality and character, of the benches in particular, suits the open spaces where they are installed.

Response: See attached visual examples in appendix of site furnishings which demonstrate a level of quality bench, bike rack, trash receptacle and bollard that shall be found within the project site. The materials shall be both durable and provide a warmth of materials for the project. While the furnishings may vary throughout the site to respond to different architecture or program, there will be character continuity that ties the entire site furnishings together. The final make and model of furnishings will vary from the attached list as the project develops but the overall objectives will remain

4. Litter and recycling receptacles are only called out for in one location along Main Street. The Applicant should add additional receptacles in open spaces where people are expected to congregate.

Response: The design team agrees. Additional receptacles have been placed in the open spaces. See updated Special Permit drawings.

5. There are various types of concrete unit pavers throughout the development and the detailing of the poured in place (PIP) paving at Transit Square will make a big impact on the vehicular, pedestrian and bicyclist safety, circulation and wayfinding and aesthetics of the development. The Applicant should submit data sheets for the various unit pavers (including permeable pavers and paving) and poured in place (PIP) surface detailing, and sample enlargements for key areas (i.e. plazas, crosswalks, Hotel Square, etc.) to demonstrate design intent.

Response: See attached unit paver cut sheets in the appendix which demonstrate the level of quality for the various unit pavers within the project. The PIP paving will have a medium broom finish with saw cut control joints and patterned to subtly cue circulation corridor (larger grid) vs congregation areas (smaller grid). The crosswalks will have a visually contrasting color or material depending on the context. No enlarged paving plans have been developed at this time. The final specifications of pavers will vary from the attached list as the project develops but the overall objectives will remain.

Wayfinding

6. The Guidelines state that cyclists will be directed to and from bike parking. The Applicant should clarify where this wayfinding will be located and what it will look like as part of an overall coordinated wayfinding hierarchy.

Response: The wayfinding will be included in the overall signage package.

7. The Applicant should clarify if there will be pedestrian or bicyclist-oriented wayfinding to the public spaces and to the Riverside Station. If so, the Applicant should show where they will be located and what they will look like as part of an overall coordinated wayfinding hierarchy.

Response: The wayfinding will be included in the overall signage package.

8. The Applicant should confirm the intent for bicycling within the Main Street corridor, whether or not that will be made clear with signage and/or pavement markings.

Response: Bicycle facilities along Main Street will be a shared roadway experience due to slow vehicular speeds. Appropriate signage Main Street as a Share the Road condition.

All Users

9. The Applicant stated in the Guidelines that open spaces will be organized to welcome all users including children and pets. On the current plans, it is not clear if there are specific elements that will accommodate these users such as play areas or pet waste bag dispensers. The Applicant should call out these elements around the site as applicable.

Response: In response to earlier Peer requests and community requests, the Hotel Green has been redesigned to include an 8,000+/- sf playspace. Within the Amphitheatre open space a small climbing hill with natural elements such as stones and timber logs will be located to provide a small natural play opportunity. In addition, pet waste bag dispensers shall be added to the project. These elements are reflected in the updated Special Permit drawings.

GSI

10. The Peer Review Response to Stormwater Comments states that the Applicant intends to use “Bioretention basins, planters and curb bump-outs.” The plan at the end of the response shows “potential surface BMP locations.” The Applicant should clarify if bioretention areas will be utilized and if so, where.

Response: The revised design includes a new bioretention area along Grove Street in the vicinity of the Transit Plaza. It is also anticipated that bioretention basins or similar BMPs will be utilized in support of the off-site roadway improvements. The location of the new bioretention basin is indicated on the revised plan set.

11. As stated below in specific open space sections, the Applicant should clarify the locations of permeable pavement as it relates to treeways and grading.

Response: Permeable pavers shall be used in all the treeway locations along the back of curb of Main Street, Hotel Green, and within the overall Transit Square area. The permeable paver sections provide both stormwater infiltration/reservoir and structural soil components. To the extent feasible, the permeable pavers will be used on the downhill slope of paving area to maximize amount of stormwater collection.

12. As stated below, the Applicant should clarify locations and types of “water receiving practices” per the peer review response.

Response: See below.

13. The Applicant should submit a more detailed engineering plan showing GSI practices and accompanying details for the various GSI practices to ensure they fit the level of quality and character of the open spaces.

Response: The revised plan set includes supplemental information relating to the GSI practices. Additional details will be provided in subsequent design phases as part of the overall design evolution and refinement that is customary of the design process. It is important to note that the baseline features noted in the original design exceed requirements relating to achieving water quality benefits, groundwater recharge and attenuation of peak rates of runoff. While the supplemental GSI measures will provide additional benefits, the design does not rely upon these features to achieve compliance.

Maintenance

14. HW recommends that the Applicant clarify who will be responsible for maintenance of the open spaces, including the GSI and landscaping. HW recommends that the Applicant communicate with the future maintenance entity to ensure that the materials, furnishings, and landscaping choices fall under the umbrella of their capabilities and potential scope of work.

Response: The maintenance of the entire property will be the ongoing responsibility of the proponent. An operations and maintenance plan will be developed by the project team to ensure an understanding of the maintenance needs for the GSI and landscape features continues with the management staff. There will be full time on-site management and a copy of the manual will remain in the development's engineering office along with a visible checklist for recurring inspections and maintenance. The O&M plan will be finalized as part of the upcoming Notice of Intent process with the Conservation Commission and it is expected that its implementation will be part of the Order of Conditions.

Hotel Green

15. Concrete unit pavers make up the majority of the groundscape within the Hotel Green open space. The quality and pattern of these pavers is important to creating a safe area for pedestrians and drivers, as well as a space for congregating as described in the Guidelines. As noted above, the Applicant should submit data sheets for the project pavers. The Applicant should also detail the paving pattern to illuminate any crosswalks.

Response: Refer to Item #5 response and information included in appendix.

16. As mentioned in the Site Design, Open Space, and Grove Street Review Summary, pedestrian desire lines, crossings and paving design should be considered in the area between Hotel Green and Building 1 and 10 to ensure safe circulation.

Response: Improvements have been made to the intersection at Main St and Hotel Green/Bldg 1 and 10 to provide a raised pedestrian crossing. This change is incorporated into the updated Special Permit dwgs.

17. To increase the area for congregating and playing games, the Applicant should consider increasing the central green area and eliminating one of the inner parallel parking lanes as previously discussed.

Response: The design team has revised the layout of the Hotel Green to remove the interior parking space which increases the width of the central green space. This change is incorporated into the updated Special Permit drawings.

18. The Applicant should explain why a bocce court was chosen compared to other games or to a more programmatically flexible space, and specify a commitment to a bocce court or other specific amenity.

Response: The design team has revised the Hotel Green create a central park and playspace program based on community request. This change is incorporated into the updated Special Permit drawings.

19. There is currently only one area to sit in the center of the Green, along a granite seatwall. The applicant should consider adding additional seating along planting beds/tree lines to give users more options for materials to sit on (i.e. wood) and direction to look at.

Response: The design team has revised the Hotel Green to create a central park and playspace program based on community request. The open space now contains a variety of seating elements This change is incorporated into the updated Special Permit drawings.

20. Data sheets and additional detail for seatwalls, planter walls, site walls and stair should be submitted, including preliminary section to demonstrate materials and design.

Response: Given the scale of the project and the variety of the architecture, the detailing of the sitewalls, seatwalls, stairs is not yet known. The design team shall comply with all state and local code requirements to ensure safe and durable site elements and as stated earlier the goals of all the site elements is to bring a layer of material warmth and texture to the landscape.

21. To ensure adequate soil volume for the trees in the tree pits, consider using structural soil with permeable pavers like the treeways along Main Street. Connecting the soil underneath the pavers to meet the volume required for particular tree species. See comment in general comments above about soil volume.

Response: The design team agrees with the use of structural soil and permeable pavers as noted in the response to Item #2.

22. The plan at the end of the Peer Review Response to Stormwater Comments indicates that the Hotel Green open space is a potential surface BMP location. The Applicant should ensure that the BMP design does not limit the usable outdoor space and is integrated into the context of the site, with consideration of the future maintenance practices that will be available.

Response: A linear treeway/stormwater collection bed has been located along one side of the central green space to collect any runoff from permeable pavers and interior pathways while providing a buffer along one side of the park/playspace. This plant bed is easily accessible from both sides and should create limited maintenance requirements.

Amphitheater

23. In the Design Guidelines, the Amphitheater space includes a play space: “Jack and Jill Hill”. A play space is a useful amenity for the development and would address the statement in the Guidelines that the open space is being designed for all users such as children. This does not show up on the set of landscape plans, though it does show up on the renderings. The Applicant should include call outs for the materials of a play area and show the dimensions on the plan, providing an enlargement if necessary, to show more detail.

Response: The Jack and Jill Hill is conceptual shown on the updated Special Permit drawings and includes conceptual natural play elements that shall be refined as the design continues to develop. This space is considered to be a supplement to the larger playspace located at the Hotel Green.

24. The Landscape and Site plans do not specifically call out the area that would be intended for intimate performances, per the description of this space in the Guidelines. The Applicant should clarify where this space is, and what site elements, materials and dimensions it may have.

Response: The area envisioned for intimate performances consists of the widened sidewalk area along Main Street where a performer(s) could set up and the lawn of the amphitheater would serve as the audience viewing area.

Transit Square and Green

25. The Applicant should clarify what the central element consists of in the middle of Transit Square. It is called out as covered bicycle storage. The dimensions, materials and type of storage should be clarified, as well as the number of bicycle accommodated. If it includes other elements such as shelter, seating, or other bicycle amenities such as repair stations, those elements should also be called out.

Response: The bicycle parking has been relocated to the end of Bldg 7 near the MBTA entry and the parking structure has been eliminated from the center of Transit Square. The central square redesign includes seating and overhead shade trees to allow informal seating opportunities while providing clear sight lines.

26. With the bicycle storage in the middle, bicyclists will be invited to cross the road to park their bicycles. The flush curb around the central Square appears to invite bicyclists and pedestrians to come from any direction. The Applicant should clarify if there are crosswalks in the Square and what the surface details are for the PIP concrete in the turn-around that will slow traffic and enhance safety for pedestrians and bicyclists.

Response: The storage has been eliminated to reduce potential pedestrian crossing conflicts. In addition, the crosswalks have been more defined to connect Main Street to the MBTA station entry and shall be delineated through pavement markings and contrasting paving color. This is incorporated into the updated Special Permit dwgs

27. The plans show that the surface of the Square is precast concrete pavers with vehicular loading; however the tree pits are called out to have permeable pavers for trees and the plan at the end of the Peer Review. Response to Stormwater comments indicates that the entire central area will be permeable. The Applicant should clarify the location of these materials and ensure there is enough soil volume underneath the pavers for the desired trees shown on the plan. See Comment in the General Comments above related to soil volume.

Response: The design has been updated to reflect permeable pavers covering the entire central portion of the Transit Square and the sidewalks along the perimeter. The permeable paver section includes a continuous structural soil volume providing adequate room for tree roots.

28. The emergency access drive appears to have curb cuts on both side to accommodate emergency vehicles into Transit Square. Although unit pavers are called out, compared to bituminous concrete, additional indicators should be used to ensure the safety of pedestrians and bicyclist in the Transit Green area. The Applicant should clarify how drivers on Grove Street will know they are not supposed to enter at that location either with signage or barriers. Locations should be shown on the plan and preliminary details should be provided.

Response: The design team has revised plans to include operable bollards at both ends of the emergency access drive to ensure vehicles do not access this area. This change is incorporated into the updated Special Permit drawings.

29. The Applicant should confirm that the area with vehicular-loading unit pavers to the east of Transit Green, in front of the retail area, is to be used as a loading area. If so, the Applicant should clarify where the access points are and if needed, how it is designated so typical drivers don't use it.

Response: The area east of Bldg 7 is a loading area which would be occasionally accessed by small delivery vehicles from the Transit Square along the narrow unit paver drive lane along the face of Bldg 7. This area is difficult to access for typical drivers and would be signed appropriately.

30. The Applicant should confirm the grading in this area so that road runoff is not directed onto permeable pavers in the central Square, which would bring unwanted pollutants and de-icing materials into the soil with tree roots.

Response: The design includes a mountable curb in this area and catch basin that will collect stormwater runoff from the main circulation aisle along the transit plaza.

31. The plan at the end of the Peer Review Response to Stormwater Comments indicates that the Transit Green area might have potential surface BMP. If so, the Applicant should clarify what type of practice it would be, the location, materials and dimensions.

Response: Please see the responses 10. and 13. In the GSI section above.

32. More information is needed to demonstrate the landscape intent for the area behind (east of) Building 7.

Response: The area behind Building 7 consists of the existing embankment to the station, the rear of the retail space, emergency and accessible access to the train platform. Because this area will not receive substantial light and will be utilitarian in nature, it will not be landscaped and will have a concrete walkway along the rear of the building.

Dining Patio

33. Per the Guidelines, the open spaces will accommodate all users including children. Besides the Amphitheater space, see comments above, there is no defined area for children. The dining patios are spaces that can accommodate both adults (sitting/dining), and children (playing in adjacent open spaces). The Applicant should address whether the open spaces can be adjusted to accommodate this type of relationship.

Response: The Hotel green has been redesigned to include a central open space with a large fenced playspace. The adjacent sidewalk/potential dining patio locations have clear view and access to this playspace. In addition the Transit green is a large open lawn adjacent to the dining patio at the end of Bldg 6 which is also in clear view and access between the two spaces.

Main Street Corridor

34. There is a 36" metal fence around the landscaped areas in front of the residents on the north side of Main Street. The Applicant should clarify how these landscaped areas are accessed.

Response: Upon shifting Main Street to increase the Grove Street setback, the units on the north side of Main Street no longer have front yards deep enough to warrant being fences, and the fences have been removed.

35. The Applicant should clarify what type of masonry wall will be built at the residential entry stoops on the south side of Main Street.

Response: The stoop walls will be designed to encourage social interaction between residents and pedestrians by providing wide steps and low wall heights to encourage open views. The material and actual design will reflect the detailing and materials of the architecture once it is established.

36. The plan at the end of the Peer Review Response to Stormwater Comments Permeable pavers shows permeable pavement in the parallel parking areas as well as in the treeway. The applicant should clarify what type of permeable material will be utilized.

Response: The permeable pavers for the treeways shall be concrete unit pavers as noted in response to item #5. The permeable pavers in the parallel parking space will either be a permeable asphalt or interlocking concrete unit paver similar to the pavers used for the treeway. The team will continue to evaluate the best material based on current technologies, maintenance, and constructability.

37. See Comments on adequate soil volume in the General Comments section above.

Response: See response to item #2.

Grove Street

38. There are existing trees along Grove Street, some of which are large, native species. The Applicant should confirm whether they looked to preserve any of the existing trees. Any trees that are remaining should be protected during construction. The Applicant should clarify which trees will be protected and how.

Response: All the trees on the golf course side of Grove Street will be protected. The Applicant shall contract with a certified arborist to analyze the health of the trees and prepare a protection plan based on those recommendations. If the city pursues an elevated bike lane along the golf course side, it is the opinion of the project team that these trees will be placed at greater risk. Due to the scope, configuration and grading of the project, it is infeasible to maintain any existing trees on the project side.

39. The Applicant should confirm whether the unit paver course between the pedestrian concrete and asphalt cycle track will be permeable per the plan at the end of the Peer Review Response to Stormwater Comments, and if so, what would drain there and what the detail looks like. Runoff from hardscaped surfaces can carry debris in it that can clog permeable areas. The Applicant should ensure any GSI (BMP) practice can be adequately maintained in the future.

Response: The strip of pavers between pedestrian walk and cycletrack has been revised to be standard unit paver and will rest on the same base material as the asphalt and concrete to form a continuous level base for the 3 surfaces.

40. The plan at the end of the Peer Review Response to Stormwater Comments indicates that there will be permeable pavers along Building 5. The Applicant should ensure that water does not infiltrate within ten feet of any building foundations.

Response: The permeable pavers have been eliminated from this patio area.

| Symbol | Quantity | Botanical Name | Common Name | Size | Spacing | Notes |
|------------------------------------|----------|--|--------------------------------|-------------------|----------|---|
| TREES | | | | | | |
| AM AR | 7 | <i>Amelanchier arborea</i> | Downy Serviceberry | 10-12' ht, B&B | | multi-stem, matched, |
| AC FR | 3 | <i>Acer x freemanii 'Jeffersred'</i> | Autumn Blaze Maple | 4" caliper, B&B | | Single stem, matched specimen |
| AC RU | 9 | <i>Acer rubrum 'Karpick'</i> | Karpick Maple | 4" caliper, B&B | | Single stem, matched specimen |
| AM GR | 12 | <i>Amelanchier x grandiflora 'Autumn Brilliance'</i> | Autumn Brilliance Serviceberry | 10-12' ht, B&B | | Multi-stem, matched |
| BE NI | 3 | <i>Betula nigra 'Cully'</i> | Heritage River Birch | 16-18' ht, B&B | | Multi-stem / clump |
| CE OC | 12 | <i>Celtis occidentalis</i> | Hackberry | 4" Caliper, B&B | | Single stem, matched specimen |
| CR VI | 3 | <i>Crataegus viridis 'Winter King'</i> | Winter King Hawthorn | 4" caliper, B&B | | Single stem, matched specimen |
| GI BI | 163 | <i>Ginkgo biloba</i> | Ginkgo | 6' ht whips | | Container, NO FEMALES |
| HA IN | 4 | <i>Hamamelis x intermedia 'Arnold Promise'</i> | Arnold Promise Witch Hazel | 10-12' ht, B&B | | Multi-stem, matched |
| HA VE | 14 | <i>Hamamelis vernalis 'Autumn Embers'</i> | Autumn Embers Witch Hazel | 6-8' ht, B&B | | Multi-stem, matched |
| JU VI | 16 | <i>Juniperus virginiana</i> | Eastern Red Cedar | 4-5' ht, B&B | | |
| UL PA a | 16 | <i>Ulmus 'Patriot'</i> | Patriot Elm | 4" caliper, B&B | | Single stem, matched specimen, first branch to 7 ft |
| UL PA b | 3 | <i>Ulmus 'Patriot'</i> | Patriot Elm | 5" caliper, B&B | | Single stem, matched specimen, first branch to 7 ft |
| SA AL | 7 | <i>Sassafras albidum</i> | Sassafras | 4-5' ht, B&B | | |
| SHRUBS | | | | | | |
| Bu Gm | 49 | <i>Buxus 'Green Mountain'</i> | Green Mountain Boxwood | 24-30" ht | 36" O.C. | |
| Bu Wg | 351 | <i>Buxus microphylla japonica 'Winter Gem'</i> | Winter Gem Boxwood | 18-24" ht | 36" O.C. | |
| Co Iv | 166 | <i>Cornus alba 'Ivory Halo'</i> | Variiegated Red Twig Dogwood | 30-36" ht | 36" O.C. | |
| Co Ra | 101 | <i>Cornus racemosa</i> | Gray Dogwood | 30-36" ht | 36" O.C. | |
| Co Co | 27 | <i>Cotinus coggygria</i> | Smoke Tree | 3-4' ht | 60" O.C. | |
| Co Ap | 51 | <i>Cotoneaster apiculatus</i> | Cranberry Cotoneaster | 12-18" ht | 36" O.C. | |
| Co Ho | 61 | <i>Cotoneaster horizontalis 'Perpusilla'</i> | Compact Rock Cotoneaster | 3 GAL 12" ht | 30" O.C. | |
| Eu Fo | 97 | <i>Euonymus fortunei 'Sarcocoe'</i> | Sarcocoe Wintercreeper | 3 GAL / 18-24" ht | 36" O.C. | |
| Fo Ma | 193 | <i>Fothergilla major 'Mount Airy'</i> | Mt. Airy Dwarf Fothergilla | 24-30" ht | 30" O.C. | |
| Hy Lr | 17 | <i>Hydrangea macrophylla 'Lady in Red'</i> | Lady in Red Hydrangea | 30-36" ht | 36" O.C. | |
| Hy Qu | 101 | <i>Hydrangea quercifolia</i> | Oakleaf Hydrangea | 30-36" ht | 36" O.C. | |
| Hy Sq | 121 | <i>Hydrangea quercifolia 'Snow Queen'</i> | Snow Queen Oakleaf Hydrangea | 30-36" ht | 36" O.C. | |
| Hy Fr | 13 | <i>Hypericum frondosum 'Sunburst'</i> | Sunburst St. John's Wort | 18-24" ht | 24" O.C. | |
| Iv Fr | 35 | <i>Iva frutescens</i> | Marsh Elder | 24-30" ht | 36" O.C. | |
| Ix De | 14 | <i>Ilex glabra 'Densa'</i> | Dense Inkberry | 30-36" ht | 36" O.C. | |
| Ix Sh | 107 | <i>Ilex glabra 'Shamrock'</i> | Shamrock Inkberry | 30-36" ht | 36" O.C. | |
| Mi De | 202 | <i>Microbiota decussata</i> | Siberian Carpet Cypress | 3 GAL / 18-24" ht | 36" O.C. | |
| My Pe | 9 | <i>Myrica pennsylvanica</i> | Northern Bayberry | 36" ht | 60" O.C. | |
| Rh Da | 52 | <i>Rhododendron 'Dora Amateis'</i> | Dora Amateis Rhododendron | 30-36" ht | 30" O.C. | |
| Rh Gl | 530 | <i>Rhus aromatica 'Gro-Low'</i> | Gro-Low Fragrant Sumac | 24-30" ht | 24" O.C. | |
| Ro Bl | 177 | <i>Rosa 'Blushing Knock Out'</i> | Blushing Knock Out Rose | 3 GAL / 18-24" ht | 24" O.C. | |
| Ro Ru | 13 | <i>Rosa rugosa 'Frau Dagmar Hastrup'</i> | Frau Dagmar Rose | 30-36" ht | 36" O.C. | |
| Ta Re | 206 | <i>Taxus bacata 'Repandens'</i> | Spreading English Yew | 12-18" ht | 24" O.C. | |
| Va An | 285 | <i>Vaccinium angustifolium</i> | Low Bush Blueberry | 3 GAL | 24" O.C. | |
| Vi Bl | 7 | <i>Viburnum dentatum 'Christom'</i> | Blue Muffin Viburnum | 30-36" ht | 36" O.C. | |
| Vi Ju | 90 | <i>Viburnum x 'Juddii'</i> | Judd Viburnum | 30-36" ht | 48" O.C. | |
| Vi Sb | 9 | <i>Viburnum carlesii 'SMVCB' P.P. 25872</i> | Spice Baby Viburnum | 24-30" ht | 36" O.C. | |
| PERENNIALS | | | | | | |
| ach mi | 24 | <i>Achillia millefolium 'Pretty Belinda'</i> | Pretty Belinda Yarrow | 2 GAL | 18" O.C. | |
| alc mo | 217 | <i>Alchemilla mollis</i> | Common Lady's Mantle | 1 GAL | 12" O.C. | |
| ams bi | 205 | <i>Amsonia x 'Blue Ice'</i> | Blue Star Flower | 1 GAL | 12" O.C. | |
| ams ta | 338 | <i>Amsonia tabernaemontana 'Walter'</i> | Eastern Bluestar | 1 GAL | 18" O.C. | |
| ane sc | 110 | <i>Anemone x 'September Charm'</i> | September Charm Windflower | 2 GAL | 24" O.C. | |
| asc tu | 305 | <i>Asclepias tuberosa</i> | Butterfly Weed | 1 GAL | 18" O.C. | |
| bap au | 386 | <i>Baptisia australis</i> | False Indigo | 2 GAL | 18" O.C. | |
| den pu | 292 | <i>Dennstaedtia punctilobula</i> | Hay Scented Fern | 2 GAL | 30" O.C. | |
| ech pu | 511 | <i>Echinacea purpurea</i> | Purple Coneflower | 2 GAL | 18" O.C. | |
| ger ro | 261 | <i>Geranium x 'Rozanne'</i> | Rozanne Cranesbill | 1 GAL | 18" O.C. | |
| hem fr | 23 | <i>Hemerocallis 'Fragrant Returns'</i> | Fragrant Returns Daylily | 2 GAL | 18" O.C. | |
| heu ss | 49 | <i>Heuchera 'Stormy Seas'</i> | Coral Bells | 2 GAL | 24" O.C. | |
| iri si | 17 | <i>Iris sibirica 'Silver Edge'</i> | Silver Edge Siberian Iris | 2 GAL | 15" O.C. | |
| lup pe | 419 | <i>Lupinus perennis</i> | Wild Blue Lupine | 1 GAL | 18" O.C. | |
| nep fa | 297 | <i>Nepeta x faassenii 'Walkers Low'</i> | Walkers Low Catmint | 2 GAL | 18" O.C. | |
| rud fu | 162 | <i>Rudbeckia fulgida 'Goldsturm'</i> | Black Eyed Susan | 2 GAL | 18" O.C. | |
| rud tr | 312 | <i>Rudbeckia triloba</i> | Brown Eyed Susan | 1 GAL | 18" O.C. | |
| sal mn | 23 | <i>Salvia 'May Night'</i> | May Night Salvia | 2 GAL | 18" O.C. | |
| GRASSES & GROUND COVERS | | | | | | |
| arc uv | 479 | <i>Arctostaphylos uva-ursi</i> | Bearberry | Plug | 12" O.C. | |
| bou gr | 193 | <i>Bouteloua gracilis 'Blonde Ambition'</i> | Side Oats Grama | 2 GAL | 30" O.C. | |
| car pe | 114 | <i>Carex pendula</i> | Drooping Sedge | 2 GAL | 30" O.C. | |
| car pn | 814 | <i>Carex pensylvanica</i> | Pennsylvania Sedge | Plug | 12" O.C. | |
| cha la | 99 | <i>Chasmanthium latifolium</i> | Northern Sea Oats | 2 GAL | 30" O.C. | |
| cha rm | 109 | <i>Chasmanthium latifolium 'River Mist'</i> | Variiegated Northern Sea Oats | 2 GAL | 30" O.C. | |
| des ce | 96 | <i>Deschampsia cespitosa 'Pixie Fountain'</i> | Tufted Hair Grass | 2 GAL | 24" O.C. | |
| epi ru | 330 | <i>Epimedium x rubrum</i> | Red Barrenwort | 1 GAL | 12" O.C. | |
| euo co | 330 | <i>Euonymus coloratus</i> | Wintercreeper Euonymus | 1 GAL | 12" O.C. | |
| fes ru | 1214 | <i>Festuca rubra L.</i> | Coastal Red Fescue | Plug | 12" O.C. | |
| hak ma | 132 | <i>Hakonechloa macra 'All Gold'</i> | All Gold Hakoke Grass | 1 GAL | 15" O.C. | |
| lir sp | 3359 | <i>Liriope spicata</i> | Liyrturf | 1 GAL | 12" O.C. | |
| mis si | 222 | <i>Miscanthus sinensis 'Adagio'</i> | Dwarf Silver Grass | 2 GAL | 30" O.C. | |
| pan vi | 899 | <i>Panicum virgatum</i> | Switchgrass | Plug | 12" O.C. | |
| par qu | 117 | <i>Parthenocissus quinquefolia</i> | Virginia Creeper | Plug | 12" O.C. | |
| pen al | 91 | <i>Pennisetum alopecuroides 'Hameln'</i> | Hameln Dwarf Fountain Grass | 2 GAL | 24" O.C. | |
| sch sc | 619 | <i>Schizachyrium scoparium</i> | Little Bluestem | Plug | 12" O.C. | |

Neoliviano

Product Data Sheet



The NeoLiviano bench is a lyrical variation on NeoRomantico. Lighter in structure and form it has arms for extra comfort. Its slim profile coupled with a strong cast aluminum structure and wood slat seat and back make it versatile seating for both public and private spaces.

Bench

- Cast aluminum LED cartridge and structure
- Benches are available backed or backless.
- Bench can be freestanding, surface mounted, or embedded.
- Supports come in an anodized finish with no color options.
- Center arm option available for 118" bench only.
- Available only in Jarrah and Domestically Sourced Thermally Modified Ash (DSTMA)

Finishes

- Anodized Aluminum Finish for Supports.
- Unfinished Exterior Woods.
- Interior Woods with LF-80 Finish.

Designed by Santa & Cole

| Backed | Style | Depth | Width | Height | Product Weight |
|----------|-----------------------|-------|-------|--------|----------------|
| | 24" | 26.5" | 24" | 31" | 47 lb |
| | 69" | 26.5" | 69" | 31" | 96 lb |
| | 118" | 26.5" | 118" | 31" | 155 lb |
| | 118" w/ center arm | 26.5" | 118" | 31" | 157 lb |
| Backless | Style | Depth | Width | Height | Product Weight |
| | 24" | 19.5" | 24" | 17" | 27 lb |
| | 59" | 19.5" | 59" | 17" | 51 lb |
| | 118" | 19.5" | 118" | 17" | 96 lb |

Visit our landscapeforms.com for more information. Specifications are subject to change without notice. Landscape Forms supports the Landscape Architecture Foundation at the Second Century level.

©2019 Landscape Forms, Inc. Printed in U.S.A.



Larkspur Series LANDSCAPE CONTAINERS

Big square landscape container meets soft, round form.



TO SPECIFY

Select the LS product number along with the options below.

Drainage

- Standard diameter hole: approximately 2-3/8"
- Custom size to function with irrigation & drainage (note size of plumbing fixture to be used)

Concrete Color

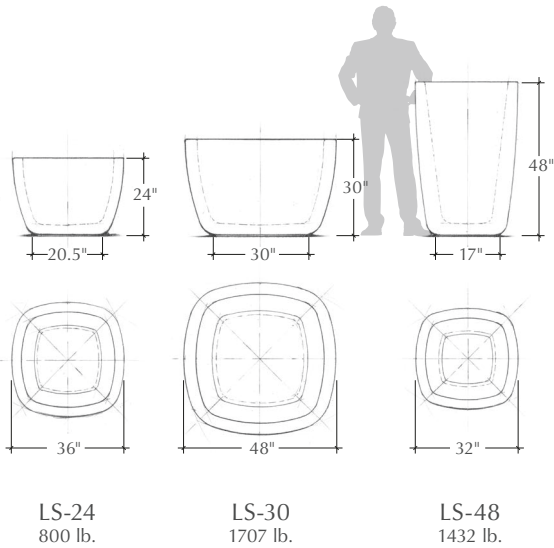
- Natural gray concrete
- Choose integral pigment color from Davis Colors, call/email us for a Davis Colors selector brochure
- Custom color mixing available

Finishing

- Bituminous sealer (suggested for interior applications)
- Sandblast finish

Notes

- Contact us for CSI specifications
- Contact us for CAD Drawings
- Contact us for 3D SketchUp Models
- Upcharges will apply for colors, sandblasting, sealer, and extra drain holes



All weights are approximate

In 2012, Larry Kornegay designed the Larkspur Series exclusively for Kornegay Design® LLC, a Landscape Forms® company

v. 2018.07.24

Concord Collection





Product Data Sheet

Appendix
Furnishings Cut Sheets
Receptacles - Trash
and Recycling
Items 3
Page 1 of 1



Poe Litter Receptacle

- Heavy duty construction (Cast and extruded aluminum).
- Litter base is cast iron for stability.
- All units are 34 gallon capacity.
- Side opening style may be specified with signage to designate collection of recyclables or waste. Choose slot, 5" diameter or standard opening.
- Black polyethylene liner ships with each unit.
- Units feature hinged side door for easy emptying.
- With or without lock.
- Shipped with freestanding glides.
- Surface mount holes provided in base.
- Recycling litter signage is available with standard wording options, available on landscapeforms.com Custom wording available for an upcharge.
- Poe ships fully assembled.

| | Style | Depth | Length | Height | Product Weight |
|---|----------------------|-------|--------|--------|----------------|
|  | side opening | 29" | 29" | 44" | 189 lb |
|  | side opening 5" hole | 29" | 29" | 44" | 195 lb |
|  | side opening slot | 29" | 29" | 44" | 195 lb |
|  | top opening | 29" | 29" | 39" | 181 lb |

RING®
 Product Data Sheet



A simple circle hovering above ground, provides an artful solution for bicycle storage and security that meets Association of Pedestrian and Bicycle and Professionals (APBP) recommendations. Ring must be embedded. Ring can secure two bicycles parked parallel to the rack. The bicycles can be headed in opposite directions, or in the same direction. The rack provides two- point contact to prevent the bicycle from tipping over. A standard D-shaped bike lock can secure both a wheel and the frame.

Bike Rack

- Capacity: 2 bikes
- Bike racks made of 1.5" o.d., .120" wall stainless steel tubing, with a electropolish finish on bare stainless steel.
- Ring is also available in powdercoated steel.
- Ring must be embedded.
- Ring can secure two bicycles parked parallel to the rack.
- The bicycles can be headed in opposite directions, or in the same direction. The rack provides two- point contact to prevent the bicycle from tipping over.
- A standard D-shaped bike lock can secure both a wheel and the frame.

| | STYLE | DEPTH | WIDTH | HEIGHT | PRODUCT WEIGHT |
|--|-------|-------|-------|--------|----------------|
| | Ring | 1.5" | 25" | 27" | 13 lb |

Finishes

- All metal parts are finished with Landscape Forms' proprietary Pangard II® polyester powdercoat, a hard yet flexible finish that resists rusting, chipping, peeling and fading.
- Call for standard color chart.

To Specify

- Select bike rack style. Specify powdercoat color or stainless steel.

Designed by Brian Kane, IDSA

All Landscape Forms bike racks meet guidelines established by the Association of Pedestrian and Bicycle Professionals.

Visit our landscapeforms.com for more information. Specifications are subject to change without notice. Landscape Forms supports the Landscape Architecture Foundation at the Second Century level. ©2016 Landscape Forms, Inc. Printed in U.S.A.

SENTINEL

Product Data Sheet



Sentinel is not your old guard. It is a totally twenty-first century bollard designed to compliment contemporary landscapes and architecture. Two variations on sculptural form offer versatility in function. Standard-size mitre and dome designs, mounted on 6" diameter structural pipes, provide handsome border demarcation and separation of pedestrian and vehicular traffic. Wired lighting features state-of-the-art lighting class LED. The Sentinel Security Sleeve is intended for serious security applications. This large dome-style bollard is greater in mass and height than the standard version and is designed specifically for mounting over a 10" pipe built to US Department of State specifications.

Sentinel Bollard

- Sentinel bollard: cast aluminum sleeve mounts over supplied 6" structural steel pipe and secures with concealed hardware.
- Mitre or dome top available. Mitre top available with or without LED light.
- Light is protected by high temperature polyurethane lens. Bollard may be specified to embed or surface mount for all styles.
- Non-lighted style may also be specified as removable.
- Sentinel Security Sleeve: constructed of cast aluminum and designed specifically for mounting over 10" pipe (not supplied).
- Hardware to secure sleeve to pipe is included.
- For the lit version, the following specifications apply:
 - LED rated life: 60,000 hrs
 - lumen output: 50 lumens
 - power consumption: approximately 3 watts
 - color temperature: 3500K
 - input voltage: 120-277 VAC





Finishes

- All metal is finished with Landscape Forms' proprietary Pangard II® polyester powdercoat, a hard yet flexible finish that resists rusting, chipping, peeling, and fading.
- Call for standard color chart.

To Specify

- Select Sentinel bollard: Specify mitre or dome top.
- Specify mounting: embedded, surface mount or removable.
- For embedded or surface mount with mitre top choose with or without LED light.
- Select powdercoat color.
- Select Sentinel Security Sleeve: Specify powdercoat color.

Designed by Rick Reeder, AIA, LEED A.P.

| | STYLE | DIAMETER | HEIGHT | PRODUCT WEIGHT |
|---|-----------------|----------|--------|---|
|  | standard dome | 11" | 34" | Surface Mount: 87lbs Embedded: 116lbs Removable: 144lbs |
|  | mitre | 11" | 37" | Surface Mount: 87lbs Embedded: 116lbs Removable: 144lbs |
|  | mitre w/light | 11" | 42" | Surface Mount: 87lbs Embedded: 116lbs |
|  | security sleeve | 15" | 44" | 58 lbs |

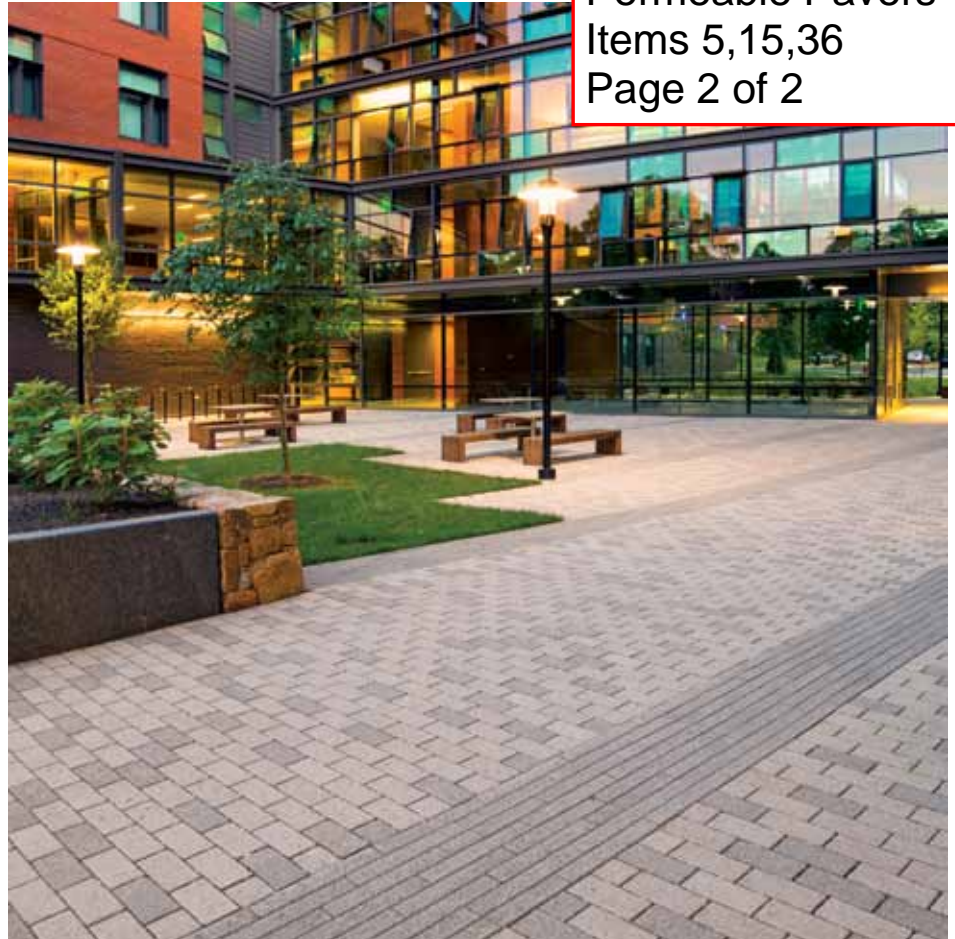
Visit our landscapeforms.com for more information. Specifications are subject to change without notice. Landscape Forms supports the Landscape Architecture Foundation at the Second Century level. ©2015 Landscape Forms, Inc. Printed in U.S.A.

Permeable 4 1/2" x 9"

Managing stormwater to minimize runoff

The need for a pervious concrete paving unit that allows water to permeate the soil has become increasingly important. With more and more paved areas such as streets, parking lots and sidewalks, rainwater has little opportunity to filtrate into the soil. Municipalities now require that stormwater runoff be managed and retained. Hanover's Permeable Paving Units allow for stormwater drainage and manage excessive runoff.

Using Hanover's Permeable Paving Units can facilitate the process of obtaining LEED Green Building certification.



University of Rhode Island Hillside Hall, Kingston, RI; Size & Color: Permeable 4 1/2" x 9", Charcoal, Natural; Finish: Tudor®

Permeable 4 1/2" x 9"



4 5/8" x 9 1/4" x 3"
Actual Dimensions



The Permeable 4 1/2" x 9" is Hanover's newest concrete permeable paver. Produced with a 1/16" bevel and hidden spacers, the Permeable 4 1/2" x 9" meets standards set forth by the Americans with Disabilities Act (ADA). Minimal openings provide a comfortable walking surface while allowing for water percolation. The Permeable 4 1/2" x 9" can accommodate wheel chair traffic making it the perfect choice for high foot traffic areas such as walkways, plazas and entrance ways. With a 3" thickness and interlocking installation design, heavy low speed vehicular loads can be supported.

Sized at 4 5/8" x 9 1/4", the Permeable 4 1/2" x 9" is a true rectangle, providing the correct size ratio to create interlock stability. The 4 1/2" x 9" can be produced with a Natural, Tudor®,

Tumbled or Chiseled finish and is available in Hanover's full range of colors. The Permeable 4 1/2" x 9" combines the beauty of an interlocking paver with the advantages of a permeable paving system.

- ADA Compliant
- Minimal openings for a comfortable walking surface
- Supports heavy low speed vehicular loads
- True rectangular size ratio to achieve interlock stability

HANOVER®
Architectural Products
5000 Hanover Road, Hanover, PA 17331
717.637.0500 • fax 717.637.7145
www.hanoverpavers.com



Traditional® 6" x 12"

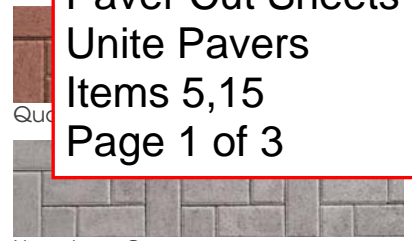
TRADITIONAL® PREST® BRICK

Produced with a beveled top edge, Hanover's Traditional® Prest® Brick are rectangular or square in shape. They are available in several sizes with a standard 2 3/8" thickness. Some sizes are also available in a 3" thickness. Each brick is uniform in size, permitting easy installation of any paving design. Installing various sizes together creates a more contemporary paving design while installing

individual sizes alone creates a more classic, tailored look. Natural finish stocked with a Tudor® finish is available on special request.

- Traditional® 4" x 8"
- Traditional® 5" x 12"*
- Traditional® 6" x 12"*
- Traditional® 6" x 6"*
- Traditional® 8" x 8"*
- Traditional® 12" x 12"*

* Nonstock Item



Limestone Gray



Red 15



Chocolate



Tan



Charcoal



Red/Charcoal Blend



Tan/Charcoal Blend



Natural/Charcoal Blend



Salmon/Charcoal Blend



Chocolate/Tan Blend

Traditional® Prest® Brick can be ordered in a variety of colors and textures and is not limited to what is shown. Hanover's blended colors consist of several shades and will include some blended and some solid pieces. Color photos shown were prepared with great concern for accuracy. It is suggested that actual samples be requested before specifying.

PLEASE NOTE: The dimensions stated for product sizes of Hanover® Prest® Brick are nominal. Products are made to fit metric modules.

TRADITIONAL® 4" X 8"

The Traditional® 4" x 8" Prest® Brick with Natural finish is Hanover's most versatile brick shape. It can be installed in many different designs or used as an edge detail for other styles of concrete pavers. The 4" x 8" can be used alone or combined with other Traditional® Prest® Brick. The nominal 4" x 8" is available in a variety of colors and stocked in a 2 3/8" thickness. Some colors are also stocked in a 1 1/2" or 3" thickness. Custom colors or a Tudor finish can be accommodated when quantities permit. The Traditional® 4" x 8" Brick is available with a Square Edge finish.



Traditional® 4" x 8"

TRADITIONAL® 6" X 6"

NONSTOCK ITEM

Hanover® also produces a 6" x 6" Traditional® Prest® Brick. It is very versatile and can be laid to form gentle arcs or straight courses. Although this size is not stocked, it can be special ordered when quantities permit.



Traditional® 4" x 8"

TRADITIONAL® 6" X 12"

NONSTOCK ITEM

Hanover® also offers a Traditional® 6" x 12" Prest® Brick which is suited for commercial vehicular use. A herringbone installation should be used for vehicular applications. The 6" x 12" is available in 2 3/8", 3" and 4" thicknesses when quantities permit.



Traditional® 6" x 12"

TRADITIONAL® 8" X 8"

NONSTOCK ITEM

Traditional® 8" x 8" Prest® Bricks provide a neat, tailored look when installed alone or permit a break in laying design when mixed with 4" x 8" brick. Available in a 2 3/8" or 3" thickness, this size can be special ordered in a wide range of colors and textures. Either thickness can be used in pedestrian walkways or residential driveways. Tudor® and Square Edge finishes are available.

Any Prest® Brick style can be produced in any of Hanover's standard colors when quantities permit.



Traditional® 8" x 8"



Traditional® 4 1/2" x 9" with Cobble



TRADITIONAL® 4 1/2" X 9" WITH COBBLE

4 1/2" x 9" is only available with a Cobble



TRADITIONAL® 4" X 8" WITH COBBLE

TRADITIONAL® 12" X 12"

NONSTOCK ITEM

Hanover's Traditional® 12" x 12" Prest® Brick with a Natural finish is suggested for pedestrian use only. Available in a 2 3/8" or 3" thickness, this size can be special ordered in a wide range of colors and textures.

PLEASE NOTE: The dimensions stated for product sizes of Hanover® Prest® Brick are nominal. Products are made to fit metric modules.



Traditional® 12" x 12"