

SE - 4651

Planting Plan

Introduction

This site will be mined for the sand and gravel resource in a manner described on the approved Special Exception plans. The mining operation will occur in phases and will result in the removal of overburden to obtain access to the desired resource. The overburden will be stockpiled on site for later redistribution in completed phases. After redistribution, the completed phase will be readied for reforestation as required.

Site Preparation

Overburden placed in completed phases will be graded to achieve somewhat level terrain, as previously existed on the site. However, the possible need to provide compensation for impacts to jurisdictional wetlands may result in the creation of areas with lower elevations. These areas could include open water and saturated areas for emergent vegetation, as well as areas which will support woody tree species common to wetlands.

After all grading operations are completed, the soils will need to be prepared for planting. An infusion of organic material, and broadcasting of fertilizer, will provide nutrients for the installed plant species. Organic material in the form of Leaf-Gro should be spread over the surface in a layer not less than 4 inches thick. The material should then be turned into the soil using a disk or plow. The plants should then be installed, and fertilizer applied with a broadcast spreader over the planted area. A common 10-10-10 fertilizer should be used for this purpose.

Planting

Hardwood tree species in the form of bare-root seedlings will be used to reforest the disturbed areas. Planting will be accomplished using a tobacco planter of a type similar to that depicted in detail on this sheet, or where necessary plants will be installed by hand. Trees will be installed at stocking densities of 1,000 per acre for bare-root stock. In areas where emergent plantings may be proposed, we will use a seed mix which is designed to provide a variety of native species. These species will provide food and habitat for animals which may use the area.

Planting will occur between September 15 and April 30 of any year in which planting occurs. Planting will not be done if the ground is frozen. To achieve the desired densities plants will be installed at approximate 6 foot centers. The TCP-II plan sheets (attached) provide information which delineates the areas which will receive plantings. It is the intent of the applicant to restrict planting to the fall of the year to increase the probability of survival of installed material. However, if this is not possible due to seedling availability or some other factor, then planting will occur in the spring. Table 1 (below)

provides a listing of hardwood plant species which may be used. Actual species used will depend upon availability at the time plants are ordered.

Species ordered will be determined based on the expected hydrologic regime for the area to be planted. Decisions regarding species to be used will be made with input from qualified professionals, which may include M-NCPPC Environmental Division staff and the owners consultants.

Table 1.

Scientific Name	Common Name	Type	IR Indication
Acer negundo	Box Elder Maple	seedling	FAC+
Acer rubrum	Red Maple	seedling	FAC
Betula nigra	River Birch	seedling	FACW
Liquidambar styraciflua	Sweet Gum	seedling	FAC
Fraxinus pennsylvanica	Green Ash	seedling	FACW
Nyssa sylvatica	Black Gum	seedling	FAC
Quercus bicolor	Swamp White Oak	seedling	FACW+
Salix nigra	Black Willow	seedling	FAC+
Quercus palustris	Pin Oak	seedling	FACW
Quercus alba	White Oak	seedling	FACU
Quercus rubra	Northern Red Oak	seedling	FACU
Quercus falcata	Southern Red Oak	seedling	FACU
Quercus phellos	Willow Oak	seedling	FAC+
Platanus occidentalis	Sycamore	seedling	FACW+
Liriodendron tulipifera	Yellow Poplar	seedling	FACU
Juglans nigra	Black Walnut	seedling	FACU
Pinus taeda	Loblolly Pine	seedling	FAC-
Robinia pseudoacacia	Black Locust	seedling	FACU

PERFORMANCE PLAN

The primary objectives of this reforestation are to recreate habitat lost due to impacts to the forest resource. The plant species used are intended to increase the species diversity in the forested areas.

In order to evaluate the success of the areas, monitoring of these sites will be conducted annually for a period of three years. A report documenting the development of the installed species will be prepared at the end of each calendar year. The first monitoring report will be completed after one full growing season following completion of the grading and planting of each reforestation area.

The reforestation will be considered successful if 75% survivability is obtained. This percentage includes planted and pioneer species. To evaluate the survival rate of the plants, monitoring of the reforestation areas will be conducted. Monitoring will be conducted twice annually, once in May and once in September, and will include estimates of aerial coverage for herbaceous plants and stem density for woody species. Two monitoring stations per acre will be established for this purpose. Data will be collected within a 1/100th acre plot (a circle with radius 11.78 feet). Aerial cover of herbaceous plants will be estimated, and all living woody stems will be counted within the sample plot.

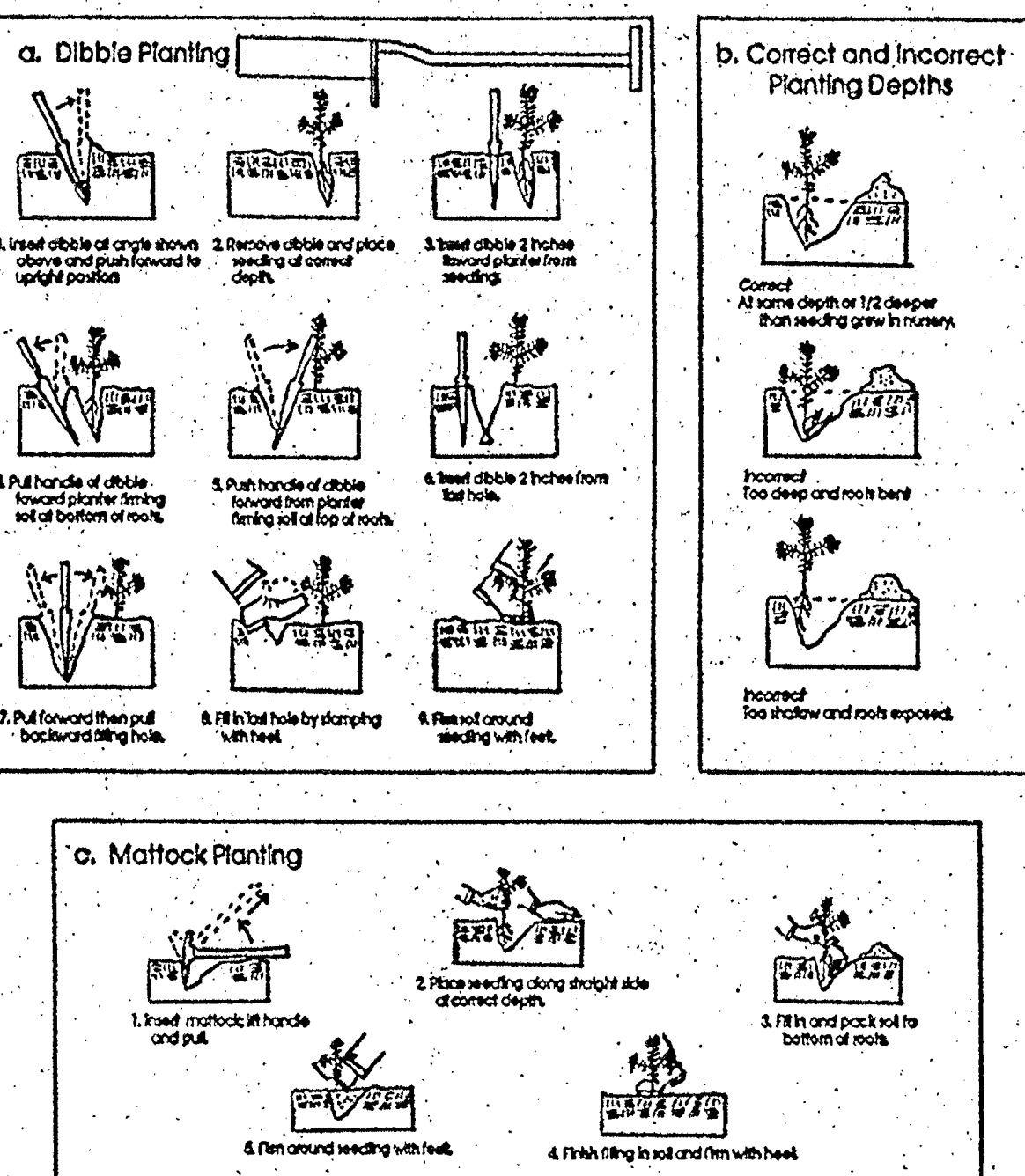
If the site does not experience success in the minimum amounts previously stated, then remedial measures will be enacted. Remediation in the form of replanting with like species and/or hydrologic alteration will be performed after consultation with the appropriate personnel at the M-NCPPC Environmental Division. Consultation will begin prior to the next full growing season with remedial action occurring in the fall of that year.

INVASIVE PLANT AND ANIMAL CONTROL

Vegetative plantings, as discussed above, will be obtained from a regional nursery and will be installed as previously described. Control measures for invasive species will be employed only if necessary. Individual invasives will be removed by hand where possible. If chemical eradication becomes necessary, it will be accomplished with a wick applicator using Roundup® which will avoid contamination of desirable species. If an infestation occurs it may become necessary to use a spray application method, in which case the reforestation will likely be caused to fail and will then need to be re-established. Spray application of herbicides will be employed only as a last resort.

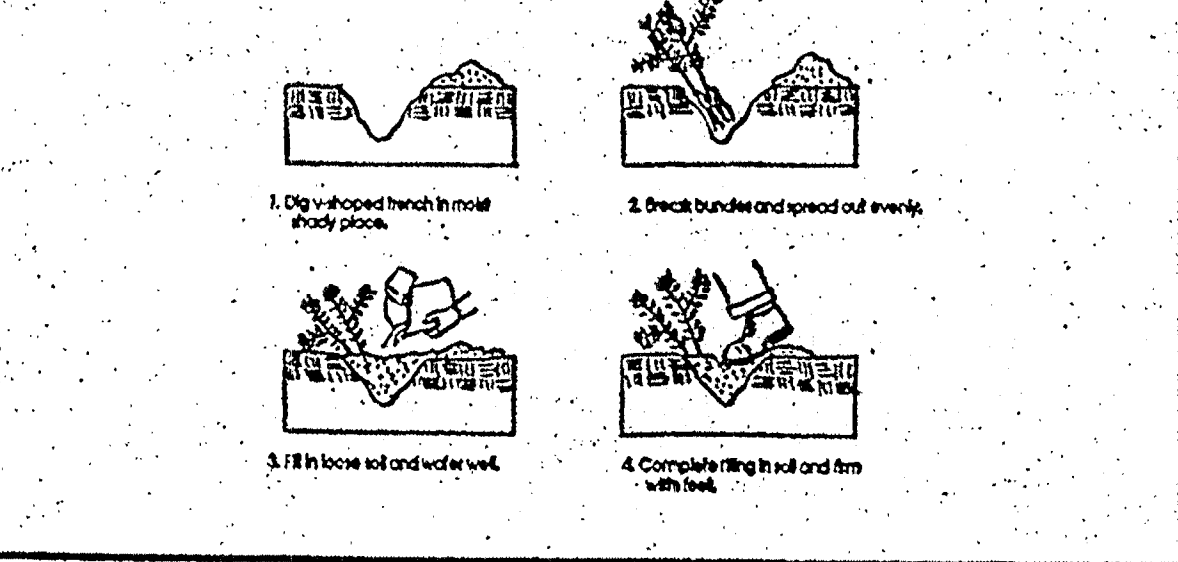
It is not expected that we will see destruction of the installed material by wildlife. If, however, destruction of plant propagules by wildlife becomes a problem we will employ appropriate measures to curb the destruction. Decisions will be made to stop destruction of installed plants as it becomes necessary.

Figure 3.5.5 Seedling Planting Methods



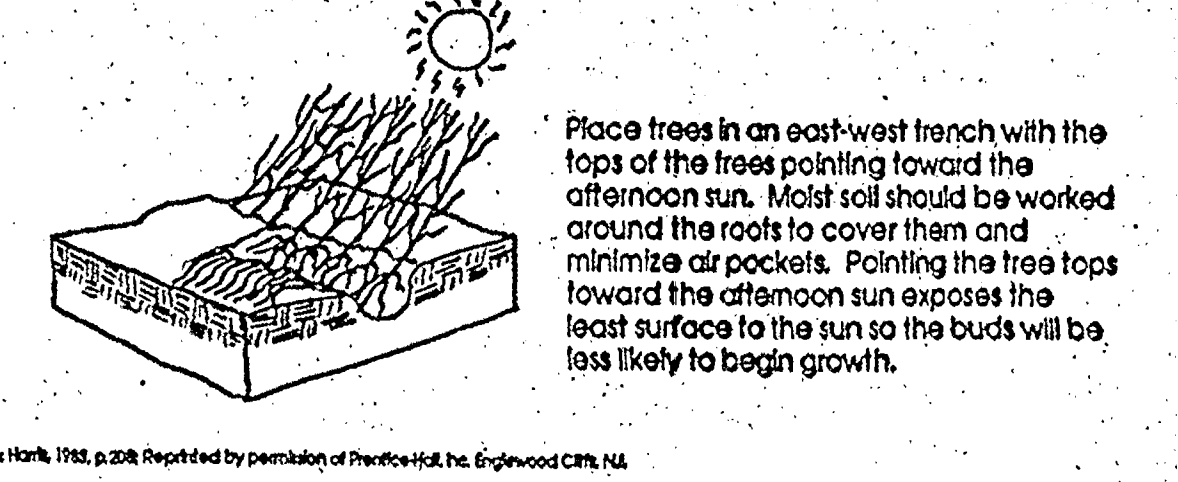
Seedlings and whips need special care when planted. Figure 3.5.5 depicts the recommended manual planting procedures which include correct planting depths (b) as well as methods for two different planting tools: the dibble (a) and the mattock (c).

Figure 3.6.3 Heeling In Bare Root Stock



Bare root seedling and whip stock should be heeled in as shown above, if left unplanted for more than 24 hours.

Figure 3.6.4 Tree Banking



When bare root trees must be held in the open for longer than a few days, the method of tree banking described above is recommended.

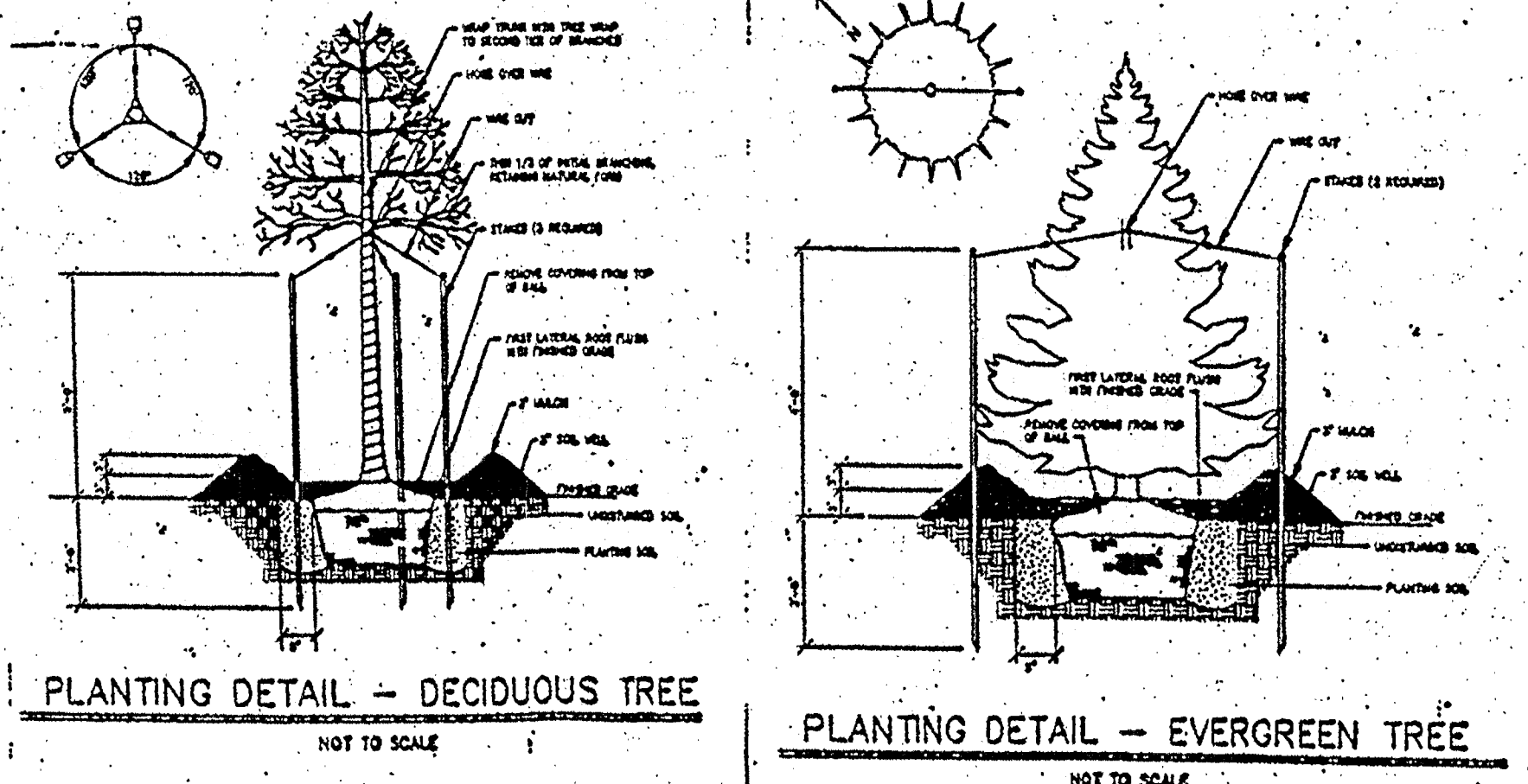


Figure 3.6.6 Handling Seedlings in the Field

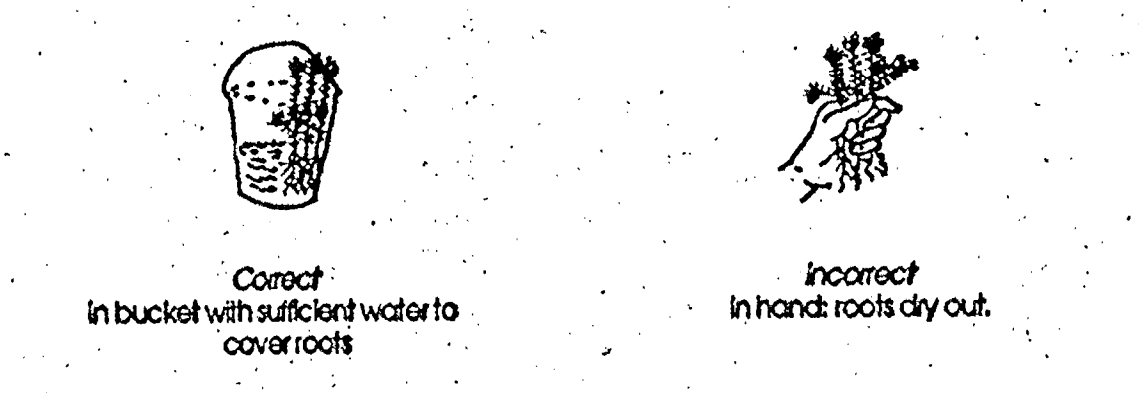
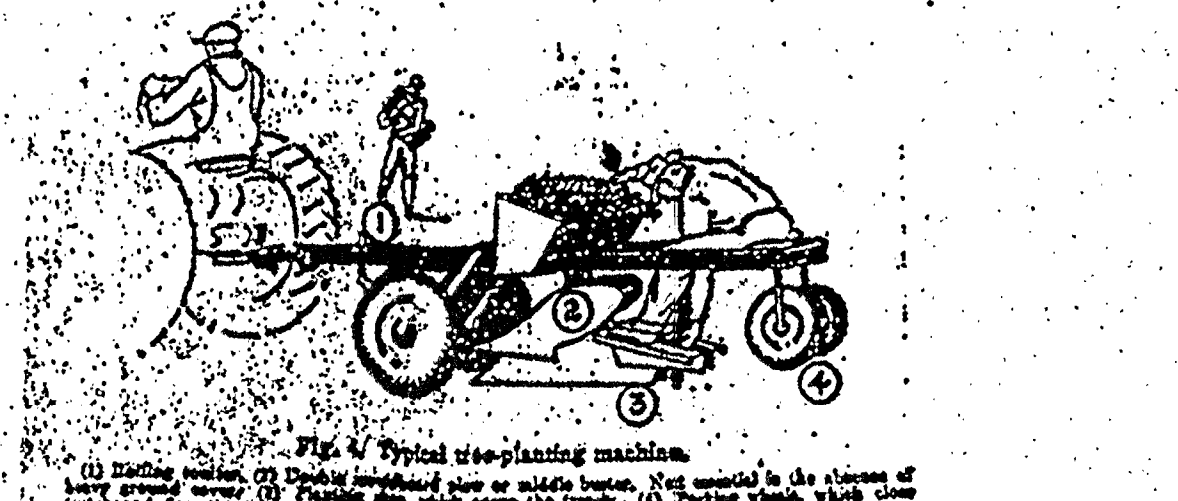


Figure 3.6.6 notes the correct method for handling seedlings in the planting field. Seedlings dry out very quickly and, once dry, often are not usable even after moistening.



All decisions which would employ eradication of invasive plant species, or which would attempt to stop destruction by animals, will be made in conjunction with qualified personnel. Qualified personnel will include representatives of the Permittee, McCarthy and Associates, Inc. and M-NCPPC Environmental Division.

M-NCPPC Prince George's Planning Department Environmental Planning Section APPROVAL TREE CONSERVATION PLAN TCP-009-01	
Approved By:	Date:
John P. Markovich	09/08/2003
01	09/08/2003
02	09/08/2003
03	09/08/2003
04	09/08/2003
05	09/08/2003

MRA	MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 14280 PARK CENTER DRIVE LAUREL, MD 20707 (410) 792-9792 / (301) 778-1690 FAX: (410) 792-7395 MRAGTA.COM	
	AGGREGATE INDUSTRIES, INC. SURFACE MINE TREE CONSERVATION PLAN - TYPE II DETAILS & NOTES 11TH ELECTION DISTRICT - 9TH COUNCILMANIC DISTRICT PRINCE GEORGE'S COUNTY, MARYLAND	
DATE	REVISIONS	JOB NO.: 11771
04/20/09	REVISED CONSERVATION WORKSHEET	SCALE: 1" = 200'
05/13/14	ADDED CONVEYOR STRUCTURE LOCATION & UPDATED SIGNATURE BLOCK	DATE: 04/17/09
		DRAWN BY: CMG
		DESIGN BY: CMG
		REVIEW BY: TFM
		SHEET: 3 OF 3

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