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# DEVELOPMENT FOR BLUE STAR CAMPS HENDERSONVILLE NORTH CAROLINA Bobby W. Bledsoe and William T. Scott

A Terminal Problem Presented

for the

Degree of Bachelor of Landscape Architecture

University of Georgia

Athens, Georgia

June, 1964

H.B. Owens Resource Center School of Environmental Design Caldwell Hall University of Georgia

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#### INTRODUCTION

The design of a landscape development plan for the expansion of Blue Star Camps, near Hendersonville. North Carolina, was used as our Terminal Problem for Landscape Architecture 355. It was a challenging project which involved the location of camping facilities for three hundred campers, in a beautiful situation at the base of a towering mountain. In the shandows of this peak, Mt. Pinnacle, and in the center of the area to be developed, is a beautiful eight-acre lake which is between two ridges.

This report represents the results of our four years and one additional quarter at the University and serves as a true representation of the influence and forces that provided the knowledge and skills which make it possible to arrive at a solution for this camp-site expansion at the request of Messrs. Harry and Herman Popkin.

With deep gratitude to the several instructors who have awakened and sharpened our interests in Landscape Architecture, we herewith submit the following solution for our Terminal Problem which is herewith presented as a requirement for the Degree of Bachelor of Landscape Architecture.

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  - 3. Planting Plan
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  - S, Construction Details
  - 7. Construction Details

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bette deep credited to the several instructors who have employed with deep credited to the several instructors, we between the substance of the several and administration for the President of Landscape Architecture.

In the Blue Ridge Mountains of Southwestern North Carolina, Herman and Harry Popkin selected a site for Blue Star Camps, located in the shadows of Mt. Pinnacle, which has an elevation of 3750 feet. There is abundant water from artesian springs, and the terrain is picturesquely rugged and well suited for camping.

The camps were built as the applications increased each summer.

Some attempt was made to cluster cottages into children's age groups,
but no professional planning was followed.

Twenty acres of undeveloped land with an eight acre lake is now proposed. The site consists of virgin shrubs and timbers located in a valley, and the slopes approach 40° on either side of the lake which has already been sited.

The seven parts of Blue Star Camps were developed over a period of years, as the need arose due to an increase of applicants from summer to summer. The first unit was built in 1949.

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but no professional planetus was followed.

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The serves parts of Size Sper Camps were developed over a period of years, as the seed arose due to an increase of april (camp increase of action summand) to someour. The first and were traffit to 1949.

Nature itself demonstrates an excellent example of regional adaptation by evolving forms of life which are in harmony with their environment, balanced with their tissue materials and adapted to all external and internal forces to which they are exposed.

Man, throughout his cultural and technical evolution, is basically subjected to the very same interplay and must respond to beneficial or adverse variations of his surroundings. Therefore, it is the aim of this problem to create a more harmonious environment between man and nature, an area which will be both enjoyable and fulfilling to the individual.

The site for an addition to Blue Star Camp consists of 20 acres located 6.5 miles southwest of Hendersonville, North Carolina, via Crab Creek Road, situated between two mountain ranges, and adjacent to the existing Blue Star Camp area.

#### Program

A selected portion of the area is to be developed into three well defined groups: (a) senior boys, (b) senior girls, and (c) dance group, with the accompanying facilities to serve all the campers. Within each area housing for a total of 100 persons to be housed in groups of sixteen per cabin is desired, with additional quarters for staff members and

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Other facilities to be included are: active and passive recreational areas, an outdoor-indoor theater suitable for ballet and dramatic productions, including parking and ticket office, an open air pavilion, and dining hall for 300 persons.

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It was deployed that we send do its action for expectable should be provided.

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nodections, including percips and ticket office, an other at pavilion,

and disting bell for 300 persons.

for creaminant present to ANALYSIS OF PROBLEM a already sales placed the

The primary consideration in the design of any camp is the harmonious unity between man and nature. With this as a guideline, the entire area should be designed as a unified part of the natural features.

In analyzing the problem, consideration must be given to the different groups and a satisfactory solution worked out to meet each need before incorporating the ideas into the final design.

The Camp should consist of three distinct groups as follow:

- 1. Girls' Group
- 2. Boys! Group
- 3. Dance Group

The first two Groups may be considered together as they serve the same functions. The Boys' and Girls' Groups are comprised of teen-agers which will be housed in separate areas and will use other facilities together. The third area will be comprised of a Dance Group, which will lease the area for the summer. This Group will be separated entirely from the other areas but will use many of the same facilities together such as the Dining Hall and Playing Fields. Nature has provided a natural valley as a distinctive point of separation for this Group.

In view of the fact that this Camp is to be used by young people, it was decided that as much open space as possible should be provided

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In view of the fact that this camp is to be used by young people, it was decided that as much opens access as possible should be provided it was decided that as much opens

for organized sports. Since much excavation has already taken place, it is felt that the borrow pits should be renovated and used for these open spaces, therefore eliminating a greater intrusion upon the site.

The natural beauty and vegetation of the site are of such character, a minimum of plant augmentation is required.

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The natural bounty and vegetation of the size are of such character,

#### PRESENTATION AND JUSTIFICATION OF THE PROBLEM

This area presented a unique problem in that the site consists of slopes in excess of 40 per cent. To retain as much of the natural beauty as possible the cottages for the campers are sited near the summit of the ridges thereby eliminating the expense of excessive grading or the use of retaining walls. The roads and paths follow the existing contour of the land. The varied space relations are a compromise between nature and man-made design.

The lake serves as the dominant feature of the project. All the cottages and facilities are grouped around it.

The Dance Group is located on a slope to the north of the lake.

There exists a natural topography feature which definitely defines this area from the remaining portion of the Camp. This area is near the county road and is adjacent to the Dining Hall and Amphitheater.

The Dining Hall is centrally located on the west end of the lake and is serviced by a perimeter road which connects to the county road.

Nearby are quarters for the Kitchen Staff and an Arts and Crafts Studio.

On the ground floor of the Dining Hall are the First Aid Station and three rooms which can be used for Arts and Crafts Classes.

The docks and swimming area are located on the shallow end of the lake at a fairly central point between the cottages and the Dining Hall.

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This area presented a unique problem in that the date consider of signs in excess of 40 per cent. To retain as much of the natural beauty as possible the contages for the campers are aited near the summit of the distinction that the capenes of escessive of the une of mining wails. The pasts and paths follow the empire of the cattle of the last the varied space relations are a compressive between nature and last. The varied space relations are a compressive between nature and last. The varied space relations are a compressive between nature and last margale design.

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On the ground floor of the Dining Eall are the first Att Station and durant from which can be used for Ans and Countries.

The docks and ewitaming area are located on the shellow and of the docks and the Dining Mall.

The Boys' and Girls' Cottages are located on the south side of the lake. Existing and proposed trees will separate the two areas. A Pavilion is located in each area to serve the need for large group functions.

The Recreation Hall is adjacent to the Boys' Cottages and near the Tennis Courts and Softball Field for easy access.

The Red Barn will remain for the present time but in the future it will be relocated.

#### SPECIFICATIONS AND DRAWINGS

The drawings and specifications are intended to be explanatory and complete, and all work called for by one, even if not by the other is to be fully executed. In the event there is a difference between the drawings and the specifications, either in the figures, in the drawings, or in the specifications the matter will be promptly submitted to the Landscape Architect, who shall promptly make a determination in writing.

#### Spirit and Intent of Specifications

It is the spirit and intent of these specifications, and of the drawings forming part of them, to provide that work and all parts thereof will fully be completed and suitable in every way for the purpose for which they were designed.

#### Measurements

Before ordering any materials or doing any work, the contractor will verify all measurements at the site and shall be responsible for same. Any difference which may be found will be submitted to the Landscape Architect for consideration prior to the beginning of work.

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#### Materials

If for any reason the contractor wishes to substitute designated naterials, he will do so by stating in written form the substitution and the reason for the substitution to the Landscape Architect. Any authorized changes must be secured from the Landscape Architect in written form prior to ordering materials.

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#### SPECIFICATIONS FOR LAWNS AND PLANTING

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Scope

The work covered by this specification consists in furnishing all plants, labor, equipment, appliances and materials, and in performing all operations in connection with landscape work complete for lawns and planting, and other miscellaneous related work, in strict accordance with this specification and the applicable drawings, and subject to the tems and conditions of the Contract, and as indicated on the landscape plan accompanying and made a part of these specifications.

# Materials

Samples of materials listed below shall be submitted to the landscape Architect for inspection and approval. Samples of one (1) obic yard of cattle manure, one (1) yard of burlap, one (1) pound of the landscape and one (1) cubic yard of top soil from oth source of supply to be used shall be submitted prior to the beginning of operations under this Contract.

(i) In order to obtain adequate tests, sample of grass mi stures specified shall be submitted at least 40 days prior to anticipated delivery of the approved material.

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The work covered by this symptosism consists in Sumishing all pasts, loser, loser, company, and materials, and in performing the performance of operations in commodised with landaceco werk complies for lowns and planting, and where miscusliances raisted work, in strict accordance with this specification and the applicable drawings, and analysis to the sum of this specification of the Common, and as industrial on the landacecount of the conditional of the specifications.

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combined at a classical tests of classical and a control of many of the appropriate of the appropriate decisions.

(2) Delivery of materials may begin only after samples have been approved. All materials furnished for the work shall conform in every respect to the approved sample.

Top soil for lawns and planting operations included in this

Contract shall be fertile, friable, natural loam containing a liberal

amount of humus, and shall be capable of sustaining vigorous plant

growth. It shall be free of admindure of subsoil and shall be reasonably

free of stone, lumps, clocks of hard earth, plants or their roots, sticks,

and other extraneous matter. It shall not be used for planting operations

while in a frozen or muddy condition.

- (i) Top soil shall be subject to inspection and approval at the sources of supply or upon delivery. Before any top soil is delivered, the Contractor shall furnish to the Landscape Architect a written statement giving:
  - (a) Location of all properties from which the top soil is to be obtained and approximate quantity available from each.
  - (b) The names and addresses of the owners of the various properties.
  - (c) The depth to which the soil is to be taken.
- (d) The crops grown on the soil during the past few years.

  Sludge fertilizer shall be an organic-activated sludge fertilizer and shall contain the following percentage by weight:

(3) Dolivery of materials may books only after complet have been approved. All meterials furnities of for the work shall conform to the eperaved sample.

Yes able for lawns and planting operations included to this constant of the shall be famile, familie, noticed least exactaining a liberal second of annus, and shall be expected as a suspension plant range. It shall be from of subjects out subjects out at the representation of state of state of said and and congress, lamps, clade of hard early, plants or their range, efficie.

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- (i) Hop and shall be subject to inspecition and approval at the courses of supply or enon delivery. Before any top apil is delivered, the Occinetate thall familiable to the Landscope Architect a written statement citizent and approve on the Contract of t
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  properties.
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- (d) The cross queen on the cost during the pest few years.

  Sudge Continue that to an espender-activated statige femiliaes
  and shall contain the following percentage by weather

5% minimum of nitrogen

3% phosphoric acid

he sludge fertilizer shall be delivered as specified in standard-size logs, showing weight, analysis, and name of processor, and shall be stored in a weatherproof storage place in such a manner that it will be kept dry and its effectiveness will not be impaired.

Cattle or horse manure shall be well rotted unleached manure, free imm harmful chemicals and other injurious substances, and shall be free of swdust, shavings, and refuse of any kind, and shall not contain more than 25% of straw, leaves, or other material acceptable for planting use.

Commercial fertilizer shall be a complete fertilizer, part of the elements of which are derived from organic sources. It shall contain the following percentages by weight:

10% of nitrogen

8% of phosphoric acid

6% of potash

Petilizer shall be delivered mixed as specified in standard-size bags, showing weight, analysis, and name of manufacturer, and shall be stored in a weatherproof storage place in such a manner that it will be kept dry and its effectiveness will not be impaired.

# Staking and Wrapping Material

(1) Stakes for supporting trees shall be of sound wood of uniform

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size, free of knots and holes, creosoted half their length, and capable of standing in the ground at least two years. They shall be nominal  $2^n \times 2^n$  square. Stakes shall not be less than 9 feet in length.

- (2) Wire for tree bracing and guying shall be pliable No. 10 gage galvanized-steel wire.
- (3) Hose for covering wire shall be new or used black or red two-ply fibre-bearing garden hose, not less than 1/2" inside diameter. Seconds rejected by factory are acceptable. Seconds and used hose must be approved by the Landscape Architect.
- (4) Wrapping material for tree trunks shall be new, clean, plain burlap, first quality, at least 8 ounces in weight and not less than 6 inches wide. It shall be free of breaks and tears.

#### Lawn Materials

- (1) Grass seed shall be fresh, clean, and new crop seed, Zoysia

  Myer and shall be seeded at the rate of 5 pounds to every 1000 square

  feet.
- (2) Seed shall be mixed by dealer. The Contractor shall furnish dealer's guaranteed statement of composition of mixture and percentage of purity and germination of each variety.
- (3) Grass seed shall not be delivered to the site until samples have been approved in writing by the Landscape Architect. Approval of sample, however, shall not affect the Landscape Architect's right to reject seed upon or after delivery.

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(a) Wrapping metatil for tree trents abili be new, class, plata buries, first quality, at least to surpose in weight and next least them to buries wide, it shall be free of brooks and teams.

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(3) Grass seed shall be freeh, clean, and new ever seed, Soyala layer and shall be coaled at the mass of 3 periods to every 1900 square feet.

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(9) Grees acod abail act be delivered to the otto easi camples bare been been accepted to the bare been approved to extend by the Landscape Architect. Approved of another terminals, torraver, chall not effect the Landscape Architect's right to reform and accepted accepter delivery.

#### Plant Meterials and All tracks and cirrulas whall has man account where

- (1) All plants shall be nursery grown except flowering trees.
  - (a) Nursery-grown plants shall have been grown in accordance with good horticultural practice.
  - (b) Collected plants shall be in good vigorous condition and shall have been grown in favorable locations where sub-grade prevents the formation of tap roots, and encourages the development of fiberous roots.
  - (c) All plants shall have been grown under climatic conditions similar to those in the locality of the Project for at least two years. Plants shall have been transplanted or roct pruned at least once in the three years.
  - plants from cold storage will be accepted. All plants shall be typical of their species, or variety, and shall have a normal habit of growth. They shall be sound, healthy and vigorous, well branched and densely foliated when in leaf.

    They shall be free of disease, insect posts, their eggs or larvae. They shall have healthy, well developed root systems.
  - (e) Trees shall have straight trunks and all old abrasions and cuts shall be completely callused over.

Selection of the select

(p. All plants skall be the sery grown except fineering trees.

- (c) Nursery-grown plane shall have been grown in accomismon with good bootlesisted profiles.
- (b) Collected plants shall be in good vigorous candinan and shall have been successful as successful to successful of tapacities of tap mote, and encourages the development of filerous rooms.
- (d) All plants shall have been grown which olimate consistions elaster to these in the locality of the Frajori for at least two years. Flants shall have been grown ground at least once in the large years.
- (d) All piests shell he froshly dup. No hadded-in pleats shell
  plants inse cold strange will be approprie. All plants shell
  is typical of thest species, or verisit, and shell have all
  general habit of proved. They shell he sound, healthy and
  vigorous, well hemolog and descely foliated when in last.
  They shell he gray of stoomer, inser some at last,
  laves, "lacy shell have housing, well divided took systems."
  (e) these duals have shell have another and all aid chreshous and
  cate quals have shell have analog west and objections and

- their branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch or root tip to tip. The lower branches of a tree need not be the height specified for branching, if they are such a height that the required branching height may be obtained by pruning after delivery without affecting the shape and form of the trees, or causing large, unsightly scars. Caliper of trees up to 4 inches shall be taken 6 inches above the ground level and shall be the determining measurement for trees. Trees over 4 inches shall be calipered one foot above the ground level. Number of canes specified for shrubs shall be the minimum acceptable. A cane shall be considered a primary stem which starts from or close to the ground, or at a point not higher than one-fourth the height of the plant. No trees which have had their leaders cut, or so damaged that cutting is necessary, will be accepted.
- (3) Size: All plants shall conform to the measurements specified in the plant list shown on the drawings. Exceptions are as follows:
  - (a) Plants larger than specified in the plant list may be used
    if approved by the Landscape Architect, but use of such plants
    shall not increase the contract price. If the use of larger
    plants is approved, the spread of roots or ball of earth shall
    be increased in proportion to the size of the plant.

notive bewesom od Mark adints bus about 11% remomented () not branches are in their nemeal position. Height and spread disposions soon to done not not see bes male out to good atom our or more believe this the lower branches of a tree need not be the height specified is menching, if they are each a height that the required branching notght my be aireland by proming ofter delivery without affection the shape and ira of me trees, or country large, masightly scare, Caliper of trees up be inches shall be taken 6 inches chove the ground level and shall be to describing measurement for trees, from ever 4 inches shall be calcard one foot above the eyound level. Mamber of cenes specified is ships deal be the calcium acceptable. A cess shall be considered annery steen whiten greates true of close to the pround, or at a point not the tree energiate the nations of the plant. He trees which have had tion teaders out, or so demanged that cuming is necessary, will be

(a) Size: All plants shell conform to the modeurascents apecified birs plant its chown on the drawings. Exceptions are as follows:

(b) Flants larger than apecified in eas plant list out; be nodd

(c) Flants larger than apecified in eas plant list out; be nodd

(d) Flants larger than apecified in eas plant is out of such plants

(e) State increase the contract sakes. If the use of larger

shall not increase the contract sakes. If the use of larger

plants is approved, the operand of increases or bell of charts shall

be increased to proportion to the suce of the plant.

Bare root plants furnished in sizes greater than specified shall be balled and burlapped when required by the Landscape Architect.

- (b) Up to 10 per cent of undersize plants in any one variety or grade may be used, provided there are sufficient plants above size to make the average equal to or above specified grade, and provided that undersize plants are larger than the average size of the next smaller grade.
- (4) Pruning: Plants shall not be pruned prior to delivery, except upon special approval of the Landscape Architect.
- (5) Inspection: Plants shall be subject to inspection and approval at place of growth, or upon delivery for conformity to specification requirements as to quality, size, and variety. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work, for size and condition of balls or roots, diseases, insects, and latent defects or injuries. Rejected plants shall be removed immediately from the site.
  - (a) All trees selected shall be inspected, approved, and sealed by the Landscape Architect at their place of growth before they are dug.
  - (b) Typical samples, three of each, of all other varieties and sizes of plants shall be submitted for approval at the sit

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(a) Up to 18 per cent of understag plants in any one variety or orede may be used, provided has there are sufficient signic cover size to make the sverege equal to or above specified grade, and provided that undersize plants are larger than the average site of the next smaller grade. (a) Pennings Plants shall not be graned prior to delivery, except son special approval of the Landscape Architect.

(3) Inspection: Floate shall be subject to inspection and approximi a place of growth, or upon delivery for conformity to epocification requirements on quality, sine, and vertesy. Such approval shall not meet the right of inspection and rejection approblemely at the site or outse the progress of incorpora, for ours and condition of balls or roots. disease, insects, and latent distort or injuries. Rejected pleats that o the ells mon yle to theman become of

(a) Il trees corected simil be trayested, approved, and sealed waited diware to easie, what is tossuers, equalified on you . Bul was word

(a) Typical samples, turne of month, of all other westeries and state of planes shall be submitted for approval at the site.

These samples, if approved, shall be planted and maintained as standards for comparison with plants furnished.

- Certificates of inspection of plant materials shall be furnished as may be required by federal, state, or other authorities to accompany shipments.
- (6) Digging and Handling: No plants, other than the required samples, shall be dug or delivered to the site until the required inspections have been made, and the plants or samples approved.
  - (a) Dig bere rooted plants (br) with a spread of roots not less than the diameter specified, and of sufficient depth to insure full recovery and development of the plants. Roots of these plants shall be covered with a uniformly thick coating of mud being puddled immediately after they are dug.
  - (b) Dig balled and burlapped (BE) plants with firm, natural balls of earth, of diameter not less than that specified and of sufficient depth to include all the fibrous and feeding roots. No plant moved with a ball will be accepted if the ball is cracked or broken before or during planting operations, except on special approval.
- (c) Roots or balls of all plants shall be adequately protected at all times from sun end/or drying winds.

- The section of the property of the plane of the state of
- (d) Digging and Manditag: No gionts, other than the required tagooctons amples, shall be day at dollarsed to the ere well the required inspections have been made, and the places or complet soprowed.
- complete the same contest plants for with a spread of content to the content of the content to t
- to Dig builded and hudsepadd (EE) single with that, returns belied of the country of quarters and loss case that appointed and of the country of the short of the short of the country and the country of the short of the country of the thing the country of the thing of the country of the thing the country of the thing of the country of the thing.
  - (c) Roots or balls of all plants shall be adequately protested to a second (c)

- (d) All beiled and burlapped plants which cannot be planted immediately on delivery shall be set on the ground and shall be well protected with soil, wet moss or other acceptable material. Bare rooted plants, which cannot be planted immediately shall be planted or heeled-in trenches immediately upon delivery. No material heeled-in more than one week may be used. Bundles of plants shall be opened and the plants separated before the roots are covered. Care shall be taken to prevent air pockets among the roots. During planting operations, bare roots shall be covered with canvas, hay or other suitable material.
- (e) No plant shall be bound with wire or rope at any time so as to damage the bark or break branches.
- (7) Substitutions will not be permitted. If proof is submitted that
  any plant specified is not obtainable, a proposal will be considered for
  use of nearest equivalent size or variety with an equitable adjustment of
  contact price. Such proof shall be submitted in writing and substantiated
  by the Landscape Architect.
- (8) Plant List: The Contractor shall furnish and plant all plants shown on the Drawings, as specified and in quantities as shown. The quantities are included for the convenience of the Contractor only and the Contractor shall be required to furnish all individual plants in quantities

actually located on the drawing.

Installation

Time of planting shall be as follows:

(i) The spring season for planting of trees, shrubs, and vines shall be from as soon as the ground can be worked to not later than May 15, and the fall season for such planting shall be from October 1 to December 15. Only upon written approval of the Landscape Architect may planting begin earlier or continue later than the dates specified.

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e el bell which in anna intimposa may require

(2) The spring season for planting lawns shall be from the time the ground can be worked to May 15, and in the fall from August 15 to November 15. Only upon written approval of the Landscape Architect may the Contractor begin earlier or continue later than the dates specified.

Plant pits shall be excavated with vertical sides in accordance with the following outline for sizes:

(i) Tree pits shall be at least 3 feet greater in diameter than the specified diameter of ball or spread of roots, and at least siz inches below depth of ball.

(2) Shrubs shall be planted in pits or holes of top soil 18 inches deep, below finished grade, or as much deeper as necessary to properly set the plant at finished grade. Shrubs with balls shall be planted in pits with at least 12 inches greater diameter of ball, and to a depth at least 6 inches

(4) All holled and lender, speci plants which councy he planted immediately on delivery shall be set on the ground and shall be set on the ground and shall be set on the ground and exceptable assisted. Earth roomed plants, which comet he planted invocationing shall be planted of healed-in transhes the benefit when delivery, We material healed-in the than one week may be used. Sunding of plants shall be opened and the plants separated however the most of opened and the plants separated however the most even over the rooms. Ours shall be reduced to prove the most even the rooms, During planting opened on the rooms shall be opposed with convers, but opened with convers, asy or other suitains metalish metalish.

(a) No plant shall be isound with with or rope at any time so as

to described is not be painted. If proof is submitted that the submitted that any plant apecified is not obtained by armyosai will be considered for any plant apecified is not obtained by a proposal will be considered for use of powers equivalent size or verify with an equitable adjustment of comment price. Such proof plant he cubmitted in without and substantial and substantial her cubmitted in without and substantial by the landscape in the cubmitted and substantial and substantial by the landscape is different and substantial and substantial by the landscape is different and substantial and substantial by the landscape is different and substantial and substan

(a) Fine Lies: The Contractor shall families and plants. The character on the Daywage, as specified and in quantities as shown. The mainties are included for the convergence of the Contractor only and the Contractor shall be required to furnish all sudividual plants in quantities

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(i) The spring season for planting of trees, winder, and vince shall be soon as soon as soon to prove the form of the fall season for such planting shall be from October i to December is. Only word without copyrovel of the liandscape Archibect may planting both entire or constant later than the dates specified.

(3) The oping season is plenting lowns chall he from the time the process of the seal on he worked to his 15, and in the fell from August 15 to November 15, and in the fell from August 15 to November 15, only upon written approved of the Landscape Architect may the Contrate bogis estiler as seasing a larger than the dates specified.

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(i) tree plus shall be at least 3 feet propies in dismeter then the position of the plus of bell or eprend of route, and at least standard dismeter of bell or eprend of route, and at least standard bells.

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(4) Simile shalf he planted or or or much deoper as isomed in pits with

the plant at finished grade. Shruke with halfs shalf he planted in pits with

it inches graster diameter of half, and to a depth at least 5 inches

deeper than bottom of ball, with the sale to the the the the sale to the sale

(3) Pits for vines shall be 24 inches below finished grade and 12 inches greater diameter of ball which in some instances may require removal of subsoil over total area of a particular planting bed.

At least one bushel of cattle manure shall be apportioned to each planting space and mixed thoroughly with the backfill topsoil.

- (4) All pits shall be circular in outline, except for ground cover, and have vertical sides. Excevated material of a subsoil classification or containing extraneous matter shall be removed, and may not be disposed of on the premises unless approval in writing has been obtained from the Landscape Architect.
- (5) When topsoil is placed in pits around roots or balls, it shall be thoroughly mixed with organ-activated sludge fertilizer as specified, or equal, in the following proportions: Two pounds in shrub pits, and five pounds in all tree pits. The depth of planting beds and pits shall be adjusted as necessary to permit a minimum of six inches of topsoil under balls or roots of all plants.

## Obstructions Below Ground

In the event that rock or underground construction work or obstructions are encountered in the excavation of plant pits, alternate locations shall be selected by the Landscape Architect. Moving of tree to altern loops than bottom of ball.

(3) Pits for vines shall be 24 inches below finished grade and 12 latter present of beil which in some instance may require resyst of subsett ever total area of a particular planting bed.

At least one bushel of cettle manure shall be apportioned to och planting eyece end mised the couplity with the beckill topsell.

(d) All puts shall be chronier in outline, emospi for ground cover, as he'vertical sides. Exceveted meterial of a subsell classification or constitue extrements motion shall be removed, and may not be disposed or constitue of the power.

of the premises unless approved in writing see been section of the

(a) When topyout is placed in pits around roofs or baile, it shall be broughly mixed with organ-acrivated tludge familiaes as specified, or equal, in the following propositions: The people of planting beds and pits shall be now in the root pits. The depth of planting beds and pits shall be discussed as accessary to pomett a minimum of six inches of topsoil under this is not all plants.

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In the owant that reck or underground construction work or obstruct and the coefficient of the encountered in the excavation of plant plan, alternate locations as an account to substant by the Land scape Architect. Moving of tree to alternate

locations shall not entail additional costs to the Owner.

#### Planting Operations of plants pits to boundfulled, a singlifor besuin

- approval of the Landscape Architect before starting excavation of same, making any adjustments necessary. Locate no trees or shrubs closer than 72 inches to pavement or structures. Ground covers may be planted up to structures or curbs.
- (2) Plant pits shall not be backfilled with topsoil until they have been approved by the Landscape Architect. If pits are prepared and backfilled with topsoil to grade prior to planting, they shall be so marked and recorded on the plans, that when planting proceeds, they can be readily located.
- (3) Set plants in center of pits, plumb, and straight, and at such a level that after settlement, the crown of the plant will be at the finished grade.
  - (a) When balled and burlapped trees are set, compact topsoil around base of ball to fill all voids. All burlap, ropes, or wires shall be removed from the sides and tops of balls.
  - (b) Roots of bare root plants shall be properly spread out and topsell carefully worked in among them. Gut off, with a clean cut, all broken or frayed roots.

positions that not cateff additional coats to the Owner.

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() state tree tocations, chryie, and who pits, and secure of the Landscope inches their stating escapedance of sense, and the Landscope inches the stating escapedance of sense then and discussion of sense then all the process of the state of the process of the planted up and the process of the planted up and the state of the planted up and the state of the planted up

(a) First pine diall not be packfuled with topsoil until they have less approved by the bandeness. If pite are propored end.

Indepth of sub topsoil to grade prior to planting, they shall be so marked at moraled on the plants, that when planting proceeds, they can be redulted on the plants, that when planting proceeds, they can be redulted onto the plants.

(3) Set gions in conter of pits, plant, and sintiple, and st such a such a level that after negligeness, the capen of the pices will be at the finished order.

(4) when halled and burlapped trace are set, compact topset, or around being of beil to fill all voids. All burlap, rapes, or wires abell to removed from the mides and tops of beils.

(a) Books of being abor plants shall be properly errord out and a separal carefully worked in account that, four off, with a clear care, all burked or fraged rocks.

(4) Topsoil around roots or ball shall be thoroughly compacted and watered. Immediately after plant pit is backfilled, a shallow basin slightly larger than the pit shall be formed with a ridge of soil to facilitate watering. Where curbing occurs around plant pits, the basin shall be omitted. After planting, cultivate the soil in the shrub beds between shrubs, rake smooth and neatly outline.

#### Staking and Wrapping

- (i) Staking and wrapping of trees shall be done immediately after they are planted. Plants shall stand plumb after staking, which shall be done as shown on Landscape Plan.
  - (a) All belied and burlapped specimen tree-like shrubs will not be staked.
- (2) The trunks of all trees except tree-like shrubs shall be wrapped spirally from bottom to top with burlap as specified, and shall be securely tied with suitable cord at top and bottom and at two-feet intervals along the trunk. The wrapping shall overlay and entirely cover the trunk from the ground to the height of the second branches, and shall be neat and snug. Overlap of burlap shall be approximately 2 inches. Trees shall be inspected for injury to trunks, evidence of insect infestation, and improper pruning before wrapping.

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W Soulding end warppding of trees shall be done immediately after they en planted. Plants shall stand plumb ships shalling, which enall be done as shown on Landscape Flan.

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(4) The inquire of all trees except tree-like chrubs shall be verepped county from bottom to top with burdep we specified, and shall be securely led with settable cord at top and notion and at two-foot intervals along the qual. The wrapping shall evertey and enthrely cover the mank from the qual. The wrapping shall evertey and enthrely cover the mank from the grand to the height of the second beauches, and chall be neat and any. Overlap of burdep abail be approximately a inches. Trees shall be because for injury to traits, evidence of insect indeed indestation, and wroter printing before executing.

### Pruning and Mulching

within 2d hours thereafter.

- (i) Each tree and shrub shall be pruned in accordance with standard horticultural practice to preserve the natural character of the plant and in the manner fitting its use in the landscape design, as approved by the landscape Architect.
  - (e) All dead wood or suckers and all broken or badly bruised branches shall be removed by thinning and and shortening branches.
    - (b) Pruning shall be done with clean, sharp tools.
- (c) Cuts over 3/4 inch diameter shall be painted with an approved tree paint. Paint shall cover all exposed cambium as well as other living tissue. Paint shall be waterproof, adhesive and
- elastic, antiseptic, free from kerosene, coal-tar, creosote, or any other material injurious to the life of the tree, and shall be approved before it is used.
- (2) Immediately after planting operations are completed, all tree and shrub pits shall be covered with a layer of mushroom manure 2 inches deep. The limit of this mulch for trees shall be the diameter of the tree hole, and shrubs in beds—the entire area of the shrub bed.

(5) On lews areas pour aged at the most of a species to take your

() Each tree end shrub shall be pruned in encurione with standard in the conductor of the plant and in the industrial cherocies of the plant and in the landacape denign, as approved by the landacape denign, as approved by the landacape denign, as approved by the landacape denign.

- (d) All dead wood or suckers and all broken or hadly housed by thinning our and shortening branches.
  - (a) Fruiling small he done with close, sharp tools.
- (c) Care over 3/4 inch diameter shall be passed with an epproved ree point. Paint shall cover all exposed combium as well as deep point. Paint shall be waterproof, adhesive and slastic, antiseptic, free from kerpasne, coal-tar, drees can eremy other massarial injurious to the life of the tree, and shall be approved before it is used.
- (2) hamodistely after planting operations are completed, all tree and sind pits shall be covered with a layer of musicrosm manure I inches deep. The limit of this mulch for trees shall be the diameter of the tree hole, and while in beds—the entire area of the shrub hed.

#### Grades Pastal quantities tal seed the transfer to the

Finished grades shall be the proposed final grades shown on the architectural site grading plans furnished on request by the Owner. Lawns shall be finish graded to meet walks and adjoining surfaces after settling in a uniform way so no water pockets or ridges will be left.

#### Lawns

(1) Plant grass seed in all areas indicated on the plans.

(b) No seeding shall be done while

- (2) In all lawn areas, the topsoil shall be loosened to a depth of 4 inches and all stones over 1 1/2 inches in any dimension, sticks, roots, rubbish, and other extraneous matter removed. Grade the surface so that, when settled, the surface is free of depressions, ridges, and conforms to the required finished grade.
- (3) On all lawn areas use a fertilizer combination mixed proportionally at the rate of three (3) parts (by weight) sludge to one (1) part (by weight) commercial fertilizer, and apply at the rate of 40 pounds per 1000 square feet and work into the top 2 inches of soil at least 2 days before sowing grass seed.
- (4) The surface shall be smooth and loose and uniformly fine texture immediately before seeding. Prepare only enough ground that can be seeded within 24 hours thereafter.
- (5) On lawn areas sow seed at the rate of 5 pounds to 1000 square

of the control of the control of the control of the same and the control of the c Visiteted grades shall be the proposed than use-des shows on the consecret site profing plans fernished on request by the Owner. Lewiss the first sages, and the manufactured between the property of a property of could be flated product to most wally and edjoining nucleous efter partition AND AND THE PERSON AND PARTY BOTH WHEN AND AND AND ADDRESS. ne unifore way so so water pockets or ridges will be left. (2 Plant gorge need in all orece testimoned on the plant, and (1) In all laws orgon, the topout that! be increased to a depth of Indian and all stones over 1 L/2 inches to any dimension, esteks, soots, called, and other extraneous metter recovers. Dende has ending so met, vion coilled, the gurface to free of depressions, ridges, and confurms to vi promoter previously and their such according to the best bestere and (3) On all laws argon was a femiliast complementes attend proportionally the rets of these (3) parts (by seeight) shader to one (5) part for weight) consecuted fortilizer, and copies at the cate of the pounds per 1900 square lest outweath into Euc tap A tophes of work to issue 2 days budget aquene STREET, IN COLUMN 2 WINDOWS NOW AND ADDRESS OF THE PARTY OF THE PARTY OF THE PARTY AND omittee and plansing has excel bee choose od lines embers off Di ... modistally before seeding., Dyspore only enough ground that our he seeded with the bound thereoff or. CO On leve scene now sood at the rate of 5 pounds to 1960 square

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feet of area. Equal quantities of seed shall be sown in two directions at right angles to each other to produce an even distribution of seed over the entire area.

- (a) No seeding shall be done when wind velocities exceed 5 miles per hour.
- (b) No seeding shall be done after a rain, or if the surface has become compacted, without first loosening the surface of ground.
- (6) Rake the seed lightly into the ground, roll with a 200 pound roller, and water thoroughly with a fine spray.

#### Protection of Work: Occupancy

(i) Occupancy of the project shall not relieve the Contractor of any of the obligations outlined in these specifications.

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(2) The Contractor shall provide adequate protection, including the installation of approved temporary fences, at all times for all planted and seeded areas against trespassing and damage, including erosion.

# Maintenance

(1) Maintenance shall begin immediately after each plant and each portion of lawn is planted, and shall continue in accordance with the following requirements:

ist of area. Equal quantities of saed shall be sown in two directions et aga cagles to each other to produce an even distribution of seed over the order.

- (a) No seeding shall be done whan wind volcation coceed 5 miles per hour.
- (b) No seeding enall be done after a rain, or if the surface has become compacted, without first loosening the surface of ground.
  - (6) Rake the seed lightly into the ground, rell with a 200 pound oiler, and water thereughly with a fine spray.

#### TRUESTUDO : FROW SO EQUIPMENT

- (i) Occupancy of the project shall not relieve the Contractor of any of the obligations outlined in these specifications.
- (2) The Centractor shall provide adequate protection, including the inqualities of approved temporary fences, at all times for all planted and seeded areas against treepaneing and damage, including arcsion.

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(i) Meintenance each negrn hamedistely after each plant and each satisfies of lawn is planted, and shall continue in accordance with the following reculroments:

- (a) Lewns planted during the spring planting season shall be maintained for at least 60 days from the end of planting season, and as much longer as necessary to establish over the entire lawn a close stand of grass of the varieties specified, free of weeds and undesirable coarse, native grasses.
- (b) Lawns planted during the fall planting season shall be maintained in the same manner as for spring planting, but shall not be acceptable until the following June first, provided a lawn of a close stand of grass of varieties specified, free of weeds and undesirable, coarse, native grasses, is established.
- (c) Plants shall be maintained until lawns are accepted, or if installed subsequent to lawn operations or lawn maintenance, until all planting operations, including mulching, are accomplished and approved.
- (2) Maintain lawns by watering, weeding, reseeding, rolling, mowing, trimming, and other operations necessary.
- (a) Mowing shall begin as soon as the grass has reached a height of 2 inches. Grass shall be mowed at least once a week while lawns are under Contractor's maintenance.

- (a) Lawna planted during the spring planting seeson shell be exceeded for at least to days from the end of planting passess, and as much longer as necessary to establish ever the control lawn a close stand of trace of the verteties specified, they of woods and undestrable coerse, native
- (a) Lawas planted during the fall planting season that he majorated in the same member as for spring planting, but shall not be acceptable until the following fune that.

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- (2) Maintain lewing by websing, vesting, reseasing, rolling, mowing, tolling, mowing, tolling, moving, watering, end other operations necessary.
  - (a) Mowing shall begin as soon as the grass has reached a height of 2 inches. Cames easil be mowed at least once a height of 2 inches. Cames easil be mowed at least once a wook while leving are under Contractor's maintenance.

- (b) Lawns shall be kept watered with sprinklers or other approved methods during dry weather or whenever necessary for proper growth.
- (c) Seed used in reseeding shall be the same as mixture specified.
- (3) Maintain plants in a vigorous, thriving condition by watering, cultivating, weeding, pruning, spraying, and other operations necessary.

  No trees or shrubs will be accepted unless they are healthy and show satisfactory foliage conditions.
  - (a) Maintenance shall include, in addition to the above, cleaning, edging, repairs to stakes, wire and wrappings, repair of erosion, and all other necessary work of maintenance.
  - (b) The Contractor may at his own option use an acceptable weed killer in lawn areas, such as 2, 4-D, but no additional cost shall be edded to the Contract price.

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(4) Sidewalks and other paved areas shall be kept clean when planting and maintenance operations are in progress.

#### Final Inspection and Guaranty

Inspection of work of lawns and planting will be made at conclusion of maintenance period required.

Written notice requesting inspection shall be submitted to the Landscape Architect at least 10 days prior to the anticipated inspection date.

- (b) lawns shall be kept wetered with aprialiars or other opproved methods during dry weather or whosever accessory for proper THE PARTY OF THE P
- (d) Seed used in reseasing class be the same as mixture specified. (3) Maintain plants in a vigorous, thriving condition by watering, celtroling, weeding, pruning, apraying, and other operations necessary. Is trees or shrube will be accepted unless they are neshing and show satisfactory folloge conditions,
- (a) Maintonesco shell include, in eddition to the above, cleaning, edging, repairs to stakes, wire and wrappings, repow of erosten, and all ciner ascessary work of maintenance.
- (b) The Coatractor may at his own option use an acceptable weed willer in lawn eress, such as 2, 4-D, but no additional cost shall be edded to the Contract price.
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nessection of work of levens and planting will be made of conduston designation period required.

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#### Acceptance SPECITE GATIONS FOR A THE SECOND SECOND

PADEMS AND SUB-GRADE PROPERTIES Final acceptance. The work under this Contract will be accepted for the Owner by the Landscape Architect upon the satisfactory completion of all work, including maintenance, but exclusive of the replacement of plant This division includes furnishing all aminches, equipment, and materials. ... was a special safe to the transfer to the second and lebor occasiony for propagation of fixed subgrades. The Community shall

#### Guarantee and Replacement

- be responsible for the following: (i) proposition of extense tross and (1) When installation of plants is accomplished during the fall as to be referred the sumposel, (2) stripping and senters of endstring planting season, guarantee plants until the following June 15; when all for rouse. (il) materials awas for this, and (il) mappe gradies o installation of plants is accomplished during the spring planting season, ade to a point approximately t guarantee plants until the following October 1.
- (a) Any delay in the completion of any item of work in the planting operations which extends the planting into more In react cases, torout will heve the than one planting season shall extend the guarantee period over. However, on extractions to expeting scales, etc.) in accordance with the season of completion given above.
- to notice the seponal to a depth of 4 to 6 inc (2) Replace, as soon as weather conditions permit, all dead plants hand. All poppoil and sed measured by her and all plants not in a vigorous, thriving condition noted at the end of the ed to locations as directed by the Lands guaranty period.
- (3) Plants used for replacement shall be of the same size and variety specified in the plant list. Plants shall be furnished, planted, staked, wrapped, wrapped, and mulched as specified.
  - (4) Replaced plant material shall be removed from the site. removed from the stre by the Commissor or will be un-

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Meel acceptance. The work under this Centract will be accepted for the Owner by the Landscape Architect upon the satisfactory completion of the Owner by the Landscape, but exclusive of the replacement of plant all with, including management, but exclusive of the replacement of plant

Commission and Prological Land Commission of the Commission of the

(i) when matalistian of plants is accomplished during the fall planting peacon, quereates plants until the following lune 15; when is accomplished during the spring planting mesons, symmes plants until the following October 1.

(a) Any delay in the completion of any stan of work in the planting operations which extends the slanting lote more that one planting senson that extend the squarestee period is accordance with the acesson of completion given above.

(3) Replace, as soon as weather conditions permit, all deed plants ad all plants not in a vigorous, thriving condutor noted at the end of the

(9) Figure used for replacement shall be of the same size and variety specified in the plant list. Pierce chall be furnished, planted, stated, wrapped, report, and mulched or specified.

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# GRADING AND SUB-GRADE PREPARATION

#### Scope of Work II meterial is required, the meterial will be supplied in the

This division includes furnishing all materials, equipment, and labor necessary for preparation of final subgrades. The Contractor shall be responsible for the following: (1) protection of existing trees and shrubs to be removal tree removal, (2) stripping and storing of existing topsoil for reuse, (3) materials used for fill, and (4) rough grading of subgrade to a point approximately three inches below finished grade.

#### Topsoil Stripping

In most cases, topsoil will have already been stripped within the work area. However, on extensions to existing walks, etc., it will be necessary to strip the topsoil to a depth of 4 to 6 inches, either by machine or by hand. All topsoil and sod excavated by hand will be loaded on trucks and carried to locations as directed by the Landscape Architect.

# Grading Entertal our below the true outspreads provide sound till in not

When excess excevation is encountered, Contractor is to cut to finished subgrade. Materials which cannot be used on the site shall be removed from the site by the Contractor or will be used somewhere on the

#### SPECIFICATIONS FOR GRADING AND SUB-CRADE PRESERVION

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This division includes Carmining all materials, equipment, and labor necessary for proparation of that subgardes. The Contractor shall be responsible for the following: (i) protection of existing trees and similar to be related to be responsible to account, (c) accipping and storing of existing to rease. (c) meterials used for this, and (d) rough grading of subgrade to a point approximately three income halow flatched grade.

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In most cases, topsoil will have already been stripped which the work are. Herever, on excessions to each total and to a depth of 4 to 6 inches, etc., it will be necessary to strip the topsoil to a depth of 4 to 6 inches, either by machine or by land. All topsoil and and excepted by hand will be loaded on trucks and carried to locations as directed by the Landscape Architect.

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When excess excevoites is encouragered, Contractor is to cut to the excess exception of the same and the same of the contractor of well be used somewhere on the removed from the site by the Contractor of well be used somewhere on the

property. All activities shall be coordinated with the Owner, at all times.

Where fill material is required, the material will be supplied in the following manner:

- (a) To be supplied from on site excavation carried out by Contractor.
- (b) Contractor to supply fill sand, of a quality acceptable to the Owner. Contractor must retain truck slips for payment.

In all cases, all grading for construction work by the Contractor, will be done by the Contractor. When fill earth is hauled by Owners' trucks, fill will be dumped on site, and leveling and spreading will be done by Contractor.

In cases where a General Building Contractor has established subgrade outside the building, the Owner assumes no responsibility for the accuracy of the subgrade profile, and Contractor must clear all discrepancies with the General Contractor.

#### Sand Pill

Any material cut below the true subgrade profile must be replaced with sand by the Contractor at his own expense. While sand fill is not generally required under all walks and curbs, the sand fill allowance for the job has been figured on the basis of 4 inches underneath all walks and curbs and this amount will be the total allowable for the job. Contractor

will not be paid for any amount of sand fill in excess of this amount. Should

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Rododendron esperiotense

Rhododonelson seancimans

Zoyela myer

the Contractor exceed the job allotment for sand fill before completing the project, he will still be required to furnish a sand bed where necessary, but he will do so at his own expense.

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the project, he will still be required to furnish a send bed where necessary,

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the Contractor exceed the job allotment for send fill before completing.

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#### PLANT LIST

Botanical Name	Common Name	<u>Size</u>	Quantity
Irees C. and Shoper,			
Cornus florida		3'-4'88	65
Pinus strobus	White Pine	5' BB	27
Shrubs.	g. Convie. 1963.		
Hydrangea quercifolia	Oakleaf Hydrangea	34"BB	23
Kalmia latifolia	Mountain Laurel	18"-24"	110 3 <i>B</i> 260
Leucothoei catesbaei	Drooping Leucothoe	24"BB	60
Rhododendron catawbiense	Catawba Rhododendron	30" 36	BB 67
Rhododendron maximum	Rosebay		
Grass			
Zoysia myer	Zoysia Myer	See	d
	Creeping Fescue	See	d

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	manufacture admire
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Mountain Loursi	Salesta Intifolia
Decoping Leacardon	lesdacted leadicage.
Catawins Readoderstron	Andedondren netowhitense
Rosebay	European northwestern

Royals Myer

Creeping Feacus

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