

1070000 ROADSIDE LITTER REMOVAL AND MOWING
COMMENTS FROM INDUSTRY REVIEW

JC Miseroy
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Comments: (from Internal Review):

We like that FDOT wants to split this work out from Performance Sod, and that Litter will be paid separately from mowing. We are concerned though about payment being by Plan Quantity.

It appears the mowing and litter pick-up would include existing and new grass areas, which it should.

An we always have with mowing is determining the area, and gaining agreement on this area between the CEI and the mowing subcontractor. What does payment by Plan Quantity mean in this case? The plans usually state that the contractor can expect to mow a number (say 8) cycles per year. We typically under-run this number of cycles. Also the acres mowed per cycle usually varies depending on the phase of the project. So if we under-run on cycles and our acres per cycle are less than those estimated by FDOT, will we be back to measuring acres again? With Performance Sod we had to estimate the area for mowing. It might be cleaner to be paid per cycle for this work.

In summary, we would like more details from FDOT on how Plan Quantity measurement / payment would work.

Response:

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Comments:

Just one comment. When the statement “*Take responsibility for litter removal and mowing turf within the project limits in accordance with Section 107.*” Is added then the entire section applies. Co might want to address payment such that there will not be any misunderstanding about how to be paid.

Response:

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KEITH and SCHNARS, P.A.
Engineers-Planners-Surveyors
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Comments:

Below are our concerns in the specification changes to 107000 Roadside Litter Removal and Mowing and 5700000 Performance Turf

- Will Section 104-4 Mowing be deleted?
- Proposed Section 107 doesn't require a frequency to be specified, how does the contractor know what quantity to bid on?
- Also, if a frequency is required, how does the designer know what quantity to use for Proposed Section 107? Is specifying a mowing height only to be required.
- If Section 107 is to be considered incidental, why does the spec. refer to a method of measurement and basis of payment identifying a pay item number?
- Will mowing in 570 performance turf be deleted and then 107 will include mowing of new and existing sod.
- **If 104-4 mowing and 570 performance turf are to be used together (as the D6 Construction office has requested) will basis of estimates for 104-4 stating that the two should not be used together be revised? – Current Problem.**

Response:

Marshall Douberley
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Comments:

Text: "107-7 Quality. Mow all grass and vegetation to a height of 6 inches +/- 1/2 inch. When determined by the Engineer, certain areas, due to location, may be cut to a height of 4 inches +/- 1/2 inch. No streaking or scalping will be allowed in the areas mowed. Mowing areas of different widths will be connected with smooth flowing transitions. No accumulation or piling of cuttings will be allowed as a result of cleaning of the equipment. Mow all grass and vegetation on slopes or around appurtenances to the same height and quality as the surrounding mowed area when using hand tools. Negligence that results in damage to turf, curbs, sidewalks, pavement, signs or structures, mail boxes, appurtenances, etc. will be repaired or replaced to the satisfaction of the Engineer at no additional cost to the Department. Complete repairs prior to submission of the invoice for work accomplished during the cycle. It is not required to remove grass or other vegetation cuttings from the right-of-way, or required to rake or pick up the cuttings." ... The last sentence precludes the possibility that there could be a mat of cut vegetation laying on top of underlying grass that will starve the grass of light and thereby kill it. This sentence also contradicts the 'No accumulation' portion of this section. There should be no accumulation of or piling of cuttings at all. The moving equipment should be able to mulch the cuttings and be

driven slowly enough for this to happen.

Response:

Chris Sweitzer
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Comments:

In 107-2, suggest the third paragraph be modified as such: "Mow grass and vegetation to meet the following requirements: [table of mowing heights] Do not include the height seed stalks or wildflowers when measuring the height of grass and vegetation. As written the paragraph could be interpreted as excluding areas with seed stalk from mowing, particularly as it is grouped with wildflowers.

Response:

Brad Hamilton
Estimator
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Comments:

We at Dieter's Sod Service are in favor of the new proposed specifications separating the Roadside Litter Removal and Mowing out of the Performance Turf.

We would also like to see the **Watering** broken out as this is done on a per occurrence basis that varies per job and season. This way all general contractors that are bidding the job are comparing "apples to apples" on the overall phase keeping the numbers more consistent. The way it is setup now is that one GC could be including 5 Waterings vs. another that may be including 10 Waterings which may price them out of the job.

1070000 - Roadside Litter Removal and Mowing

5700000 - Performance Turf

<http://www2.dot.state.fl.us/SpecificationsEstimates/Development/IndustryReview.aspx>

Response:

Thanks for the comments but no to adding a watering pay item for turf, or for landscaping. This was changed because of abuse and misuse that cost the Department significant \$.

David A. Sadler

Director, Office of Construction
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Comments:

I strongly support mowing, litter pick up being removed from the 570 - Performance Turf specification, as the quantities of mowing tend to be vastly different from the performance turf areas. These areas are rarely known by the GC's at the time of the bidding process.

I would like to request to the Department to consider making **Watering** a separate pay item as well.

The current specification “ **570-3.6 Watering:** *Water all turf areas as necessary to produce a healthy and vigorous stand of turf.*”, is not consistent.

Many engineers still insist to pre-water prior to installing sod. While other jobs never need water.

If watering were a separate pay item as in the past (*before 2007*), the Performance Turf price would be reduced and the Department would only have to pay water when needed or requested.

1070000 - Roadside Litter Removal and Mowing

5700000 - Performance Turf

<http://www2.dot.state.fl.us/SpecificationsEstimates/Development/IndustryReview.aspx>

Response:

Thanks for the comments but no to adding a watering pay item for turf, or for landscaping. This was changed because of abuse and misuse that cost the Department significant \$.

David A. Sadler
Director, Office of Construction
Office: 850-414-5203

Frank W. Chupka, PE
Assistant District Design Engineer
FDOT District One

Comments:

I am the District One Champion for Strategic Objective 2003-03 (Improve Project Delivery). Under Sub-objective 2003-03.5 (Improve Quality of CEI) the statewide team including Howard Summers of District One Maintenance has been looking at ways to mesh construction specifications with FDOT Maintenance Rating Program (MRP) criteria. It appears that the new Spec 107 supports that effort based on similarities between it and MRP standards.

I have reviewed the proposed specification and have the following comments:

1. Per Tony Stevens of District One Legal, the second sentence in section 107-2 would allow the contractor to pick up litter up to seven days *after* the mowing is done. If the intent is to have the contractor pick up the litter *before* he mows then consider the following sentence: “Complete each litter removal cycle within the 7 calendar day period prior to the beginning of the mowing cycle.”
2. In order to make sure that the time period between the final mowing by the construction contractor and the first mowing after final acceptance by Maintenance is not too great of a time period (allowing grass to get too tall), consider adding the following sentence to Section 107-2: “Conduct one additional mowing to the minimum height shown in this section, within the 5 work day period prior to the final acceptance date, unless otherwise directed by the Engineer.”
3. Consider replacing the word “Slopes” in the table in Section 107-2 with “Any Slope Steeper Than 1:3.” This would match the MRP definition of slopes and would ensure that the contractor would not try to apply the 24-inch standard to 1:6 front “slopes” and 1:4 back “slopes” in a rural arterial or limited access roadway.
4. How would the contractor know which roadway type to use when selecting height limits in the table in Section 107-2? Even within DOT there can be three different roadway classifications for a single roadway: Planning, RCI, and the physical features of the typical section (Eg. Curb vs. no curb). To be consistent with MRP, I recommend using the RCI classification, but we would have to designate each project-specific classification somewhere in the respective contract documents. If the RCI Classification is used, it should be stated in the header of the table instead of “Roadway Type.”
5. The table, along with the sentence above the table literally say that the *cut* height of grass can be anywhere between the minimum and maximum values without really defining the height that triggers the requirement to mow. Tony Stevens in our legal department concurs with this assessment. Consider replacing the sentence with: “Mow grass and vegetation to the minimum height below (excluding seed stalk and wildflowers) when grass height is equal or greater than the maximum values below.”
6. Consider changing the minimum heights of the first three roadway heights to 5 inches to be consistent with the new MRP values.

Comment Number 2 is most important to District One. Thank you for the opportunity to comment. Please feel free to call me at (863) 519-2572 for clarification if necessary.

Response:

Todd S. Hammerle, P.E.
District Five Maintenance Engineer
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Comments:

Delete from section 107-2 the last 2 sentences of the first paragraph. The information is covered elsewhere in 107-4 or is unnecessary.

Complete each litter removal cycle within 7 calendar days of the beginning of the mowing cycle. The actual number of litter pickups may increase or decrease as determined by the Engineer, due to the intensity of litter or special events.

Delete from section 107-3 the last sentence of the fifth paragraph. The information is covered elsewhere or is unnecessary.

The mowing equipment used will have the capability of cutting a height from 4 inches to 12 inches.

Add to the last sentence of the last paragraph section 107-7. Unless the cuttings are in the travel lanes or are obstructing drainage structures.

It is not required to remove grass or other vegetation cuttings from the right-of-way, or required to rake or pick up the cuttings unless the cuttings end up in the travel lanes or are obstructing drainage structures.

Basis of payment should be modified to LS. Plans notes to be added to assist the contractor with bidding.

Response:

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Comments:

What constitutes “undesirable or objectionable debris”?

Consider changing to “prior **written** approval”? Would be better to have documentation of approval in case something happens.

107-5 Limitation of Operation.

Maintenance of traffic will be in accordance with Section 102. When mowing within four (4) feet of the travel-way (travel lane), operate the equipment in the same direction of the traffic, unless the adjacent lane is closed to traffic. All lane closures will have the **prior approval of the Engineer**. Mowers may operate in either direction when mowing four (4) feet or more from the travel-way.

107-7 Quality. 4th paragraph

Negligence that results in damage to turf, curbs, sidewalks, pavement, signs or structures, mail boxes, appurtenances, etc. will be repaired or replaced to the satisfaction of the Engineer at no additional cost to the Department. Complete repairs prior to submission of the invoice for work accomplished during the cycle.

Do you want Contractor to notify FDOT when any damages has occurred? If so, when and how should a report be made?

Response:

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Comments:

107-2 Second Paragraph – 1st Sentence does not have any value or meaning. 107-5 Sentences - (Perform all work during daylight hours) & (No work will take place during non daylight hours) is redundant. 107-7 First Paragraph –Delete - Conflicts with chart in 107-2.

1. The last sentence of 107-7 states that clippings may be left on the ROW. In the past, discussions and instructions to me from the DEP indicate that we are to prevent contaminants including organic material from entering storm water treatment ponds . D1 Maintenance has a Maintenance Special Provision covering the issue of clippings. In the case of a roadway not opened to traffic, the aesthetics of clippings strewn about on the sidewalk and roadway is not necessarily an issue, however if construction is being done on a roadway with traffic, clippings accumulated on the sidewalk could present a hazard to pedestrians and residents may expect a level of aesthetics that generate complaints. I suggest considering the issue of preventing clippings from entering the drainage system and dispersion be addressed in this proposed procedure.

Response:

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Comments:

I have received the following comments from the D2 Construction Residencies for the above mentioned Specification:

1) I think that while a reasonable person would see the table of mowing heights as a guide to when to mow, it can also be seen as a guide to mowing tolerances. In other words it could be argued that the table outlines how to mow but not when.

The sentence just above the table should read something like:
“Mowing should be conducted throughout the project when the vegetation height exceeds the maximum height limit, as seen in the table below”.

107-2: As it is written:

The first sentence tells you that litter is picked up in conjunction with mowing. This could confuse the issue when you ask for an extra litter pickup while the grass meets the height limit.

The third sentence says you might have more or fewer litter cycles. Since the need for mowing is what normally determines how many times you pick up litter, there should not be a decrease in litter cycles.

To clarify the two points above the third sentence of 107-2 should read something like:
“The actual number of litter pickups may increase if, due to the intensity of litter or special events, the Engineer decides it is necessary to do litter pickup additional to those done in conjunction with mowing”.

2) While we are not calling for the pickup of cuttings in this spec. I know that LC Maintenance has their mowing contractor bag up clippings on SR 47 in the curb and gutter section. I also heard movement toward bagging cuttings in urban areas due to storm system maintenance and Total Maximum Daily Loading (TMDL) for upcoming possible permitting requirements/restrictions.

3) Creating a separate section for litter removal and mowing with pay items is the way to go. However, I question removing the mowing frequency and relying on a maximum grass height of 18 inches. I don't believe all grasses grow to 18 inch heights and by the time the grass is 18 inches, the weeds will be three to four feet high. We'll sure have ugly

Roadways.

They could say in the third paragraph:

“Mow when the vegetation reaches the following requirements(excluding seed stalk and wild flowers.” This then would

not focus on the word grass as to when to start the mowing cycle. The other areas of the specifications brings in the

word grass and that is not a problem. But it would seem that grass growing to 18 inches would be when to start the

mowing cycle. The weeds could be greater than 18 inches.

4) Do they intentionally skirt the issue of dead animals ?

Response:

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Specifications / Design Review
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Comments:

I've got a good many comments and a few questions concerning the changes to mowing and litter removal. Spec 104, 107 and 570 were under review but I also included comments on 580 regarding this subject. I did discuss briefly with Paul Steinman and Larry Ritchie to get a better idea on the intent of the changes before I commented. As always I appreciate the chance to comment.

107

1. Will this spec include mowing of all turf areas both new and existing during Construction?
2. Does it cover mowing of both new and existing turf during the establishment period in 570 (Performance turf)?
3. What about the establishment period in 580 (Landscaping)?
4. What about litter pick up during the establishment periods in 570 and 580 too?
5. My understanding in discussing with Larry & Paul is that for both mowing and litter removal under this spec the total quantities are based on the area where the work is done times the number of cycles. For example on a project with 10 acres of turf that is mowed 10 times equals 100 acres. Because the quantities (estimate, bid and final) are based on the prescriptive frequency doesn't this of conflict with the performance frequency (maximum and minimum heights) in 107-2? I don't know which way is best but shouldn't we either be going all performance or all prescriptive?
6. Beginning with the title and throughout the spec suggest removing terms like "roadway", "highway" or "roadside". These terms could exclude other areas or projects. Retention ponds and rails to trails for example.

7. Suggest changing "grass" to "turf" throughout 107 to match Spec 570.
8. 107-1 (Description) Should edging, sweeping & cleaning gutters be included in a sidewalk and/or curb and gutter section?
9. 107-1 (Description) Suggest defining the "limits of the project" a little more specifically to something like "all areas within the project limits right of way" for litter and for mowing limits.
10. 107-1 (Description) Suggest moving 107-2 second paragraph to 107-1
11. 107-1 (Description) What about specialized equipment in other areas (that aren't saturated) such as urban, landscaping, slopes etc?
12. 107-1 (Description) When defining litter or debris suggest replacing "may consist of varied sizes of" with "includes but is not limited to"
13. 107-1 (Description) Should dead animals be included here in the definition of litter or debris?
14. 107-1 (Description) Suggest rewording the definition of "vegetation" to not include "vegetation".
15. 107-2 (Frequency of Litter Removal and Mowing) Is the statement "The actual number of litter pickups may increase or decrease as determined by the Engineer..." necessary? It seems to suggest that no adjustment in pay would be made. Would something like "Additional litter removal may be required independent of mowing as determined by the Engineer".
16. 107-2 (Frequency of Litter Removal and Mowing) Suggest removing "due to the intensity of litter or special events." The need for litter pickup only (without mowing) may be due to no increase in intensity or special events particularly during winter months, drought or in areas where turf is being established.
17. 107-2 (Frequency of Litter Removal and Mowing) Suggest moving paragraph 2 to 107-1 as it has nothing to do with frequency.
18. 107-2 (Frequency of Litter Removal and Mowing) Could the term "...limits of mowing have been previously established..." exempt new turf from being mowed? Suggest changing to "...limits of mowing existing turf have been previously established..." Suggest adding sentence to state "Mow areas of new turf after establishment of a healthy root system."
19. 107-2 (Frequency of Litter Removal and Mowing) The phrase "maintained by the Department" may not apply as others could be maintaining or the project could be off system. Suggest changing "Mow up to the limits maintained by the Department and around existing appurtenances located within the roadway right-of-way as directed by the Engineer." To "Mow up to the limits maintained as directed by the Engineer."
20. 107-2 (Frequency of Litter Removal and Mowing) 3rd paragraph. Is the intent to allow the contractor to mow when he wants to within these ranges which is what "meet the following requirements" implies? Or is the intent to require the Contractor to mow when the maximum height is reached and cut to the minimum height? Is there a need to add "When directed by the Engineer" prior to "Mow grass", if so would this combined with a plan note addressing frequency (very common with most districts) and quantities based on frequency preclude the need for maximum height requirements?
21. 107-2 (Frequency of Litter Removal and Mowing) Current wording seems to exclude mowing seed stalks and many weeds have "seed stalk(s)" suggest removing "(excluding

- seed stalk and wildflowers)” and replacing with “Ignore grass seed stalks or wildflowers when determining height of turf.” after the table.
22. 107-2 (Frequency of Litter Removal and Mowing) Suggest defining "Slopes" in the table. Otherwise for most turf areas the maximum height will be 24" and there really wouldn't be a need for anything other than 24" as a maximum height.
 23. 107-2 (Frequency of Litter Removal and Mowing) Last paragraph. Suggest changing “Avoid cutting wildflower plots or areas of naturally occurring wildflowers when...” to “Avoid cutting wildflowers when...”.
 24. 107-3 (Equipment) Next to last paragraph Suggest changing “...cutting a height from 4 to 12 inches.” to “...cutting to the minimum height requirements in 107-2.” Or maybe eliminate entire sentence as it's really covered by the next sentence in combination with 107-7 (Quality).
 25. 107-4 (Method of Operation) 1st paragraph. Is this information redundant as most of the items are found in 107-1? Suggest rewording sentence to read "Immediately prior to mowing confirm that the area is relatively free of litter particularly items that would result in an objectionable appearance after mowing.”
 26. 107-4 (Method of Operation) Does the sentence “Mow grass and vegetation on slopes or around appurtenances concurrent with the mowing operation.” eliminate the need for a different maximum height (24”) for slopes? If not what's the purpose of a higher maximum height for slopes?
 27. 107-5 (Limitation of Operation) Suggest removing either “Perform all work during daylight hours.” Or “No work will be permitted during non-daylight hours.”
 28. 107-7 (Quality) 1st paragraph. Suggest changing "...to a height of 6 inches +/- 1/2 inch" to "within +/- 1/2inch tolerance of the minimum height required by 107-2"
 29. 107-7 (Quality) 1st paragraph, 2nd sentence. Is this sentence needed or will the minimum heights in 107-2 suffice? If it is needed suggest moving it to 107-2 and change to something like "When required by the Engineer the minimum mowing height may be reduced to a minimum of 4 inches".
 30. 107-7 (Quality) 3rd paragraph. Is this sentence needed? It appears to be well covered in paragraph 1 and 2. Also see previous comments about maximum height for slopes.
 31. 107-7 (Quality) 4th paragraph. Should this paragraph be replaced with a reference to 7-11 (Preservation of Property)? Portions appear to be in direct conflict. About the only thing that may not be covered by 7-11 is damage to turf. Should it be added to 7-11?
 32. 107-7 (Quality) Last paragraph. Should this paragraph be modified to account for the need to edge and sweep sidewalks and clean out gutters in urban sections?
 33. 107-8 (Method of Measurement) It's not clear that the quantities for either mowing or litter removal are based on the number of cycles. Please clarify in 107-8 & 107-9.
 34. 107-9 (Basis of Payment) 1st & 2nd paragraphs. Suggest using language similar to that commonly found in other basis of payment sections. For example "Price and payment will be full compensation...."
 35. 107-9 (Basis of Payment) 1st paragraph. Suggest removing " designated areas of". Why and how would you want to have certain areas designated for litter removal? Seems to imply that if “designated areas” aren't in the plans then litter removal isn't needed.
 36. 107-9 (Basis of Payment) 2nd paragraph. Do “Compensation” and “Payment” have different meanings? If not why use different terms?

- 37. 107-9 (Basis of Payment) 2nd paragraph. Suggest striking "unless a known change is directed by the Engineer". The term "known change" is not found anywhere in the 2010 Standard Specs however section 9-1.3 (Determination of pay areas) covers how plan quantity is to be calculated in detail.
- 38. The mowing spec should clearly state that all clippings must be removed from the pavement areas and that no clippings should be placed within a curb and gutter area where they will be collected in a storm sewer system. Section 107-7 is probably the best place to add this (District Maintenance).

Response:

Comments:

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Comments:

Response:

Comments:

Response:

Deborah Toole
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State Specifications\Estimates Office
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Comments:

I would have used the Industry Review webpage to do so; however, it would be easier to follow with track changes. (I offer an apology to those that I have complained about who do not use the webpage for submitting comments – sometimes it is not so easy!)

I offer the following suggestions for Section 107 Roadside Litter Removal and Mowing:

1. ARTICLE 107-1 Description.

Provide pickup, removal and disposal of litter and otherwise undesirable or objectionable debris within the maintained limits of the highway right-of-way. -Mow grass or vegetation in roadside areas with conventional mowing equipment within the limits of the project.

Use specialized equipment, or hand labor when required, to perform litter removal or mowing in saturated areas where standard equipment would damage the turf. -Litter or debris may consist of ~~varied sizes of~~ bottles, cans, paper, tires, tire pieces, lumber, vehicle parts, metal junk, brush, ~~or~~ and other items to be removed under this work. -Vegetation consists of ~~planted or natural grasses~~ planted and/or natural grasses, ~~and~~ weeds, and other vegetation within the area to be mowed.

2. ARTICLE 107-2 Frequency of Litter Removal and Mowing.

~~Perform roadside litter removal is performed~~ in conjunction with mowing ~~operations within~~ of the project limits or **specified areas**. ~~Complete each~~ Litter removal ~~shall be completed~~ cycle within 7 calendar days ~~prior to of the commencement of~~ beginning of the mowing ~~operation~~ cycle. -The actual number of litter pickups may increase or decrease as determined by the Engineer, due to the intensity of litter or special events.

The areas and limits of mowing have been previously established and are distinguishable in the field. Where landscaping has been established or natural landscaping has been preserved, mow conforming to the established mowing contours. -Mow up to the limits maintained by the Department and around existing appurtenances located within the roadway right-of-way as directed by the Engineer.

Mow ~~g~~ Grass and vegetation to meet the following requirements (excluding seed stalk and wildflowers):

Roadway Type	Maximum Height	Minimum Height
Rural Limited Access Roadway	18 inches	6 inches
Rural Arterial Roadway	12 inches	6 inches
Urban Limited Access Roadway	12 inches	6 inches
Urban Arterial Roadway	9 inches	4 inches
Slopes	24 inches	6 inches

Avoid cutting wildflower plots or areas of naturally occurring wildflowers when in bloom ~~or~~ and when re-seeding.

2a. In the first sentence of the first paragraph, who determines the “specified areas” and where is this noted?

2b. In the first sentence of the second paragraph, who established the areas and limits of mowing and how are they distinguishable in the field?

3. ARTICLE 107-3 Equipment.

Equipment ~~used~~ utilized to transport litter ~~shall~~ will be constructed in a manner to ~~prevent~~ preclude further distribution or loss of litter along the roadway. ~~The Contractor shall s~~ Submit a written request ~~to the Engineer and obtain~~ for approval, ~~to the Engineer, prior to~~ for the use of specialized equipment designed for mechanized removal of litter and debris. ~~If deemed necessary by the Engineer, and at no additional cost to the Department, the Contractor shall d~~ Demonstrate that use of the specialized equipment will result in ~~satisfactory results at no cost to the Department that the specialized equipment will produce quality litter removal, if deemed necessary by the Engineer.~~ -The Engineer may require additional safety devices or precautions unique to the equipment.

Equipment that ~~will cause~~ damages curbs, pavement, or turf will not be allowed.

~~Equip-~~All mowing equipment *shall be equipped* with a “slow moving vehicle” sign ~~mounted~~ located on the rear of the tractor, ~~either an~~ amber flashing light or white strobe light mounted on the tractor, ~~and an 18 inch by 18 inch orange fluorescent warning flag mounted on each side on the rear of the mower. In addition 18 inch X 18 inch fluorescent orange warning flags mounted on each side of the rear of the mower,~~ protective devices *shall be installed* on the mower to prevent objects from being thrown into traffic, ~~and as well as any~~ safety devices installed by the manufacturer. ~~The Contractor shall ensure safety devices are p~~ Properly installed and maintained safety devices at all times when the equipment is in use.

If the Engineer determines that any equipment is deficient in safety devices, *the Contractor shall* remove the equipment from service immediately. ~~Keep-~~ ~~The equipment shall not be returned to out of~~ service until the deficiency is corrected to the satisfaction of the Engineer. ~~Inspection of the equipment by the Engineer will not relieve the Contractor of responsibility or liability for injury to persons or damage to property caused by the operation of the equipment, nor will it relieve the Contractor of the responsibility to meet the established time for the completion of the mowing and litter removal.~~

Maintain the mowing equipment so as to produce a clean, sharp cut and uniform distribution of the cuttings at all times. The mowing equipment used will have the capability of cutting a height from 4 inches to 12 inches.

Furnish equipment of a type and quantity to perform the work satisfactorily.

3a. Is there any specific criteria for the “slow moving vehicle” sign? If so, this needs to be included in this Article.

4. ARTICLE 107-4 Method of Operation.

Prior to mowing, remove and dispose *of* from the right-of-way, any large items such as wood, tires, cans, bags of trash, newspapers, magazines, *or* large boxes, etc., that *could* be torn, ripped, or scattered by the mower and result in an objectionable appearance.

Exercise the necessary care to ~~preclude-~~ ~~remove any~~ *all* sources of litter.

Mow shoulders and medians ~~concurrently-~~ within the limits of the area *to be* mowed so that not more than one-~~(1)~~ mile will *remain* be left partially mowed at the ~~end~~ ~~conclusion~~ of the working day. ~~Mowing operations include~~ grass and vegetation on slopes ~~and/or~~ around appurtenances ~~concurrent with the mowing operation.~~

Do not mow grassed areas saturated with standing water to the point *such* that standard mowing equipment *would result in* ~~may not be used without~~ excessive damage to the turf. ~~Mow the areas or cut to the surface of the water using hand labor or other specialized equipment.~~

5. ARTICLE 107-5 Limitation of Operation.

Maintenance of traffic will be in accordance with Section 102. ~~When mowing within four (4) feet of the travel -way (travel lane), operate the equipment in the same direction of the traffic, unless the adjacent lane is closed to traffic. -All lane closures will have the prior approval of the Engineer. -Mowers may operate in either direction when mowing four (4) feet or more from the travel-way.~~

All work shall be p ~~Performed all work~~ during daylight hours.

~~The~~ ~~se-~~ ~~foregoing~~ requirements are to be considered *as a* minimum. ~~and e~~ Compliance will ~~in no way~~ *not* relieve the Contractor of final responsibility for providing adequate traffic control devices for the protection of the public and employees throughout the work areas.

~~No work will be permitted during non-daylight hours.~~

6. ARTICLE 107-6 Disposal of Litter and Debris.

Litter shall be placed in trash bags and placed on the right of way for pick up at the end of each work day. Storage or stockpiling of litter or debris on the right-of-way will not be permitted. The Contractor is responsible for providing the locations for disposal and remove all litter that has been placed in trash bags for pick up from the right of way at the end of each working day. Be responsible for disposal of litter and debris and all any costs that may incur associated with complying in accordance with applicable local and state laws. Storage or stockpiling of litter or debris on the right of way will not be permitted.

7. ARTICLE 107-7 Quality.

Mow all grass and vegetation to a height of 6 inches *plus or minus* +/-1/2 1/2 inch. When determined by the Engineer, *certain areas, due to certain locations,* may be cut to a height of 4 inches *plus or minus* +/-1/2 1/2 inch.

~~No~~ streaking or scalping will *not* be allowed in the areas mowed. ~~Mowed~~ing areas of different widths will be connected with smooth flowing transitions. *The Contractor is not required to remove grass or other vegetation cuttings from the right of way; however, n*No accumulation or piling of cuttings will be allowed as a result of cleaning of the equipment.

Mow all grass and vegetation on slopes or around appurtenances to the same height and quality as the surrounding mowed area when using hand tools.

Negligence that results in damage to turf, curbs, sidewalks, pavement, signs or structures, mail boxes ~~or appurtenances, etc.~~ will be repaired or replaced to the satisfaction of the Engineer at no additional cost to the Department. *All repairs and replacements must be c*Completed repairs prior to submission of the invoice for work accomplished during the cycle.

~~It is not required to remove grass or other vegetation cuttings from the right of way, or required to rake or pick up the cuttings.~~

7a. How does this work with the table in 107-2? (b) Under what circumstances would the maximum height be used?

8. ARTICLE 107-8 Method of Measurement.

The quantities to be paid for will be the area, in acres, of mowing completed *and accepted* and *the area of litter removal,* in acres, ~~from which litter has been removed~~*completed and accepted.*

9. ARTICLE 107-9 Basis of Payment.

For ~~Litter r~~Removal, payment will be full compensation for furnishing all equipment, materials, labor, disposal, and incidentals necessary to complete designated areas of litter and debris removal.

For ~~m~~Mowing, payment will be full compensation for furnishing all equipment, materials, labor, and incidentals necessary to complete all mowing operations specified. ~~Compensation will be the unit price per acre for mowing times the actual acres completed and accepted.~~ Payment is based on the plan quantity unless a known change is directed by the Engineer.

Payment will be made under:

- Item No. 107 - 1- Litter Removal and Disposal – per acre.
- Item No. 107 - 2 - Mowing – per acre

Response:
