Criteria for determining whether or not a public material source(s) should be evaluated for use on a project

At the earliest stage of a project (i.e. during scoping), the following questions should be asked regarding potential material needs. A decision on material source needs has to be made early in the project to assure that adequate project budget is available and that the time necessary to complete the work is added to the project schedule. Based on the responses to these questions, a preliminary determination will need to be made as to whether or not a material source site or sites may need to be developed as part of the project work. **At the time of project scoping, certain project assumptions will be required to assist in making this decision.**

If the initial determination is to pursue development of a public resource site or sites, but further along in the process based on more refined design it is determined no source is needed or no source can be made available, the work can be dropped. The problems occur when source need is not identified until late in the process, when inadequate time and/or resources are available to complete the necessary work.

General Questions:

Will the proposed project have any material source needs? Common Borrow, Stone Embankment, Aggregate, Disposal, other?

Do the project specifics warrant the identification of publicly controlled sources of material or a publicly controlled disposal site?

Project Specifics: Project concept, project location, preliminary estimate of quantities needed, known available resource or disposal sites in the area and ownership distribution of the potential sources.

If the determination is that a public site(s) should be pursued for potential use on the project, the person(s) responsible for pursuing the sites should use the ODOT Material Source Checklist to help guide the development process.

To help answer these general questions the following list of questions and comments has been provided to help guide decision process initially and as the project progresses:

Embankment/Borrow

Will the proposed project require embankment for the mainline construction, ramps, frontage roads, widening of the roadway?

Will the proposed project require embankment for guardrail flares, pipe extensions, detours or other use?

Will there be any excavation on the project?

If there is excavation planned for the project, is the material suitable for the embankment needs, will the quantities balance, can the cuts be expanded or the embankments widened to balance the project?

If there is excavation and embankment on the project, will the project be staged to allow for the use of the excavated material as embankment?

If no excavation is planned but embankment is required, are there slopes in the near vicinity of the project that would benefit from removal i.e. rockfall areas, restricted sight distances? Are there roadway safety concerns that could be eliminated i.e. vertical or horizontal curve problems, shading/icing issues, etc? (potential for this work should be identified as early in the process as possible)

If embankment material is needed and no on site excavation is planned, what are the estimated quantities needed for the project? (*Depending on the location of the project in relation to potential sources of material, a need of 5000 cubic yards may warrant identification of a site, in other areas you may look for quantity needs of 10,000 cubic yards or higher prior to identification of borrow sources.)*

If an off site source of borrow/embankment will be required, what potential sources of material exist in the project area? Are there commercial or private sources available? Are there public sites available? *(When determining whether or not to offer a public site, the location and number of viable alternative sources are the main factors to consider.*)

Disposal Sites

In most cases if the excavation quantities exceed the project embankment needs by more than 5000 cubic yards, a disposal site should be identified. In environmentally sensitive areas, a lesser quantity of excess excavation may warrant a disposal site (PDLT Notice #10). (excess excavation in this section refers to clean non contaminated material)*

Will the proposed project require excavation for the construction or widening of mainline, ramps, frontage roads etc.?

Will the proposed project require excavation for construction of detours or other project needs?

Can the excavated material be disposed of on site via use in embankments, widening of shoulders, guardrail flares, pipe extension, random fills, false cuts?

Can excess excavated material be used on other projects in the area?

Can excess excavated material be temporarily stockpiled for use on future projects?

Are there any privately owned properties in close proximity to the project that require fill, or privately owned pits or quarries that could benefit from the material for reclamation? (DOGAMI may be of assistance in identifying private sites.)

Are there any wide rights of way, existing publicly owned sites or other potential areas for use as a disposal site?

Aggregate Sources

Generally a need of 10,000 cubic yards of crushed rock is the threshold number used to determine if there is reason to look at potential public sources of material. In rural areas where source options are limited the threshold for considering offering a prospective source may drop to 6,000 cubic yards. The threshold numbers are project dependent, but are a rule of thumb to be used when considering whether or not to look at identifying a public site for potential use.

For other rock needs such as stone embankment, all weather fill, rip rap and other rock needs that require minimal processing or sorting, the threshold number can be lower. If the rock product requirements for these types of material are estimated at 5000 cubic yards or more, consideration of potential public sources should be evaluated.

Will the proposed project require aggregate for base rock, shoulder rock, A/C, EAC, Chip Seal, stone embankment, all weather fill, rip rap?

What is the estimated project needs for each material type? What is the total rock need for the project?

What potential sources exist in the project area that contain the native material necessary to produce the needed material types? (*i.e. rip rap can not be obtained from all quarries, not all hard rock sites have A/C quality material etc.*)

Are there sources within the project limits? Within 5 miles? Within 10, 15, 20 miles?

How many viable sources of material are there within 20 miles of the project? (*If there is only a single private site in the project area, the possibility of developing a public controlled source should be evaluated.*)

What is the ownership distribution of the viable material sources? (*If there are multiple sites but only one private owner in an area, options for a public source should be evaluated.*)

What is the history of the viable sources? Quality? Quantity? Production Issues? (*If the sources in the area have historical problems with quality or production issues or if the*

quantities in the known sites appear low, a public source should be evaluated. The laboratory may be able to provide some data related to historical use of a site.)

What is the bidding history for projects in the area requiring similar material? (*If similar projects in this area have historically had a low number of bidders {i.e. 2 to 3 or less}, and resource sites are limited, a public source should be evaluated. The local PM office should be able to provide some history.*)

Additional factors to considered:

If the project that is being scoped has material needs below the threshold numbers, is there a need to consider increasing the project size by extending the project limits or by combining projects to raise the level of need high enough to warrant offering a source?

When evaluating the need to offer a public material source for a project, other immediate or upcoming needs should also be considered (i.e. future projects, maintenance needs, other agency needs). Combining of projects may allow for better pricing of the material by reducing mobilization and administration cost.

What is the timing of the proposed project or projects that may utilize a particular source of materials? (ODOT needs to manage available resource sites to maximize the benefits. An ODOT site can't be offered for more than one project at a time unless they are combined, due to the potential conflict between contractors and their operations.) Combining of projects or staggering let dates may be required to allow for maximum use of a site.

When is the contract scheduled to be let? (It has been noted that bidder numbers tend to increase, when contracts requiring crushing are let in the late fall or early winter allowing for several months to schedule and complete the crushing phase of the work prior to the paving season.)

Will there be weather (snow, mud) or environmental restrictions (seasonal closures, fire danger) at the proposed site that will potentially conflict with the project schedule?

Will the scheduled project let date and completion date allow for the desired flexibility in scheduling the work? If not, can it be modified?

The potential need for publicly controlled embankment/borrow sources and disposal sites for excess excavation are frequently overlooked project elements. The availability of quality material or the lack thereof can have a significant influence on overall project cost. ***Public resource sites are by no means required for all public projects****. The need for public aggregate sites is much more likely on rural projects versus urban area projects. If inadequate commercial or private resource sites exist in a project area to assure competition and an adequate supply of quality material, a public resource site should be evaluated.*