BEFORE THE BOARD OF COUNTY COMMISSIONERS
FOR COLUMBIA COUNTY, OREGON

In the Matter of the Application of the City of Vernonia for a Major Map Amendment from Rural Residential to Urban Growth Boundary (UGB) and Interim Zoning to Community Service - Institutional (CS-I)	)))))	ORDINANCE NO. 2009-9

The Board of County Commissioners for Columbia County, Oregon, ordains as follows:

SECTION 1. TITLE.

This Ordinance shall be known as Ordinance No. 2009-9.

SECTION 2. AUTHORITY.

This Ordinance is adopted pursuant to ORS 203.035, ORS 197.610 and 197.615, and ORS 197.732.

SECTION 3. PURPOSE.

The purpose of this Ordinance is to approve the Application of the City of Vernonia (Application No. PA 09-02) to expand its Urban Growth Boundary to include an approximately 22 acre site for new school facilities, identified in the County Assessor's records as Tax Lots 4404-000-00100, 4404-000-00300 and 4404-000-00400. The Major Map Amendment includes a Comprehensive Plan Amendment to change the subject property from Rural Residential to Urban Growth Boundary (UGB), a Zone Change from Rural Residential-2 (RR-2) and Single Family Residential (R-10) to Community Service-Institutional (CS-I), as well as a requisite Goal Exception to Statewide Planning Goal 14.

SECTION 4. FINDINGS.

The Board of County Commissioners adopts Findings of Fact and Conclusions of Law contained in the September 23, 2009 Land Development Services Staff Report to the Board of Commissioners, with all of its attachments, which is attached hereto collectively as Attachment 1 and incorporated herein by this reference.

SECTION 5. AMENDMENT AND AUTHORIZATION.

A. The Urban Growth Boundary for the City of Vernonia, is hereby expanded as proposed by the City of Vernonia to include Tax Lots 4404-000-00100, 4404-000-00300 and 4404-000-00400.

B. The Columbia County Comprehensive Plan Map designation for Tax Lots 4404-000-00100, 4404-000-00300 and 4404-000-00400 is hereby amended from from Rural Residential to Urban Growth Boundary (UGB).

C. The Zoning Map designation for Tax Lots 4404-000-00100, 4404-000-00300 and 4404-000-00400 is hereby amended from Rural Residential-2 (RR-2) and Single Family Residential (R-10) to Community Service-Institutional (CS-I).

D. An Exception to Statewide Planning Goal 14 is taken and made a part of the Columbia County Comprehensive Plan for Tax Lots 4404-000-00100, 4404-000-00300 and 4404-000-00400, based on the analysis contained in Attachment 1 and the documents incorporated therein.

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E. As part of its Approval of Application No. PA 09-02, the Board of County Commissioners hereby imposes the following condition of approval:

1. Tax Lots 4404-000-00100, 4404-000-00300 and 4404-000-00400 shall only be used for a community school site, the proposed use by the City of Vernonia. Other uses listed in the Community Service-Institutional zone may not be located on this site without a new Urban Growth Boundary analysis meeting state and County criteria.

DATED this 28th day of October, 2009.

BOARD OF COUNTY COMMISSIONERS
FOR COLUMBIA COUNTY, OREGON

By: _____
Rita Bernhard, Chair

By: _____
Anthony Hyde, Commissioner

By: _____
Earl Fisher, Commissioner

Approved as to Form

By: _____
Office of County Counsel

Recording Secretary

By: _____
Jan Greenhalgh, Recording Secretary

First Reading: 10-14-09
Second Reading: 10-28-09
Effective Date: 1-26-2010

County Counsel

BOARD COMMUNICATION

FROM THE LAND DEVELOPMENT SERVICES DEPARTMENT
MEETING DATE: **September 23, 2009**

TO: **BOARD OF COUNTY COMMISSIONERS**

FROM: Todd Dugdale, Director of Land Development Services

SUBJECT: **PUBLIC HEARING**
Vernonia Urban Growth Area Expansion - New Public School Site
North of Spencer Park, Access Missouri Ave. Off Hwy 47
Three (3) Tax Map Nos, 4404-000-00100, 00300 and 00400
Applicant - City of Vernonia

COLUMBIA COUNTY

DATE: September 17, 2009

SEP 18 2009

COUNTY COUNSEL

SUMMARY:

The City of Vernonia has applied to expand its Urban Growth Boundary (UGB) by 22 acres to accommodate the siting of a new K-12 school complex. After a rigorous search and analysis of various sites, the Oregon Solutions Team, the Vernonia School District and the City agree that the best site for the new school site would be the centrally located "Boot" site. The 22 acres, 5 acres consisting of three tax lots, can be combine with the Spencer Park land (approximately 9 acres) to have direct access to Texas Ave. and Missouri Ave, just a quarter mile from Hwy 47. A third access to the north via Mellinger Road is feasible sometime in the future.

An UGB expansion is a Comprehensive Plan Amendment for both Columbia County and the City of Vernonia. Statute and zoning ordinances outline a prescriptive set of rules and procedures to accommodate urbanizing once rural lands. For siting a school there are a specific types of land needs including size, cental location, accessability, development constraints and neighborhood compatablity. All of these factors were analyzed and considered by the Siting Team through a public meeting process.

The proposed UGB Expansion for the school site meets all of the State rules and County Ordinance criteria and would be an excellent site, given the alternatives.

ATTACHMENTS:

1. Legal Descriptions for the three properties
2. BOC Staff Report PA 09-02
3. Planning Commission Final Recommendation
4. Application PA 09-03 and Maps
5. School Siting Comparison Report dated February 23, 2009

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ATTACHMENT 1

6. Summary Report on School Siting dated March 2. 2009
7. DLCD comments dated August 7, 2009
8. Supplemental Findings by Vernonia dated September 3, 2009 and September 17, 2009
9. Comparative Assessment of Transportation Needs, Kittlesons & Associates dated February 18, 2009

SUGGESTED MOTION:

I move to tentatively approve the Vernonia UGB expansion for a new school site adopting Staff Report PA 09 -02 findings, conclusions and recommendations, and instruct staff to prepare an Ordinance.

Parcel B TAX LOT 4404-000-00400

Beginning at a point on the East line of Section 4, Township 4 North, Range 4 West, Willamette Meridian, Columbia County, Oregon, that is South 2°41' West 2300.8 feet from the Northeast corner of said Section 4, said point being the point of beginning of the Elmore and Murel Knight as described in Book 119 at Page 140 Deed Records; thence South 83°59'56" West a distance of 702.47 feet to the Northeast corner of the Vernonia Athletic Association tract as described in Book 38 at page 597; thence North 0°11' East a distance of 404.00 feet; thence North 68°14'22" East a distance of 199.60 feet; thence East a distance of 530.95 feet to the East line of said Section 4; thence South 2°41' West along said Section line a distance of 405.0 feet to the Point of Beginning. Containing 7.00 acres, more or less.

Tax Account No. 2 4404-000-00400

Parcel C TAX LOT 4404-000-00100

Beginning at the initial point of 1st Addition to Oregon American Subdivision as per plat on file and of record in the Clerk's office of Columbia County, Oregon, said initial point being in Section 4, Township 4 North, Range 4 West, Willamette Meridian, Columbia County, Oregon; thence South 82°27'30" East 20.31 feet; thence North 1°01'30" West 385.55 feet; thence South 85°12'30" East 468.37 feet to the Northeast corner of the Vernonia Athletic Association tract as described in Deed Book 38, at page 597; thence North 0°32'30" West 404.00 feet to the true point of beginning of the parcel herein described; thence North 0°32'30" West a distance of 269.54 feet; thence North 68°08'30" East a distance of 662.07 feet; thence South 20°37' East a distance of 307.88 feet to the East line of said section 4; thence South 2°41' West along said Section line a distance of 144.91 feet; thence South 89°16'30" West a distance of 530.97 feet; thence South 67°31' West a distance of 199.6 feet to the True Point of beginning. Containing 5.31 acres more or less.

Tax Account No. 2 4404-000-00100

LEGAL DESCRIPTION

PARCEL 1: TAX LOT 4404-000-00300 (pth. 1)

A tract in the Northeast quarter of Section 4, Township 4 North, Range 4 West, Willamette Meridian, Columbia County, Oregon, described as follows:

BEGINNING at the initial point of First Addition to Oregon American Subdivision as per plat on file and of record in the Clerk's Office, Columbia County, Oregon, said initial point being in Section 4, Township 4 North, Range 4 West, Willamette Meridian, Columbia County, Oregon;
Thence along the Easterly right of way line of a 60.00 foot easement North 14° 58' West 140.56 feet;
Thence North 01° 35' West 247.16 feet;
Thence North 12° 05' West 289.75 feet;
Thence North 03° 19' East 171.5 feet;
Thence North 13° 00' West 113.62 feet;
Thence leaving said easement North 76° 52' East 162.76 feet;
Thence East 203.5 feet;
Thence South 621.50 feet to the North line of the Vernonia Athletic Association Tract as described in Book 38, Page 597, Deed Records of Columbia County, Oregon;
Thence North 85° 12 1/2' West along said North line 230.14 feet to the Northwest corner thereof;
Thence South 01° 01 1/2' East along the West line of said tract 385.55 feet to the North line of First Addition to Oregon American Subdivision;
Thence North 82° 27 1/2' West along said North line 20.11 feet to the POINT OF BEGINNING.

PARCEL 2: TAX LOT 4404-000-00300 (pth. 2)

A non-exclusive easement for road and utility purposes over the following described tract;

BEGINNING at the initial point of the First Addition to Oregon American Subdivision as per plat on file and of record in the Clerk's Office, Columbia County, Oregon, said initial point being in Section 4, Township 4 North, Range 4 West, Willamette Meridian, Columbia County, Oregon;
Thence North 14° 58' West 140.56 feet;
Thence North 01° 35' West 247.16 feet;
Thence North 12° 05' West 289.75 feet;
Thence North 03° 19' East 171.5 feet;
Thence North 13° 00' West 113.62 feet;
Thence North 26° 38' East 109.0 feet;
Thence North 63° 22' West 60.0 feet;
Thence South 26° 38' West 130.63 feet;
Thence South 13° 00' East 126.65 feet;
Thence South 03° 19' West 171.01 feet;
Thence South 12° 05' East 292.40 feet;
Thence South 01° 35' East 248.67 feet;
Thence South 14° 58' East 122.68 feet to the North line of Oregon American Subdivision;
Thence South 82° 27 1/2' East along said North line 64.95 feet to the POINT OF BEGINNING.

PARCEL 3: TAX LOT 4404-000-00300 (pth. 3)

BEGINNING at the initial point of First Addition to Oregon American Subdivision as per plat on file and of record in the Clerk's Office of Columbia County, Oregon, said initial point being in Section 4, Township 4 North, Range 4 West, Willamette Meridian, Columbia County, Oregon;
Thence South 82° 27' 30" East 20.31 feet;
Thence North 01° 01' 30" West 385.55 feet;
Thence South 85° 12' 30" East 230.14 feet to the TRUE POINT OF BEGINNING of the parcel herein described, said point being the most Easterly Southeast corner of the Kenneth M. Roberts property as described in deed Book 104, Page 374;
Thence North along the East line of Roberts property a distance of 621.5 feet to the Northeast corner thereof;
Thence East a distance of 231.33 feet;
Thence South 00° 32' 30" East a distance of 641.43 feet to the Northeast corner of the Vernonia Athletic Association Tract as described in deed book 38, page 597;
Thence North 85° 12' 30" West along the North line of said Vernonia Athletic Association Tract a distance of 238.23 feet to the TRUE POINT OF BEGINNING

COLUMBIA COUNTY BOARD OF COMMISSIONERS

Comprehensive Plan Amendment
City of Vernonia Expansion of UGB
New School Site
Staff Report

HEARING DATE:	September 23, 2009
FILE NUMBER:	PA 09-02
APPLICANT/ OWNER:	City of Vernonia 1001 Bridge Street Vernonia, Oregon 97064
PROPERTY LOCATION:	The three subject properties consist of 22 acres and are located North of Spencer Park at the intersection of Texas and Oklahoma Streets. The site is commonly known as the "Boot Site" and is located in the NW 1/4 of Section 4 Township 4 North Range 4 West.
REQUEST:	A post acknowledgment plan amendment (PAPA) to expand the City of Vernonia's Urban Growth Boundary (UGB) by approximately 22 acres. This request will amend the County Comprehensive Plan Map from Single-Family Residential and Rural Residential to the City of Vernonia's UGB.
TAX MAP NOS.:	4404-000-00100, 4404-000-00300 & 4404-000-00400
PRESENT COMPREHENSIVE PLAN DESIGNATION:	Single-Family Residential Tax Lot 400 Rural Residential Tax Lots 100 & 300
PROPOSED COMPREHENSIVE PLAN DESIGNATION:	Urban Growth Boundary (UGB)
PRESENT ZONING:	Rural Residential (RR-5) Single-Family Residential (R-10)
PROPOSED ZONING:	Until Future Annexation Into City Interim Zoning - Community Service Institutional (CSI)

APPLICABLE REVIEW CRITERIA:

BACKGROUND & SUMMARY:

The City of Vernonia has experienced two major flood events over the past fifteen years in 1996 and in 2007, both of which have caused extensive damage to the existing school facilities located in downtown Vernonia near the intersection of Bridge and State Streets and within the Nehalem River's and Rock Creek's 100 year Floodplains. Two of the three existing school buildings, the Washington Grade School and the High School experienced significant damage after the flood of 2007. Specifically, and according to the submitted application, the Grade School needs to be seismically upgraded and flood-proofed while the High School and its gymnasium needs to be

reconstructed and elevated to bring it into compliance with the City Floodplain Ordinance. The Middle School also needs to be flood-proofed by either constructing a floodwall or by elevating the school facility above the FEMA established base flood elevation. According to Ken Cox, the Superintendent of the Vernonia School District, the Oregon Solutions Team is working with the School District to help secure various funding sources including federal stimulus funds, the Ford Family Foundation, federal energy grants and other philanthropic organizations to help construct new schools in Vernonia. On November 3, 2009 the School District is also asking voters to pass a $13 million bond to raise approximately 25% of the funding needed to build a new campus.[1]

According to the submitted application for the requested UGB expansion, an integral component of the Vernonia School District's proposed new school campus is to relocate it to a new, safer, and more appropriate location that contains all of the following minimum site requirements for a new K-12 school site and identified in the attached *February 23, 2009 School Siting Comparison Report* conducted by the TGM Vernonia School Siting Study:

- Contains less than 10% slope, has no significant wetlands, and is outside of any 100 year Floodplains,
- Is between 26 and 46 acres,
- Has access to existing and constructed public roads/transportation infrastructure,
- Is within ½ mile of the City Center and existing park and school facilities,
- Will be compatible with existing land uses and is not adjacent to industrial zoned land, and
- Can be served by public water and sanitary sewer and is in close proximity to existing public utilities' service lines

After identifying these site specific requirements, both the City and School District confirmed that because no properties within the existing city limits and/or the existing UGB contained these six requirements, their only remaining option according to provisions in Section V (Annexation) of the City and County's 1996 Urban Growth Management Agreement, was for the City to identify other unincorporated land(s) that not only met these site-specific requirements, but were also adjacent to both the existing UGB and existing City limits.

With these locational limitations the Vernonia School District and the City of Vernonia with assistance from the Vernonia Oregon Solutions Team identified two possible locations for the new school: the NW Corner Site at the end of Bridge Street on the western edge of the city and the Boot Site at the intersection of Missouri, Oklahoma, and Texas Avenues that is adjacent to already established Spencer Park in the city's central/eastern portion. Next a series of Technical Studies conducted by SERA Architects, Kittleson & Associates, and David Evans and Associates projected estimated costs of land acquisition, transportation, flood proofing, building, hydraulics, utility extension, and insurance for these two sites and compared these costs to the costs of rebuilding and flood proofing the existing Elementary, Middle and High School on Bridge Street

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[1] **Vernonia's Voice, July 2009** *"Pass the Bond, Not the Buck: Questions for Superintended Ken Cox".*

to new seismic code and FEMA requirements. After this analysis and numerous public meetings, it was the Vernonia Oregon Solutions Team's recommendation to the Vernonia School District Board and City of Vernonia citizens not to rebuild and/or improve the three schools at their existing site because:

- Although the buildings can be rebuilt and flood-proofed, the school campus would be an island in the middle of future flood waters and would not be able to serve as a community emergency response center,
- These buildings are not accessible to parents during a flood,
- High insurance costs and,
- Although the Washington Elementary School can be improved to meet new seismic code and FEMA requirements, continuing to maintain this 1930 built facility would be cost prohibitive.

A more detailed analysis and evaluation concerning the Alternative Site Selection process will be discussed later in this report.

This Alternative Site Selection process of proposed UGB expansions is authorized by the State of Oregon's Planning Goal 14 related to Urbanization, the Oregon Administrative Rules and the Oregon Revised Statutes. Planning Goal 14 requires cities and counties to jointly establish and maintain urban growth boundaries in order to provide for an orderly and efficient transition from rural to urban land use. This Goal also requires local jurisdictions to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities. Division 24 of Oregon Administration Rules Chapter 660 specifically clarifies the necessary procedures and requirements of Goal 14 which local governments need to address when they amend any existing urban growth boundary. Additionally, OAR 660-024-0040 (3) allows local governments to amend their UGBs in consideration of one category of land need (in this case a new school campus) without a simultaneous review and amendment that requires the consideration of other land need categories.

ORS 197.298 finally identifies four priorities of land that need to be considered when a local government considers the proposed expansion of urban growth boundaries that will be addressed in greater detail in this report. The Vernonia Oregon Solutions Team's recommendations included as part of the submitted application this land prioritization in their site selection and, as a result, the selection of the Boot Site complies with these requirements and will be evaluated and discussed in greater detail later in this report.

On August 17, 2009 the Columbia County Planning Commission held a public hearing where they heard testimony from the applicant and interested parties and considered written material including the Staff Report dated August 7, 2009. Upon Staff's recommendation, the Planning Commission recommended the Board approve the submitted UGB expansion provided revisions to the staff report were made related to the quasi-judicial nature of this proposed UGB expansion and adding a fourth condition requiring the applicant to respond by September 8, 2009 to the

Department of Land Conservation's concerns dated August 7, 2009 related to the State of Oregon's Transportation Planning Rule. The Planning Commission's August 20, 2009 Final Order is attached.

With this background information and summary, the remainder of this report will evaluate the extent to which the proposed expansion of the City of Vernonia's Urban Growth Boundary application complies with the applicable regulatory provisions of the Columbia County Zoning Ordinance and Comprehensive Plan as well as with the statues and administrative rules.

Beginning with the Columbia County Zoning Ordinance:

Section 1502 Zone Changes (Map Amendments):

There are two types of zone changes which will be considered by the Commission: Major Map Amendments and Minor Map Amendments.

.1 Major Map Amendments are defined as Zone Changes which require the Comprehensive Plan Map to be amended in order to allow the proposed Zone Change to conform with the Comprehensive Plan. The approval of ths type of Zone Change is a 2 step process:

A. The Commission shall hold a hearing on the proposed Zone Change, either concurrently or following a hearing, on the proposed amendment to the Comprehensive Plan which is necessary to allow the proposed zoning to conform with the Comprehensive Plan. The Commission may recommend approval of a Major Map Amendment to the Board of Commissioners provided they find adequate evidence has been presented at the hearing substantiating the following:

1. The proposed Zone Change is consistent with the policies of the Comprehensive Plan;

2. The proposed Zone Change is consistent with the Statewide Planning Goals (ORS 197); and

3. The property and affected area is presently provided with adequate facilities, services, and transportation networks to support the use, or such facilities, services and transportation networks are planned to be provided concurrently with the development of the property.

B. Final approval of a Major Map Amendment may be given by the Board of Commissioners. The Commissioners shall hold a hearing on the proposed Zone Change either concurrently or following a hearing on the proposed Comprehensive Plan Amendment which is necessary to allow the proposed zoning to conform with the Comprehensive Plan. The Board may approve a Major Map Amendment provided they find adequate evidence has been

presented substantiating the following:

1. The proposed Zone Change is consistent with the policies of the Comprehensive Plan;

2. The proposed Zone Change is consistent with the Statewide Planning Goals (ORS 197); and

3. The property and affected area is presently provided with adequate facilities, services, and transportation networks to support the use, or such facilities, services and transportation networks are planned to be provided concurrently with the development of the property.

Finding 1: The applicant is requesting approval of a Post Acknowledgment Plan Amendment (PAPA) application which will change the Comprehensive Plan Map from Rural Residential and Single Family Residential to Urban Growth Boundary (UGB). The zoning would need to be appropriate for the purpose and approval criteria of the Urban Growth Boundary analysis, namely for a school facility, Community Service Institutional (CSI). It is anticipated that the City of Vernonia would rezone the property once the site is annexed into the city limits. If annexation is approved by the City of Vernonia, the site would likely be rezoned to a Public Institution Development Zone. This proposed UGB expansion will be processed as a Major Map Amendment because the request will require the official Comprehensive Plan Map to be amended to reflect the proposed new UGB. The Planning Commission heard this request at the public hearing on August 17, 2009 and recommended the Board of Commissioners approve the proposed UGB expansion and related Comprehensive Plan amendment. The Board of Commissioners will review all testimony and make a decision to approve, approve with conditions, or deny the application.

The goals and policies of the Comprehensive Plan will be reviewed later in this report The applicant has addressed the Oregon Revised Statutes, Oregon Administrative Rules and the Statewide Planning Goals throughout the submitted application which will be evaluated and discussed later in this report. Staff finds that adequate facilities and services are in the general vicinity of the site and are planned to be brought to the site with the proposed school development. Staff finds that the submitted information indicate that the intended development of the site would include upgrades in the existing water and sanitary sewer systems, extensions of power and communications facilities, new transportation connections between Highway 47 and Texas, Missouri, and/or Oklahoma Avenue as applicable, increases in public park facilities, and a potential extension of NW Natural's existing natural gas line to adequately support the new school campus on the 22 acre Boot Site.

Continuing with Columbia County Zoning Ordinance:

Section 1605 **Zone Change - Major Map Amendment:**

The hearing for a major map amendment shall follow the procedure established in Sections 1502, 1502.1, 1502.1A and 1502.1B. This hearing cannot result in the approval of a major map amendment. The Commission may make a recommendation to the Board of Commissioners that such a zone change be granted. Approval by the majority of the Commission is necessary in order to make recommendation to the Board of Commissioners. The Board of Commissioners hearing on the proposed zone change/ major map amendment will be on the record unless a majority of the Board votes to allow the admission of new evidence.

Finding 2: The hearing for this PAPA application is a major map amendment and will follow the above mentioned procedures. The Planning Commission held a public hearing on August 17, 2009 and made a recommendation of approval to the Board of Commissioners. The Board of Commissioners will then hold a hearing on September 23, 2009 and make a formal decision to allow, allow with conditions, or prohibit the UGB expansion. The Board Hearing will be on the record unless the Board chooses to allow new evidence by opening the public hearing.

Continuing with Columbia County Zoning Ordinance:

Section 1603 Quasi-judicial Hearing As provided elsewhere in this ordinance, the Hearings Officer, Planning Commission, or Board of Commissioners may approve certain actions which are in conformance with the provisions of this ordinance. Zone Changes, Conditional Use Permits, Major Variances, and Temporary Use Permits shall be reviewed by the appropriate body and may be approved using the following procedures:

.1 The applicant shall submit an application ans any necessary supplemental information as required by this ordinance to the Planning Department. The application will be reviewed for completeness and the applicant notified in writing of any deficiencies. The application shall be deemed complete upon receipt of all pertinent information. If an application for a permit or zone change is incomplete, the Planning Department shall notify the applicant of exactly what information is missing within 5 days of receipt of the application and allow the applicant to submit the missing information. The application shall be deemed complete for the purpose of this section upon receipt by the Planning Department of the missing information. [*effective 7-15-97*]

.2 Once an application is deemed complete, it shall be scheduled for the earliest possible hearing before the Planning Commission or Hearings Officer. The Director will publish a notice of the request in a paper of general circulation not less than 10 calendar days prior to the scheduled public hearing. Notices will also be mailed to adjacent individual property owners in accordance with ORS 197.763. [*effective 7-15-97*]

[**Note:** ORS 197.763 requires 20 days notice (or 10 days before the first hearing if there will be 2 or more hearings), and that notice be provided to property owners within 100' (inside UGBs), 250' (outside UGBs), or 500' (in farm or forest zones).]

.3 At the public hearing, the staff, applicant, and interested parties may present

information relevant to the criteria and standards pertinent to the proposal, giving reasons why the application should or should not be approved, or what modifications are necessary for approval. [*effective 7-15-97*]

.4 Approval of any action by the Planning Commission at the public hearing shall be by procedure outlined in Ordinance 91-2. [*effective 7-15-97*]

Finding 3(a): Although the City of Vernonia has requested this change for the County Comprehensive Plan Map's designation of the 22 acre subject properties from Rural Residential and Single Family Residential to the City of Vernonia's Urban Growth Boundary, the site-specific nature of this request requires both the Planning Commission and Board of Commissioners quasi-judicial review. Notice of the Planning Commission hearing was published in the St. Helens Chronicle and South Columbia Spotlight as well as in the Cowlitz County (WA) Review on August 5, 2009 at least 10 days prior to the August 17, 2009 Planning Commission hearing. Notice of the Planning Commission hearing was also published in the Vernonia Voice and Independent on their respective publishing dates closest to August 5, 2009. Additionally, notice of the Board of Commissioners' September 23, 2009 public hearing was published in the newspaper of record, The Chronicle, on September 9, 2009. Staff finds this criterion for quasi-judicial hearings requiring the publishment of the proposed request in a paper of general circulation at least 10 calendar days prior to the scheduled public hearings is satisfied.

Finding 3(b): The unique site-specific nature of this request is quasi-judicial in nature: to expand the UGB specifically for the 22-acre Boot Site. The site contains the six identified site-specific requirements necessary to support the proposed relocation of the existing K-12 Vernonia school campus outside of the 100 Year Floodplain. On July 1, 2009, LDS provided the adjacent property owners within 250 feet of the Boot Site with notice of the August 17, 2009 Planning Commission's public hearing for the proposed UGB expansion pursuant to ORS 197.763. Similarly, on September 3, 2009 the Board of Commissioners notified the adjacent property owners within 250 feet of the Boot Site of the September 23, 2009 public hearing. For these reasons, Staff finds this criterion for quasi-judicial hearings required by Section 1603.2 of the Zoning Ordinance and by ORS 197.763 has been satisfied.

Continuing with Columbia County Zoning Ordinance:

Section 1607 Consistency with the Comprehensive Plan:

All amendments to the Zoning Ordinance Text and Map shall be consistent with the Comprehensive Plan Text and Maps.

.1 The Commission shall hold a hearing to consider the proposed amendments and shall make a recommendation to the Board of Commissioners with regard to the proposed amendments. The Board of Commissioners shall hold at least one hearing to consider the proposed amendments. Both the Commission and the Board of Commissioners hearings will require notice in the manner outlined in Section 1611.

Finding 4: The scope of review for a PAPA application is specifically limited by state law and OAR Chapter 660, Division 04. The applicant proposes to amend the Comprehensive Plan Map's designation of the site to UGB to allow the site to be annexed into the City of Vernonia as the future location of the City's public schools. The interim county zoning designation will be consistent with the applicant's intent and be Community Service Institutional (CSI), which allows schools, until the site is annexed into the city limits. Notice of the Planning Commission hearing and the Board of Commissioners quasi-judicial hearings will follow the procedures in Section 1608. Consistency with the Comprehensive Plan will be reviewed after contents of notice.

Continuing with Columbia County Zoning Ordinance:

1608 **Contents of Notice:** Notice of a quasijudicial hearing shall contain the following information:

.1 The date, time, and place of the hearing;

.2 A description of the subject property, reasonably calculated to give notice as to the actual location, including but not limited to the tax account number assigned to the lot or parcel by the Columbia County Tax Assessor;

.3 Nature of the proposed action;

.4 Interested parties may appear and be heard;

.5 Hearing to be held according to the procedures established in the Zoning Ordinance.

Finding 5: Due to the site-specific characteristics of this proposed UGB expansion for the City of Vernonia as discussed in Findings 3a and 3b, the notice of quasijudicial hearings prior to the Planning Commission's and Board of Commissioners' public hearings contain the required information listed above as stated in Findings 1 through 5 of this report.

Continuing with the Columbia County Comprehensive Plan Policies

Part IX **URBANIZATION**

GOAL: To create and maintain the urban growth boundaries based upon the consideration of the following factors:

1. Demonstrated need to accommodate long range urban population growth requirements consistent with LCDC goals.

2. Need for housing, employment opportunities, and livability.

3. Orderly and economic provision for public facilities and services.

4. Maximum efficiency of land uses within and on the fringe of the existing urban area.

5. Environmental, energy, economic, and social consequences.

6. Retention of agricultural lands as defined, with Class I being the highest priority for retention and Class VI the lowest priority.

7. Compatibility of the proposed urban uses with nearby agricultural activities.

Finding 6: This urban growth boundary expansion is based on the City of Vernonia's need to relocate and reconstruct a new public school campus that will replace the existing school facilities on Bridge Street that were significantly damaged during the floods of 1996 and 2007. The application states that following the 2007 flood event and after the Vernonia School District was able to restore operations in the Middle and Grade Schools, the District was not able to restore the High School and had to demolish it in September 2008. Temporary modular buildings are currently being used for high school classes and administrative functions. In April 2008 and after the U.S. Army Corps of Engineers drafted new flood maps showing the existing schools were within the 100 year Flood Plain, Governor Kulongksi designated the Vernonia Schools Project as an Oregon Solutions Project that would assist the City of Vernonia to obtain and secure financing for its proposed new school complex.

According to the application, the City of Vernonia's 2008 population is estimated at 2,365. A 2009 Portland State University's Population Projection for Columbia County allocates the City of Vernonia's projected population to be 2,700 by 2030, or a 14% increase in 2008's population. On September 9, 2009 the Columbia County Board of Commissioners approved Ordinance No. 2009-7 adopting Amendments to Sections IX and X of the Comprehensive Plan to update the County's 20 Year Population Forecast, consistent with the Comprehensive Plan's first factor of Urbanization. Although the replacement school will serve this projected 14% population increase over the next two decades, this projection may not accurately reflect student enrollment since it does not include students residing in unincorporated areas surrounding the City.

The current Vernonia UGB does not contain any sites that are capable of accommodating the proposed new school and the applicant has demonstrated the need for the city to expand its existing urban growth boundary in order to relocate the K-12 school campus. Both the submitted March 2, 2009 Summary Report on School Siting and the February 23, 2009 School Siting Comparison Report discuss and evaluate why the other three alternative sites identified as the Knott Street Site, the Existing Site, and the NW Corner Site, were not suitable for the proposed school relocation.

The alternative site analysis of the 4 proposed sites resulted in two 'finalists': the Boot Site and the NW Corner Site which were further evaluated as follows. Although both the Boot Site and the NW Corner Site are outside of the 100 year floodplain, the Boot Site is more centrally located

in the City, is near Spencer Park, and is easier for pedestrians and bicyclists to access. Extending and improving existing infrastructure necessary to support the new school campus is projected to be significantly less to the Boot Site than to the NW Corner Site, or between $306,000 - $400,000 versus $949,000 - $1,233,000 respectively. Consequently, extending these facilities to the Boot Site will be a more efficient utilization of the School District's valuable financial resources. Providing safer and more sustainable (outside of the floodplain) K-12 educational opportunities for students in Vernonia is a fundamental service for local governments to provide for their constituents. Although both sites will provide equally valuable social consequences for students, only the NW Corner Site would potentially result in negative environmental, energy and economic consequences while the Boot site would have all positive Environmental, Energy, Economic, and Social (ESEE) consequences..

The subject properties are not adjacent to any agricultural activities other than what agricultural activities are allowed to occur on the adjacent approximate 46 acres of Rural Residential zoned land to the North and West. According to the Soil Survey of Columbia County, the soils of the Boot Site consist of Kenusky silty clay loam, Type 26C which is a classified as Class VI soil and will not result in the loss of any agricultural land.

A new Vernonia public school campus needs to be either within the city limits or within the City's UGB because the adequate, safe, and long-term viability of Vernonia's public school system will in turn support the Comprehensive Plan's and Goal 14's seven underlying principles of Urbanization. These seven underlying principles of Urbanization moreover are what jurisdictions are required to utilize that support proposed expansions to existing urban growth boundaries. For these reasons, Staff finds the proposed UGB expansion required for the new Vernonia public school campus is consistent with the Comprehensive Plan's Goal of Urbanization and its seven contributing factors. The Oregon Solutions Team's analysis and evaluation of the Boot Site's unique site- specific characteristics in relation to allowing private developers the ability to efficiently utilize this 22-acres for its intended educational use will be discussed and evaluated in greater detail later in this report.

Continuing with the Comprehensive Plan - Urbanization Policies:

URBANIZATION POLICIES: It shall be a policy of the County to:

1. Provide an orderly and efficient transition from rural to urban land use.

Finding 7: The primary purpose of the UGB expansion is to provide a safer and more appropriate location for Vernonia's Elementary, Middle and High Schools. As mentioned in the Background section, the approximate 22-acre selected Boot Site, as opposed to the Northwest Corner Site, contains all of the following site- specific characteristics the City and School District have determined are necessary for the new school campus that, in turn, are used to justify selecting the specific 22-acre Boot Site for the proposed UGB expansion.

1. Does not contain any significant wetlands, has no slopes exceeding 10% and is not

within a 100 year Floodplain,

2. Contains approximately 27 acres including Spencer Park's 5.03 acres,
3. Has access to the existing transportation infrastructure along Texas, Missouri, and Oklahoma Avenues and their access to Highway 47,
4 Is within ½ mile of the city center, is adjacent to Spencer Park, and is within walking distance of the existing school facilities on Bridge Street,
5 Is compatible with the adjacent residentially zoned land within the city limits,
6 Is served by public water and sanitary sewer lines located at the intersection of Texas and Oklahoma Avenues, and
7. The existing 2" NW Natural gas line along Texas Avenue should be sufficient to serve the new school.

For these reasons, staff finds the applicant has complied with this criterion because the information included in the Vernonia School Siting Study Report demonstrates the City's and School District's successful collaborative effort that will allow for the Boot Site's orderly and efficient transition from primarily rural residential uses to educational related uses typically located in and associated with urban areas that will help these two government agencies to better manage their constituents' long-term educational, economic, and livability objectives and needs.

Continuing with the Applicable Urbanization Policies of the Comprehensive Plan:

2. Utilize the area in the urban growth boundaries with the most efficient manner of service expansion.

Finding 8: On Page 19, the submitted application states the "Boot Site is not currently directly served by domestic water, sanitary sewer, storm drainage facilities, power, communication, or natural gas". Because all of these services are in close proximity to the site, the public expenditures of extending them to the site ($306,000 - $400,000) would be significantly less than extending these services to the other Alternative Site, the Northwest Corner Site ($949,000 - $1,233,000). The specifics of these service extensions to the Boot Site are as follows per the *School Siting Comparison Report* submitted with this application.

Water: To ensure sufficient fire protection, the new school will require a 10-inch waterline extension from the existing 10" and 2" waterlines along Texas and Oklahoma Avenues. Given the minimal topographic limitations of this area and the close proximity to existing services, the City does not anticipate the extension would require a new booster pump, that would be required at the NW Corner Site.

Sanitary Sewer: Existing sanitary sewer lines are also located along Texas and Oklahoma Avenues, and the City believes there may be another undocumented sanitary sewer line North of Spencer Park. Similar to the waterline extension, the existing grades at the Boot Site indicate the new sanitary sewer could be a gravity system and would not need a pump station. The maximum expenditure of extending sewer to the Boot Site is estimated at $175,000 versus $242,000 for the extension to the NW Corner Site.

Storm Water Facilities: Stormwater management for the Boot Site would be managed on-site and conveyed to existing natural drainage ways. Because the property's soils are not conducive to storm water infiltration facilities, the needed storm water management facilities may include a detention pond and water quality swales for an estimated $38,000 - $48,000. The estimated expenses for installing these new facilities are the same for both the Boot and the NW Corner Sites.

Electricity: The nearest connection to the existing trunk lines is at Texas Avenue and these could be extended to the Boot Site for an approximate $18,000 - $24,000. In order to serve the alternative NW Corner Site the existing lines need to be extended approximately 1,800 feet at a projected cost of $62,000 - $81,000.

Telephone and cable services: These services would be extended approximately 500 feet to the Boot Site for approximately $16,000 - $21,000 while extending them to the alternative NW Corner Site is estimated to be between $54,000 - $70,000

Natural Gas: The existing 2" gas line along Texas Avenue could be extended approximately 500 feet to serve the Boot Site for an approximate $6,000 - $8,000 whereas extending the existing 4" gas line to the NW Corner Site would cost between $19,000 - $25,000.

Staff finds that although water, sewer, power, natural gas and communications services are all in the near vicinity of both the Boot and NW Corner Sites, extending these services to the Boot Site would be significantly cheaper than extending them to the NW Corner Site. For these reasons, Staff finds the proposed UGB expansion at the Boot Site would allow for a cost-efficient service expansion.

Continuing with the Comprehensive Plan - Urbanization Policies:

3. Minimize the number of new special districts inside the urban growth boundaries.

Finding 9: This application for UGB expansion does not propose any new special districts and none are anticipated to be needed. Staff finds that this criterion does not apply to this proposed UGB expansion.

Continuing with the Comprehensive Plan - Urbanization Policies:

4. Accommodate the growth projected for urban areas to the year 2000.

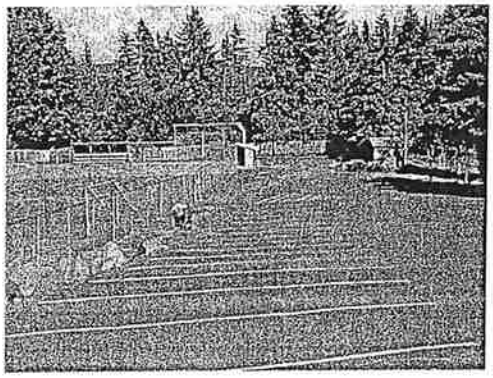
Finding 10: As stated for Finding 6, a 2009 Portland State University's Population Projection for Columbia County allocates the City of Vernonia's projected population of 2,700, or a 14% increase of its 2008 population by 2030. Although the proposed new K-12 school campus will serve this projected 14% population increase, this projection may not accurately reflect the actual student enrollment because it does not include students residing in unincorporated areas surrounding the City. Nevertheless the City of Vernonia does need to ensure its public schools

can safely educate students in structures that can withstand natural disasters like the two recent floods that have severely compromised the existing City of Vernonia's public school facilities on Bridge Street. Finally, and because the U.S. Corps of Engineers' 2008 designation of the Nehalem River's and Rock Creek's new 100 Year Floodplain areas confirmed the existing school facilities were also within these flood hazard areas, staff finds the proposed UGB expansion at the selected Boot Site will allow the new school to safely accommodate projected future student enrollment at facilities that are not subject to regular flooding.

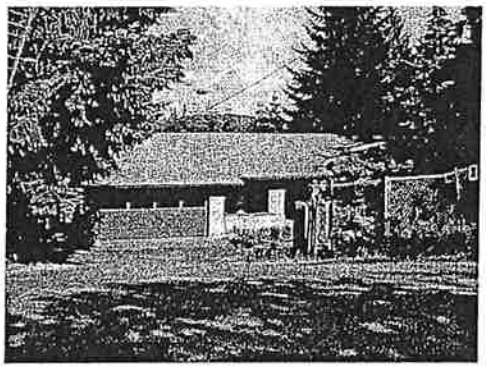
Continuing with the Comprehensive Plan - Urbanization Policies:

5. Minimize the conflicts between urban and rural land uses.

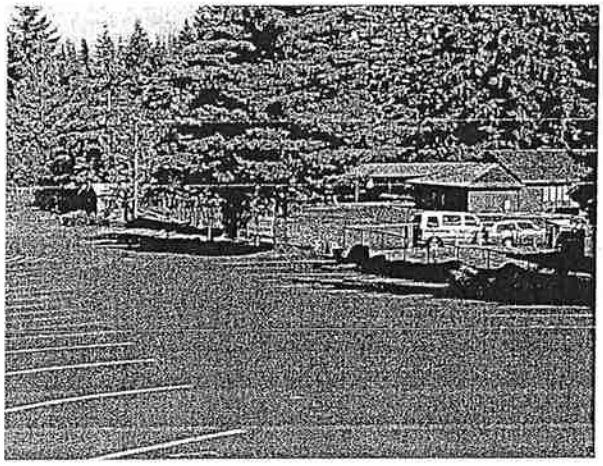
Spencer Park's existing parking area



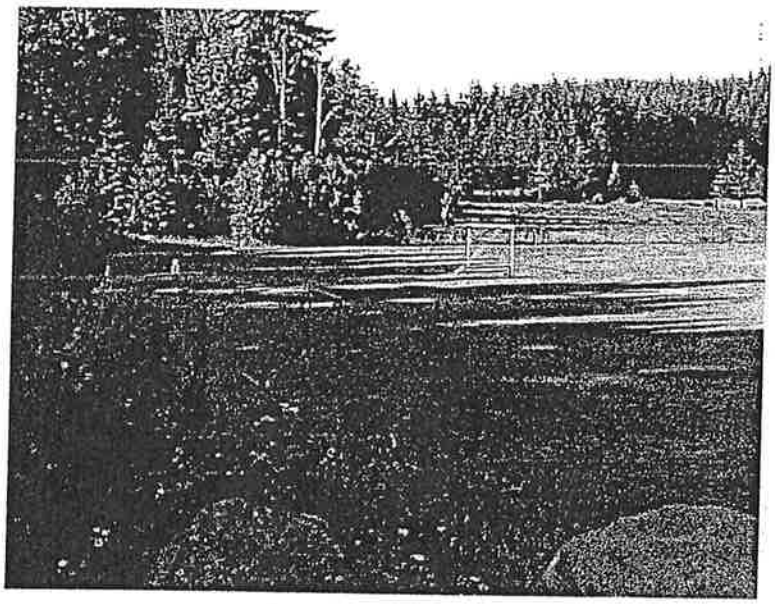
Existing and vacated home on Tax Lot 300



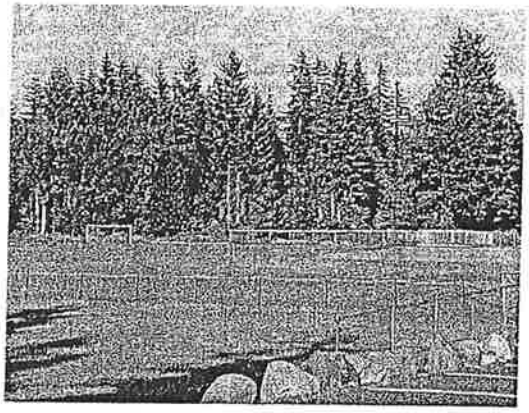
Spencer Park's Office Building

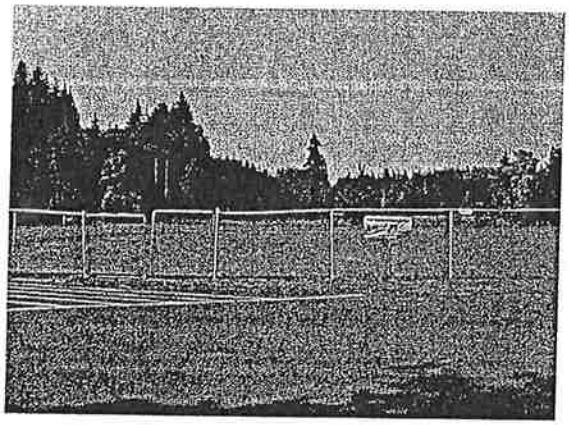


Spencer Park's athletic fields



View of the Boot Site's Southern cleared areas and Northern forested areas





Finding 11: As seen on the picture of the site taken on July 14, 2009, there is only 1 dwelling on the three subject properties addressed at 1201 Texas Avenue which has been vacated. The selected Boot Site is adjacent and contiguous to Spencer Park's athletic fields, open spaces, and office building. A proposed new school campus in the already cleared Southern portions of the 22-acre site would not appear to result in potentially incompatible uses with the existing park. The subject 22-acres is adjacent to twelve other RR-5 zoned properties (~46 acres) on the North and West and by residential land within the city limits on the East and South. Because the Boot Site is surrounded on all other sides by these residentially zoned properties, a new school campus at this location would be within walking distance for students living nearby. Rezoning the 22-acres from rural and single family residential to a public institutional/educational zone moreover,

may even alleviate unauthorized activities from occurring in the forested areas of the property. The terrain of this property indicates that future structures would be built in the Southern cleared and grassy portion of the site which would potentially allow the forested areas to be used for various educational experiences (i.e. natural resource preservation studies). For these reasons, Staff finds the new school at the Boot Site is not likely to result in potentially incompatible land uses occurring on the remaining approximate 46 acres of rural residential and single family residential properties to the North and West.

Continuing with the Comprehensive Plan - Urbanization Policies:

6. Control development within the limitation of the public's ability to provide services.

Finding 12: As stated previously for Finding 8, public services such as water, sewer, power, communications, and natural gas, are in the near vicinity of the Boot Site and can be extended to this location at significantly less financial expenditures than extending these services to the NW Corner Site. Staff finds that the existing public services have the capability to provide these future needs, provided the required upgrades are adequate for their intended uses.

Continuing with the Comprehensive Plan - Urbanization Policies:

7. Develop managing techniques with the incorporated cities.

Finding 13: The City of Vernonia and Columbia County entered into an Urban Growth Boundary Agreement dated October 30, 1996. Staff finds that this criterion has been met

Continuing with the Comprehensive Plan - Urbanization Policies:

8. Locate major public and private developments where they will not encourage residential growth outside the designated boundary.

Finding 14: Staff finds little evidence indicating that this proposal will encourage residential growth for the approximate 46 acres of RR-5 zoned properties North and West of the Boot Site. Additionally, and further North of the RR-5 properties, there is one approximate 33 acre property zoned for Single Family Residential (R-10) already within the City of Vernonia's existing UGB. The twelve adjacent RR-5 properties contain only twelve potential building sites indicating any new housing developments in this area would likely be within the Vernonia City limits or within the approximate 33-acre R-10 property further North along Texas Avenue . Staff finds that for these reasons the possibility of significant residential growth occurring in close proximity to the Boot Site will only be able to occur within, and not outside, the already designated UGB.

Continuing with the Comprehensive Plan - Urbanization Policies:

9. Provide direction for developers to utilize land within the boundary in the most efficient manner.

Finding 15: According to the submitted application, the information displayed in Tables 1 and 2 (Pages 3 and 6) and discussed in Section 2 (Pages 6 through 9), the proposed UGB expansion at the Boot Site, rather than the NW Corner Site, provides the City of Vernonia with the most efficient way to accommodate its proposed new school six site-specific identified needs. The applicant then explains and discusses the following ways in which the selected Boot Site will encourage a more efficient utilization of the City's School District's general public's, and private developers'/contributors' financial resources, all of which will, in turn, support economic, environmental, and socially sustainable levels of urban development within the City's UGB.

1. Efficient accommodation of identified land needs: The Boot Site is surrounded by the City on the East and South. The Southern ~ 7.7 acres (tax Lot 400) is zoned for Single Family Residential and is already within the existing UGB. The Boot Site's physical characteristics consist of a relatively flat to moderately rolling topography with a mixture of cleared grassland and forested areas. The natural characteristics of the 22-acre site are conducive to the proposed school's acreage requirements ' necessary to support the built facilities' athletic fields, playgrounds and other open spaces. The Boot Site is adjacent to already built Spencer Park as well as to the existing sanitary sewer, city water, and electrical utility lines along and directly accessed via Texas, Missouri, and Oklahoma Avenues. These utilities can also be extended to the Boot Site cheaper than their extension to the NW Corner Site because it (NW Corner Site) has no direct access to an improved public street and can only be currently accessed via currently unimproved Reservoir Road.

2. Orderly and economic provisions of public facilities and services: Water lines can be extended to the Boot Site from the existing 10" water line at the intersection of Texas and Oklahoma Avenues as well as from the continuing 2" line extending further North from this location without installing a new booster pump. The existing gravity sanitary sewer line at the same intersection and extending further North can also be connected to and extended to the Boot Site without requiring a pump station. Finally the existing 2" NW Natural gas line in Texas Avenue will be sufficient for the new school and the existing telephone and cable services are at a similar distance (500 feet) from the site as the natural gas line. The NW Corner Site is further away from existing utility lines and would be more expensive to extend due to this property's steep terrain. Finally, the NW Corner Site is connected to the City by currently unimproved Reservoir Road. As mentioned during the Background discussion, projected costs for the extension of public facilities and services to the Boot Site are about one third of the cost of extending these services to the NW Corner Site: $306,000 to $400,000 as opposed to $949,000 to $1,233,000 respectively.

3. Comparative environmental, social energy, and economic, (ESEE) consequences: Although both sites are outside of the newly designated 100 year Floodplains for Rock Creek and the Nehalem River, the Boot Site is more centrally located in the City, is near Spencer Park, and is easier for pedestrians and bicyclists to access. As noted in the

previous subsection, extending and improving existing infrastructure is projected to be significantly less to the Boot Site than to the NW Corner Site. Extending these facilities to the Boot Site will be a more efficient utilization of the financial resources needed to relocate the new K-12 school at this location. Benefits from providing a more sustainable K-12 educational experience for students in the Vernonia School District are numerous and often cornerstones of local governing and economic policies. Although both sites will provide equally valuable social consequences for students, only the NW Corner Site would potentially result in negative energy and economic consequences while the Boot site would have all positive ESEE consequences.

4. Compatibility of adjacent land uses: As discussed previously, the Boot Site is bordered on the South and East by residential properties within the city limits and on the North and West by approximately 46 acres of Rural Residential (RR-5) land in the county. There are currently 12 RR-5 properties containing seven single family residences. Further North near the end of Texas Avenue consists of one approximate 33 acre property within the UGB and zoned for Single Family Residential uses. A new K-12 school campus at the Boot Site surrounded by other residentially zoned properties should not have any adverse impacts on the residential uses normally associated with these properties. Any additional resource zoned lands further North and East in this area would also be buffered from the school by the intervening residentially zoned areas.

For these reasons, staff finds the proposed 22 acre Boot Site's UGB expansion for the new K-12 Vernonia school campus will provide developers and the citizens of Vernonia with the most efficient utilization of the City's existing infrastructure as well as of the City's and the Vernonia School District's financial resources, all of which will be needed to accommodate a new school campus for their present and future constituents.

Continuing with the Comprehensive Plan - Urbanization Policies:

10. Review the supply of buildable lands within the urban growth boundaries in cooperation with the cities, during each major review of the County's plan. The process of expanding the urban growth areas may begin when there is less than a five (5) year supply of residential land or when 75% of the industrial or commercial lands are built upon.

Finding 16: This criterion does not apply to this proposal since this application is not part of the Counties periodic review program for buildable lands. In addition, this UGB expansion does not propose to increase the acreage of residential land within the UGB.

Continuing with the Comprehensive Plan - Urbanization Policies:

11. Not to form new special districts within the urban growth boundaries unless the services are compatible with the plans of the cities for the provision of services within the urban growth boundaries.

Finding 17: Staff finds that no special districts are proposed or anticipated with this application to expand the Vernonia UGB.

Continuing with the Comprehensive Plan - Urbanization Policies:

12. Have mutually agreed upon land use designations with each city.

Finding 18: The existing County Rural Residential and Single Family Residential zoning designations will be changed to Community Service Institutional (CSI) until the site is annexed into the city limits. The City and County coordinate their zoning efforts pursuant to the October 30, 1996 Urban Growth Boundary Agreement (UGMA). Staff finds that this application will not conflict with the above criterion.

Continuing with the Comprehensive Plan - Urbanization Policies:

13. Review all subdivision plats in the urban growth boundaries to insure the establishment of a safe and efficient road system.

14. Support the annexation by cities in accordance with the State statutes.

15. Support the development of Local Improvement Districts (LIDs) to develop local services.

16. Coordinate the development of facilities by existing special districts to insure coordination with city plans.

Finding 19: The above criteria do not apply to this application. This application does not propose a land division, does not annex land into the city limits, and does not propose any Local Improvement Districts. Staff finds that the ultimate development of this site will require interagency coordination for facilities development, however, this application is limited in scope only to the UGB expansion and not the specific development of the site which will come at a later time through Site Design Review. Therefore, the above criteria are not applicable to this proposal.

Continuing with the Comprehensive Plan - Urbanization Policies:

17. Adopt the urban growth boundaries, and those portions of the adopted comprehensive plans relating to the unincorporated urban growth areas, for the municipalities of Clatskanie, Columbia City, Rainier, Scappoose, St. Helens, and Vernonia.

Finding 20: The City of Vernonia has requested an urban growth boundary expansion of its existing UGB area. Staff finds that this request is consistent with the above criteria.

Continuing with the Comprehensive Plan - Urbanization Policies:

18. Coordinate population projections at the time of the first periodic review of the County or any city plan, based upon the projections of a regionally accepted population forecast, such as the studies prepared by the Portland State University and the BPA. The County's projection will be within 10% of the regionally accepted projection and the incorporated cities' projections will be allocated on a jurisdiction by jurisdiction basis.

19. Existing population projections for the unincorporated areas will not be used as a basis for residential needs exception.

Finding 21: Staff finds the above criteria regarding population projections are not applicable to this application

Continuing with the Comprehensive Plan - Urbanization Policies:

20. Limit development outside of urban growth boundaries to densities which do not require an urban level of public facilities or services.

Finding 22: Staff finds this application is consistent with the above criterion as the proposal will expand the UGB to allow the relocation of the existing K-12 educational campus along Bridge Street to the proposed 22-acre Boot Site within walking distance of the existing school facilities but entirely outside of the Nehalem River's and Rock Creek's 100 Year Floodplains.

Continuing with the Columbia County Comprehensive Plan related to the Economy:

Part X ECONOMY

GOALS:

1. To strengthen and diversify the economy of Columbia County and insure stable economic growth.

2. To utilize Columbia County's natural resources and advantages for expanding and diversifying the economic base.

Finding 23: The purpose of this site-specific proposed UGB expansion is to provide a new location outside of the 100 Year Floodplain within which to relocate the Vernonia School District's existing K-12 school campus. Staff finds that this would stabilize, strengthen and diversify the long term economy of this area of Columbia County as well as of the City of Vernonia.

Continuing with the Comprehensive Plan - Economy Policies:

POLICIES: It shall be a policy of the County to:

1. Encourage the creation of new and continuous employment opportunities

2. Encourage a stable and diversified economy.

Finding 24: Staff finds that expanding the UGB for a new school campus would help establish the foundation for stable, new, and continuous employment opportunities in the county's increasingly diversified economy as it transitions from its historical resource related industry to a more diversified one that is not resource-related. A more sustainable and safer K-12 educational facility will also be critical toward stabilizing the City of Vernonia's economic and employment diversification consistent with the above criteria

Continuing with the Comprehensive Plan - Economy Policies:

3. Reflect the needs of the unemployed and of those persons who will enter the labor market in the future.

Finding 25: According to submitted application the proposed new school will provide a more sustainable K-12 educational opportunity for students in this more remote portion of our county. The existing forested areas of the Boot Site could also provide alternative educational opportunities related to natural resource preservation and/or conservation for K- 12 students that are still important to this predominantly rural area of our county. Strong, sustainable, and alternative educational opportunities would also reflect the needs of unemployed persons attempting to enter the continually changing labor market.

Continuing with the Comprehensive Plan - Economy Policies:

4. Place the County in the position of being able to respond to market opportunities by providing technical assistance in locating available sites for development.

Finding 26: Staff finds that the Alternative Site Analysis conducted for this UGB expansion the School District and the City of Vernonia with valuable technical assistance that has helped both public entities to identify, compare, and contrast the advantages and disadvantages of rebuilding and improving the existing facilities along Bridge Street versus relocating and constructing new facilities at the 22-acre Boot Site outside of the 100 Year Floodplain. The resulting proposal of the proposed 22-acre UGB expansion has placed the City, School District and the County in better positions with which to respond to the community of Vernonia's current and future educational and economic needs.

Continuing with the Comprehensive Plan - Economy Policies:

5. Encourage the activity of the community organizations which work for sound economic development.

Finding 27: The Vernonia Oregon Solutions Team, the City of Vernonia, the Vernonia School

District Board, and the County have all worked towards developing the Vernonia School Siting Study and the related proposal expansion of the City of Vernonia's Urban Growth Boundary required prior to proceeding with the implementation of this proposal: the potential construction of a new K-12 school campus at the 22-acre Boot Site. The County strongly encourages all organizations involved with this project to continue to work in a cooperative manner that will provide the maximum educational long-term benefits to the students of the Vernonia School District.

Continuing with the Comprehensive Plan - Economy Policies:

6. Preserve prime maritime industrial sites from pre-emptive uses until needed for industrial uses.
7. Protect identified aggregate resources until they are extracted, and plan for the reclamation and future productive uses of those sites.
8. Reserve valuable industrial sites for industrial uses.
9. Encourage the trade and service sectors and the recreation industry to insure greater revenue spending locally.

Finding 28: Staff finds these criteria do not directly apply to the submitted application which requests to expand the Vernonia UGB for a new school site. However, as stated on Page 4 of the application, because the Vernonia School District chose to eliminate the light-industrial zoned Knott Site from consideration of this school siting study, this proposal does reserve the City's existing industrial zoned land for future industrial uses.

Continuing with the Comprehensive Plan - Economy Policies:

10. Support improvements in local conditions in order to make the area attractive to private capital investment. Consideration of such factors as the following shall be undertaken:

    A. Tax incentives
    B. Land use controls and ordinances
    C. Capital improvements programming

Finding 29: Staff finds that proposal does support the needed infrastructure improvements to the proposed 22-acre Boot Site intended for this UGB expansion because it will make this area attractive for private capital investors. This proposed UGB expansion will assist the Oregon Solutions Team's on-going efforts to secure reliable funding sources for the necessary site improvements that will need to be in place before the new K-12 school can be constructed at the 22-acre Boot Site. Once the new school is constructed in a safer and more appropriate location it is likely to help the City of Vernonia become more attractive to private capital investment opportunities including, but not limited to, various other types of residential and economic development opportunities within this vital rural community of Columbia County.

Continuing with the Comprehensive Plan - Economy Policies:

11. Coordinate with public utility companies to insure energy supplies are available to areas programmed for development and redevelopment.

Finding 30: Staff finds the applicant's request to approve the proposed UGB expansion of the Boot Site in order to relocate and build a new K-12 school will also require infrastructure improvements related to securing adequate access to roads, public water, sanitary sewer, electricity, and telecommunications to the 22-acre site. As mentioned previously for Findings 8 and 15 although these utilities are close to both the Boot Site and NW Corner Sites, extending these services to the Boot Site would be significantly cheaper than extending them to the NW Corner Site. NW Natural has also stated that the existing 2" natural gas line along Texas Avenue will be sufficient for the proposed school. Staff finds this criterion is satisfied.

Continuing with the Comprehensive Plan - Economy Policies:

12. Encourage new industrial growth within the urban areas so as to utilize existing public facilities.

Finding 31: Staff finds this criterion does not directly apply to the submitted application requesting expansion of the Vernonia UGB for a new school site on land currently zoned for rural and single-family residential uses within an already designated exception area. However, it is important for the Planning Commission and Board of Commissioners to note according to the attached *March 2, 2009 Summary Report on School Siting* that early in this process, the Vernonia Oregon Solutions Team eliminated the Knott Street Site as one alternative school location. The city did not pursue expanding the UGB at the Knott Street Site because the property is zoned Light Industrial and it is the only practical location for light industry to operate in the city. Consequently and by eliminating the Knott Street Site as a potential school site, the proposed UGB expansion will encourage industrial growth on this community's industrial areas which, in turn, satisfies this criterion for UGB expansion.

Continuing with the Columbia County Comprehensive Plan:

Part XIII TRANSPORTATION

GOAL:

The creation of an efficient, safe, and diverse transportation system to serve the needs of Columbia County residents.

OBJECTIVES:

1. To utilize the various modes of transportation that are available in the County to provide services for the residents.

2. To encourage and promote an efficient and economical transportation system to serve the commercial and industrial establishments of the County.

3. To improve the existing transportation system.

Finding 32: According to the submitted information in the attached School Siting Comparison Report, the relatively remote location, steep terrain, and unimproved access to the NW Corner Site make it cost prohibitive for it to be developed as a new school campus. The Boot Site on the other hand, is well served by three local access streets that connect the 22-acre site to Bridge Street. These three site options can also provide multi-modal access to the Boot Site for students, faculty, and staff and would require either (1) widening and upgrading of either Missouri or Texas Avenues. from Bridge Street to the site's primary access or (2) routing trips North from Bridge Street via State Avenue along Stoney Point Road to Mellinger Road then South along a newly constructed road into the school site. Based on these three access points, the construction costs for building the needed transportation infrastructure will be significantly lower for the Boot Site than for the NW Corner Site, between $1,247,000 to $1,647,000, versus the $3,742,000 to $4,491,000 respectively.

However and pursuant to Condition 4 of the Planning Commission's recommendation to the Board that they approve the proposed UGB expansion, Pages 5 and 6 of the attached September 3, 2009 *Supplemental Findings* from Carole Connell, Vernonia City Planner states the City has followed DLCD's suggestion to defer transportation decisions to the later permitting process. The city's decided to defer the Transportation Planning Rule analysis of the preferred Boot Site for the following reasons:

1. The attached February 23, 2009 Vernonia School Siting Comparison Report includes a detailed Comparative Assessment of Transportation Needs conducted by Kittleson & Kittleson Associates provides a in-depth analysis of the Boot Site's current access deficiencies. This analysis also identifies required measures that will be need to assure the site has safe, efficient, and cost effective multi-modal transportation access for students, employees, and residents living nearby.

2. The City will utilize the traffic count, level of service, and other traffic safety-related data included in the May 2008 *Traffic Impact Study for the Nehalem View Subdivision.* Although this study was conducted for a potential residential subdivision adjoining the Boot site, it provides relevant data that can also be used in the future school site's transportation analysis.

3. Although the City believes a significant portion of the Boot site's transportation analysis has been completed, the final decision regarding a few site-specific improvements cannot be made at this time prior to reviewing a more detailed site development permit. For instance, the option of improving either Missouri or Texas Streets as discussed in the 2008 Kittleson Transportation Assessment Report, cannot be made prior to additional site development planning, refined cost estimates and public involvement all of which are necessary to ensure a thorough evaluation fo the alternative streets accesses are obtained and evaluated.

4. The City finds there are no significant unresolved transportation issues that could potentially invalidate the proposed 22-acre UGB expansion. The existing data indicates that safe and adequate multi-modal transportation access to and egress from the proposed new K-12 school at the Boot Site can be accomplished at the site of actual site development.

Consequently, and for these reasons, staff finds the proposal is consistent with the Comprehensive Plan's Transportation Goal and its 3 related Objectives.

Continuing with the Columbia County Comprehensive Plan:

PART XIV. PUBLIC FACILITIES AND SERVICES

PUBLIC FACILITIES AND SERVICES: GOALS AND POLICIES

GOAL:

To plan and develop a timely, orderly, and efficient arrangement of public services as a framework for urban and rural development.

POLICIES:

1. Require that adequate types and levels of public facilities and services be provided in advance of or concurrent with development.

4. Encourage new development on lands within urban growth boundaries or built and committed exception areas.

5. Coordinate public facilities and services planning with affected service districts and/or agencies.

9. Direct new development into areas where services exist or are proposed within a reasonable time frame.

13. Support a level of fire safety and service in all areas of the County sufficient to minimize the risk of fire damage to life and property.

15. Integrate schools with land use, transportation, recreation, and other community objectives and plans in order to realize their optimum value to the community.

PART XV. ENERGY CONSERVATION

GOAL:

To strive for an energy efficient land use pattern based upon sound economic principles.

Finding 33: Urban developments are to be guided by public facilities that are appropriate for the

needs of the areas to be served. Plans for Vernonia's intended new k-12 public school campus and related educational services in the proposed UGB expansion area into the rural residential exception area should be efficient, adequate and suitable for key services. These services include but are not limited to police and fire protection, adequate sanitary sewer, potable water supply, and infrastructure- related improvements to transportation, telecommunications, and energy facilities.

The factors of Urbanization discussed and evaluated for Findings 6 through 22 of this report also support the Vernonia School Siting Study's recommendation for siting the new educational facility at the Boot Site because the identified infrastructure-related improvements can be more efficiently provided to the Boot Site than to NW Corner Site. These coordinated and cost-efficient infrastructure improvements will allow the school to be able to utilize Vernonia's water, sanitary sewer, fire department, and roads, West Oregon Electric's electrical and telecommunications services, and NW Natural's natural gas. This submitted Vernonia School Siting Study's recommendation requesting this 22-acre expansion of the existing City of Vernonia's UGB also demonstrates how the Vernonia Oregon Solutions Team, the Vernonia School Board, and the City of Vernonia have successfully integrated the school's need for a new site with this community's long-term land uses, transportation, energy conservation, economic, educational, and quality of life objectives and priorities. Staff finds these criteria have been met.

Continuing with the Columbia County Comprehensive Plan:

Part XVIII AIR, LAND, AND WATER RESOURCES

GOAL:

To maintain and improve land resources and the quality of the air and water of the County.

POLICIES: It shall be the policy of Columbia County to:

1. Work with the appropriate State and Federal agencies to insure that State and Federal water, air, and land resource quality standards are met.

2. Comply with all applicable State and Federal standards and regulations regarding noise pollution.

Finding 34: Although these specific listed criteria do not directly apply to this proposed UGB expansion ,all future developments related to construction of the proposed new school at the Boot Site will be required to meet Oregon Department of Environmental Quality standards as well as any other federal regulations that may apply.

Continuing with the Columbia County Comprehensive Plan:

PART XIX. NATURAL DISASTERS AND HAZARDS

FLOOD PLAIN

Flood plains or flood prone areas are regions that are dry in some seasons of the year but inundated when heavy rain, streams, estuaries or other bodies of water overflow their shores.

Problems arise when attempts are made to convert flood hazard areas to urban uses. Not only are buildings and other improvements in such areas subject to damage, but their presence often impedes the normal flow of water through these plains and may result in an increase in the height of the flood water and the size of the area which is flooded.

There is generally a relationship between the frequency and the magnitude of floods, with more extensive floods occurring less frequently. By comparing the highest flood record in a given area, the areas inundated by recent floods for which there are more complete records, and the frequency of past floods of various levels, it is possible to estimate the area of flood hazard.

Based upon the flood date analysis, decisions should be made regarding suitable development for vacant areas, and redevelopment or preservation of existing land uses. In a study of undeveloped areas, careful consideration should be given to location, topographic and drainage features, size of tracts, and availability of utility and transportation facilities. Types of development with relatively low damage potential may be permitted, such as open space, park lands, farming, and parking lots.

FLOOD PLAIN: GOALS AND POLICIES

GOAL:

Eliminate or reduce the economic and social costs created by flood-caused damages.

Finding 35: The primary reason for this proposed UGB expansion is to find an alternative site for the Vernonia K-12 public school campus that is located outside of the 100 year Floodplain. Staff finds that the proposed relocation and rebuilding of the new K-12 school at the recommended Boot Site will be consistent with the intent and purposes of this section of the Comprehensive Plan related to the preservation of the Floodplains on a county-wide basis..

Finding 36: Although the other Parts of the Comprehensive Plan related to Forest Lands, Agriculture, Housing, Rural Residential, Rural Communities, Commercial, Industrial Siting, Open Space, Scenic and Historic Areas, and Natural Resources, Recreation Needs, and Willamette River Greenway do not specifically apply to the proposed UGB expansion, if the proposal is approved, staff has no reason to believe any of these other Parts and their related Goals, Policies, and Objectives will be detrimentally impacted. Staff finds the proposal is consistent with the all the applicable Parts of the County's Comprehensive Plan.

Continuing with the Oregon Administrative Rules:

DIVISION 24: URBAN GROWTH BOUNDARIES

660-024-0040 - **Land Need**

(3) A local government may review and amend the UGB in consideration of one category of land need (for example, housing need) without a simultaneous review and amendment in consideration of other categories of land need (for example, employment need).

Finding 37: Staff finds the proposed UGB expansion for the siting of a new public school campus does not require a simultaneous review of other categories of land need.

Continuing with the Oregon Administrative Rules:

660-024-0060
Boundary Location Alternatives Analysis

(5) If a local government has specified characteristics such as parcel size, topography, or proximity that are necessary for land to be suitable for an identified need, the local government may limit its consideration to land that has the specified characteristics when it conducts the boundary location alternatives analysis and applies ORS 197.298.

Finding 38: According to the submitted application, the School Siting Comparison Report identified in Table 1 (Page 3) the following site-specific characteristics the proposed new school site would need:.

- Contains less than 10% slope, has no significant wetlands, and must be outside of the 100 year Floodplain,
- Is between 26 and 46 acres,
- Has access to existing and constructed public roads/transportation infrastructure,
- Is within ½ mile of the City Center and existing park and school facilities,
- Will be compatible with existing land uses and is not adjacent to industrial zoned land, and
- Can be served by public water (including fire protection) and sanitary sewer and is in close proximity to the existing public utilities' service lines

Staff finds the School Siting Comparison Report satisfies this criterion for proposed UGB expansion. The next section of this report will address the required boundary location alternative analysis in ORS 197.198 referenced in OAR 660-024-0060(5) above.

Continuing with the Oregon Administrative Rules:

197.298 Priority of land to be included within urban growth boundary.

(1) In addition to any requirements established by rule addressing urbanization, land may not be included within an urban growth boundary except under the following priorities:

(a) First priority is land that is designated urban reserve land under ORS 195.145, rule or metropolitan service district action plan.

(b) If land under paragraph (a) of this subsection is inadequate to accommodate the amount of land needed, second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land. Second priority may include resource land that is completely surrounded by exception areas unless such resource land is high-value farmland as described in ORS 215.710.

Finding 39: On Page 3 of the submitted application, the applicant explains in detail why the proposed new school campus could not reasonably be accommodated on land within the existing UGB. The GIS analysis of the existing UGB revealed that since approximately 60% of the City is within the floodplain, the City has limited availability of relatively flat land that is located outside of the floodplain. Consequently, the study determined there were no sites within the current UGB that could fulfill the new school's siting criteria. The applicant also analyzed two other undeveloped residentially zoned land at least 20 acres in size within the UGB, neither of which could accommodate the proposed school's identified siting criteria. Staff finds the City conducted the required boundary location analysis of alternative sites within the existing UGB that allowed them to then prioritize additional land (outside the UGB) that would be appropriate for the new school-site's proposed UGB expansion satisfying the criteria in ORS 197.298.

Finding 40: Pursuant to ORS 197.298 and because the City of Vernonia has no designated first priority land or urban reserve land, it needed to find land meeting the second priority of land criteria for the proposed UGB expansion: land that was adjacent to an UGB that was already identified as an exception area by an acknowledged Comprehensive Plan. Per the definitions in ORS 197.298(1) (b) although both the Boot Site and the NW Corner Site are adjacent to the existing UGB, only the Boot Site is also within an acknowledged rural residential exception area. The NW Corner Site is zoned for Primary Forest, one of the counties' three resource zoning designations. Finally, and although the NW Corner Site's soils consist of Mayger Silt Loam (Type 30D) that are not considered to be high-value farmland according to ORS 215.710, this alternative site is surrounded on the North, South, and West by other Primary Forest properties rather than other designated exception areas and can not be considered as second priority land per ORS 197.298(1)(b).

Consequently, the Boot Site meets the required criteria of second priority land, whereas the NW Corner Cite does not. For these reasons, Staff finds only the recommended Boot Site, and not the NW Corner Site, meets the necessary second priority of land criteria consistent with required State criteria for the proposed Vernonia UGB expansion. If this proposal is approved it will allow the City and School Board to proceed with their implementation plans for the eventual relocation and rebuilding of a new K-12 public school system at the Boot Site adjacent to already established Spencer Park.

Continuing with the Division 197.298 of the Oregon Administrative Rules:

197.298 Priority of land to be included within urban growth boundary.

(3) Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:

(a) Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;

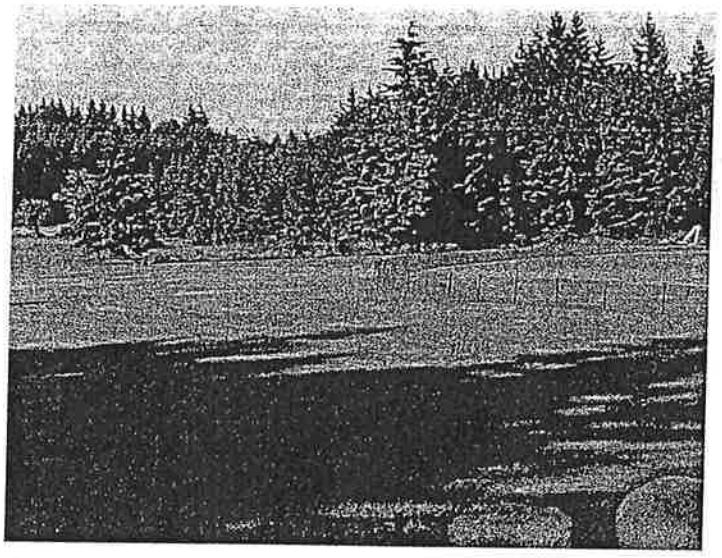
(b) Future urban services could not reasonably be provided to the higher priority lands due to topographical or other physical constraints; or

(c) Maximum efficiency of land uses within a proposed urban growth boundary requires inclusion of lower priority lands in order to include or to provide services to higher priority lands.

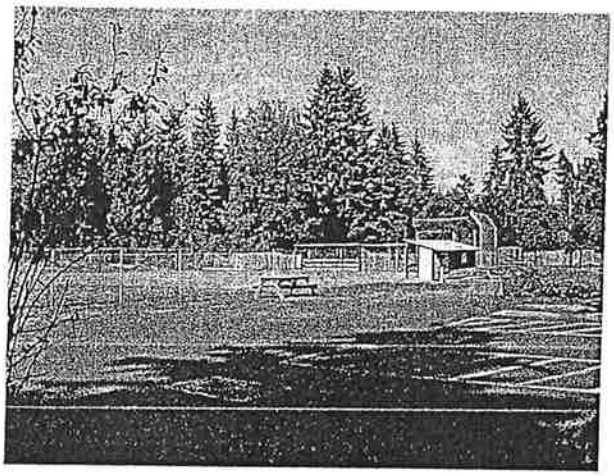
Finding 41: According to these Oregon statutory requirements for proposed UGB expansions, first priority is given to land that is designated urban reserve land; the City of Vernonia has no such designated land. Second priority must then be given to land that is adjacent to an UGB that is acknowledged in a Comprehensive Plan as an exception area. As part of the initial adoption of the Comprehensive Plan in 1984, Columbia County took 'built and committed" exceptions to Goals 3 and 4 for all lands designated Rural Residential. Staff finds the majority of the Boot Site's subject properties, the approximate 14 acres associated with tax lots 100 and 300, are zoned Rural Residential and thus meet the ORS' criteria for second priority land that can be considered for the proposed UGB expansion.

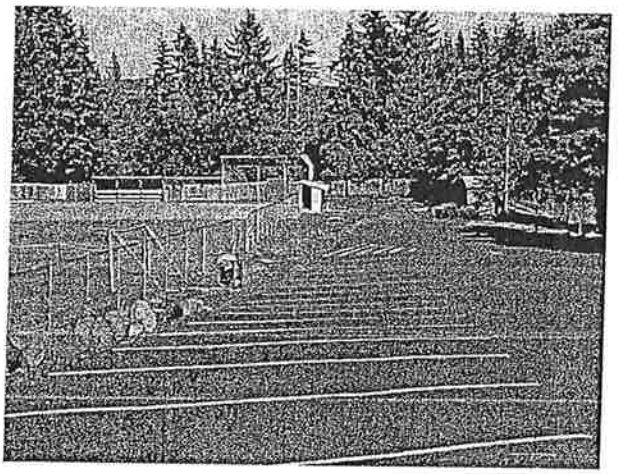
Staff would like to bring it to the Planning Commission's and Board of Commissioners' attention that because the Southern 7.74 acres associated with tax lot 400 is already within the UGB and is zoned Single-Family Residential (R-10), this property does not need to be included in this UGB expansion. The County however views its inclusion as an essential component of this proposal due to the property's minimal slopes and because it is adjacent to Spencer Park's existing baseball field, open space and parking facilities along Oklahoma Avenue shown in the next three pictures. With these existing physical characteristics and site development, it appears this 7.74 acres of R-10 zoned property may be the intended location of the new schools' structures , athletic fields, and/or playgrounds. Staff finds that although this R-10 property does not need to be included in the specific UGB expansion, the county has no objection to including it with this proposal.

Terrain and existing development adjacent to the 7.74 acres associated with Tax Lot 400



Existing Parking and athletic fields along Oklahoma Avenue





Finding 42: Per Findings 40 and 41, and although only the Boot Site meets the State's criteria and definition of second priority land, the submitted February 2009 School Siting Comparison Report included an analysis and in-depth study of three potential sites for the new school: the existing site, the NW Corner, and the Boot Site. This study provided a detailed technical analysis of each site's unique characteristics/issues and associated costs related to supporting the proposed new school campus in the following categories: Land Use Process, Land Acquisition, Transportation, Building Design and Construction, Flood-Proofing, Insurance, Site Improvements, Utilities, Community Function, and Incidentals (Fire Protection and Snow Routes). The resulting site evaluation of all three proposed locations are described on Pages 7 through 20 of the submitted Report and are summarized on the Comparison Tables on Pages 21 and 22.
The following is a summary of the School Siting Report's more thorough technical analysis:

Existing Site:
Advantages: Excellent bicycle and pedestrian access, centrally located and can serve other community uses, is already in the city limits, and is currently served by existing public utilities.
Disadvantages: All existing facilities need to be flood proofed, elevated and/or brought up to seismic code. The potential insurance costs for maintaining these buildings within the newly designated 100 year Floodplains are cost prohibitive.
Costs for Site Work: Between $33,913,000 to $41,836,000

NW Corner Site:
Advantages: Is not located within a 100 year Floodplain and is currently owned by a single property owner
Disadvantages: Has poor bicycle and pedestrian access, is not centrally located, is zoned for Primary Forest and would need first need to be excepted from the applicable Statewide Planning Goals. This site has potentially topographical limitations to cost-efficient site development.
Costs for Site Work: $39,667,000 to $46,471,000

Boot Site:
Advantages: Easily accessed by bicyclists & pedestrians, centrally located and can serve other community uses, its rural residential zone is an already designated exception area, is not within the 100 year Floodplain, and meets the State's criteria for second priority land for potential inclusion to the urban growth boundary.
Disadvantages: The subject properties are in different ownership and the existing public utilities and roads serving the property need to be improved and extended to the site.
Costs for Site Work: $37,646,000 to $44,282,000

Finding 43: Staff finds the Site Location Alternative Analysis conducted for this proposed UGB expansion and documented in the February 2009 School Siting Comparison Report allowed the community of Vernonia to identify the extent to which each site could be adequately served by utilities in ways that would efficiently maximize and reasonably accommodate the new school's required public services. This Report's recommendation of the Boot Site rather than the NW Corner Site, as the selected new school location moreover, also complies with the State's criteria

listing conditions under which specific properties can be included and considered for urban growth boundary expansions.

Continuing with the Oregon Statewide Planning Goals:

Because OAR 660-024-0020 requires all UGB amendments to be consistent with the Statewide Planning Goals these Goals will be now be presented and evaluated.

Goal 1 Citizen Involvement Goal 1 calls for citizens to be given opportunities to be involved in all phases of the planning process. For this proposal the Vernonia School District provided extensive opportunities for public involvement that considered a range of alternatives before they selected the Boot Site as the preferred site. Public hearings will be noticed for all required public hearings for the City and County Planning Commissions and for the County Board of Commissioners prior to the final adoption of the proposed plan amendment. Staff finds this Goal has been met.

Goal 2 Land Use Planning Goal 2 requires jurisdictions to review all pertinent facts and data and to consider all alternatives prior to making land use decisions. These land use decisions must also comply with adopted Comprehensive Plan and Zoning Ordinances implementing these Plans. The Alternatives Analysis for this proposal was conducted by the Vernonia Oregon Solutions Team with support and involvement from private citizens and from representatives from the Vernonia School District and City of Vernonia. Findings 6 through 36 of this report demonstrate the proposal is consistent with the County Comprehensive Plan and staff has no reason to believe the City Planning Commission will not make similar Findings regarding consistency to their own Comprehensive Plan. Staff finds this Goal has been met.

Goals 3 & 4 Agriculture and Forest Lands As stated in OAR 660-024-0020(b) Goals 3 & 4 are not applicable when a proposed urban growth boundary includes a rural residential designated exception area.

Goal 5 Open Spaces, Scenic and Historic Areas, and Natural Resources Goal 5 requires local governments to inventory and protect natural resources. There are no inventoried Goal 5 resources on the Boot Site and does not apply to this proposal.

Goal 6 Air, Water and Land Resources Quality Goal 6 requires Comprehensive Plans and zoning Ordinances to be consistent with state and federal DEQ regulations. All future construction on the Boot site will comply with these acknowledged Goal 6 policies already incorporated in the City of Vernonia';s Comprehensive Plan and Zoning Ordinance and will be met at the time of construction.

Goal 7 Area Subject to Natural Disasters and Hazards Goal 7 requires local governments to have appropriate safeguards for any land use and development in areas that are subject to natural hazards such as floods and landslides. The existing school is located within the 100 year Floodplain and has experienced major destruction due to the floods of 1996 and 2007. The

proposed relocation and consequent rebuilding of a new K-12 school campus will not only enhance the general public's and students' health and safety, but will also allow the new school site to be safely accessed and utilized as a community resource center during future emergencies. Goal 7 has been met.

Goal 8 Recreation Needs Goal 8 requires Vernonia to evaluate its UGB and facilities regarding its current capacity to serve constituents' recreational needs. The Boot Site is adjacent to already established Spencer Park with athletic fields, open spaces, parking facilities, and public water and sanitary sewer. According to the application, the city and the School District are also considering replacing Spencer Park at the existing school complex on Bridge Street to ensure the city does not lose any existing recreational facilities. Additionally, it is not unusual for the general public to utilize public school's playground and athletic fields when school is not in session which will increase Vernonia's potential recreational opportunities. Staff finds this Goal has been met.

Goal 8 Economy of the State Goal 8 encourages public policies that help diversify and improve the State's economy by similarly encouraging communities to provide for a sufficient supply of commercial and industrial lands that are sufficient to meet the affected communities' current and future employment needs. This proposed UGB expansion at the Boot Site will not change the existing supply of available commercial land and will help preserve the city's existing industrial zoned land (at the Knott Street Site) for future industrial uses. Providing this community with a new, safe, and sustainable K-12 educational opportunity is also fundamental to achieving statewide and local employment objectives. Goal 9 has been met.

Goal 10 Housing Goal 10 requires cities to inventory their buildable residential lands, project future needs for these lands, and plan for enough of these residentially zoned lands to meet future housing needs. According to the applicant, the 1996 City of Vernonia Comprehensive Plan's update has already addressed these requirements of Goal 10 and staff finds the proposed UGB amendment will not decrease the City of Vernonia's buildable supply of residentially zoned land. Goal 10 has been met.

Goal 11 Public Facilities and Services Goal 11 requires jurisdictions to adopt public facility plans for any urban growth area exceeding a population of 2,500. The Portland State University Center for Populations and Census estimates Vernonia's current population at 2,365. Consequently, the City of Vernonia does not need to adopt a public facilities plan to comply with Goal 11. Nevertheless, it is important for Vernonia to be able to provide public facilities to the new school at the Boot Site intended for this proposed UGB expansion. As consistently demonstrated throughout this staff report, the submitted School Siting Comparison Report analyzed a variety of technical data and selected the Boot Site as the proposed school site of all three alternatives because it could most reasonably and efficiently accommodate the needed improvements to existing facilities and infrastructure. This has been a consistent and reoccurring characteristic of the Boot Site as discussed for Findings 15, 33 and 41. Staff finds Goal 11 has been met.

Goal 12 Transportation Goal 12 encourages the provision of safe, convenient, and economic transportation systems. Per OAR 660-024-0020(d) "the transportation planning rule requirements under OAR 660-012-0060 need not be applied to a UGB amendment if the land added to the UGB is zoned as urbanizable land, either by retaining the zoning that was assigned prior to inclusion in the boundary or by assigning interim zoning that does not allow development that would generate more vehicle trips than development allowed by the zoning assigned prior to inclusion in the boundary."

As discussed previously for Finding 32 in this report, the Supplemental Findings dated September 3, 2009 states that the City finds there are no significant unresolved transportation issues that would potentially invalidate the proposed UGB amendment when the required detailed site planning and conditional use reviews are made prior to any future site development of the new school. Consequently, and as suggested by DLCD in its August 7, 2009 letter, the City has chosen to defer transportation decisions to a later permitting process. Consequently, all final decisions on street alignments, cross-section standards, pedestrian and bicycle improvements will be made at the future site design review in accordance with the" Safe Routes to Schools" standards of the city's Transportation Systems Plan described in its TGM grant scope of work. Goal 11 has been met.

Goal 13 Energy Goal 13 requires cities to consider energy during the planning process. By selecting a new school to be located near both the existing campus and Spencer Park as well as within ½ mile of the city center demonstrates the city has taken efficient energy expenditures measures into account for this proposal. Siting the proposed new K-12 school in close proximity to existing public utilities is consistent with Goal 13.

Goal 14 Urbanization Statewide Goal 14 will be discussed separately in the next section of this report

Goals 15 through 19 Goals 15 through 19 are related to the Willamette Greenway and coastal resources do not apply to this proposed UGB expansion of the City of Vernonia.

Finding 44: Staff finds the proposed UGB expansion is consistent with all of the Statewide Planning Goals except Goal 14 which will be evaluated in the next section.

...and following with the seven factors of Goal 14:

Goal 14: Urbanization

In order to provide for an orderly and efficient transition from rural to urban land use, urban growth boundaries shall be established to identify and separate urbanizable land from rural land. Establishment and change of the boundaries shall be based upon consideration of the following factors:

(1) Demonstrated need to accommodate long-range urban population growth requirements

consistent with LCDC goals;

Finding 45: Staff finds this request to expand the UGB is not based on future population growth but is based on the Vernonia School District's and City of Vernonia's need to find a new location outside of the 100 year Floodplain for the Vernonia public schools. Since over 60% of the city is within the 100 year Floodplain and since no existing properties within the UGB meet the specific school site characteristics. Staff finds the new school site cannot be accommodated within the existing Vernonia UGB requiring the City to expand its exiting UGB provided all state and local requirements are met

According to the application, the City of Vernonia's 2008 population is estimated at 2,365. A 2009 Portland State University's Population Projection for Columbia County allocates the City of Vernonia's projected population to be 2,700 by 2030, or an 14% increase in 2008's population. On September 9, 2009 the Columbia County Board of Commissioners approved the 2009 Portland State University's Population Projection by adopting Amendments to Sections IX and X of the Comprehensive Plan to update the County's 20 Year Population Forecast.

(2) Need for housing, employment opportunities, and livability;

Finding 46: Although this proposed UGB expansion is not directly related to Vernonia's need to expand housing or employment opportunities or to address better quality of life issues, providing a safe, appropriate and sustainable K-12 educational opportunity for its youth will more than likely result in a better educated work force that will, in turn, lead to improved housing, employment and quality of life conditions for affected constituents of the Vernonia community This new work force will then be able to provide the community with additional and more diversified economic opportunities that simultaneously encourage residents of Vernonia to choose to live near their places of employment. This is particularly relevant to residents of this rural community who have traditionally worked in the resource industry but have not been able to maintain livable wages in this industry due to the transition towards one that is more non-resource related. Providing rural residents with a sustainable K-12 education is also likely to increase the livability of this community because it will not decrease the outdoor recreational opportunities and will allow residents to also utilize the new school's playgrounds, athletic fields, open spaces, and a community meeting area. Staff finds the proposed UGB expansion satisfies this criterion.

(3) Orderly and economic provision for public facilities and services;

Finding 47: Staff finds the applicant has analyzed the ability of extending public service and facilities to the proposed UGB expansion area as discussed in Findings 15, 33, 41 and 42. The applicant has shown that the future extension of public facilities and services to the proposed UGB expansion area will be orderly, efficient, and financially responsible. If the School District obtains sufficient financial resources for completing the necessary infrastructure improvements to the new K-12 school at the proposed Boot Site, this new educational facility and related development will also allow for these improvements with no additional expenditures from the

City's operating budget. Staff finds this criterion has been satisfied.

(4) Maximum efficiency of land uses within and on the fringe of the existing urban area;

Finding 48: The proposed UGB expansion at the Boot Site area is adjacent to the existing city limits and UGB. The current Vernonia UGB does not contain any sites that are capable of accommodating the proposed new school and the applicant has shown that the existing public utilities and transportation improvements can be extended to the subject property more economically efficiently than to the NW Corner site, indicating the proposal supports the maximum efficiency of the UGB's existing land uses. The proposed new school will be compatible with adjacent rural residential and urban residential zoned lands and will not conflict with any resource related operations occurring in the nearby resource zoned properties to the North. Overall the proposed new K-12 campus should be highly compatible with the surrounding rural and urban areas satisfying this criterion.

(5) Environmental, energy, economic, and social consequences;

Finding 49: The applicant has adequately addressed this criterion for the NW Corner Site and the Boot Site in pages 7 and 8 of the application and staff concurs with the applicant's subsequent analysis. Specifically, and although both sites are outside of the 100 year Floodplains for Rock Creek and the Nehalem River, the Boot Site is more centrally located in the City, is adjacent to existing Spencer Park, and is easier for pedestrians and bicyclists to access. Extending and improving existing infrastructure is projected to be significantly less to the Boot Site than to the NW Corner Site. Likewise, extending these facilities to the Boot Site will be a more efficient utilization of the School District's financial resources. Providing sustainable K-12 educational opportunities for students in Vernonia are multi-faceted, numerous, and vital components of local governing and economic policies. Although both sites will provide equally valuable social consequences for students, only the NW Corner Site would potentially result in negative energy and economic consequences while the Boot site would have all positive ESEE consequences. Staff finds this criterion has been met.

(6) Retention of agricultural land as defined, with Class I being the highest priority for retention and Class VI the lowest priority; and,

Finding 50: This criterion does not apply to this proposed UGB expansion of the rural residential land that has already been designated as an exception area or of the single-family residential zoned portion of the subject properties.

(7) Compatibility of the proposed urban uses with nearby agricultural activities.

Finding 51: The subject property is not adjacent to any agricultural zoned land or activities other than what are allowed to occur on the adjacent approximate 46 acres of Rural Residential zoned land to the North and West These properties contain seven residences all of whose property

owners were notified of this proposal prior to the Planning Commission and the Board of Commissioners hearings. Land Development Services has not received any comments from any affected property owners as of the date of this report, September 16, 2009. Staff finds that the proposed new school at the Boot site is not expected to conflict with nearby agricultural uses permitted on resource zoned properties further North of the adjacent RR-5 properties. Any impacts resulting from the new K-12 school should not be of a scale or magnitude to upset nearby agricultural activities occurring in close proximity of Vernonia City limits and/or its urban growth boundary. This criterion has been satisfied.

COMMENTS:

1. The Upper Nehalem CPAC has reviewed the application and has no objection to its approval as submitted.

2. The County Roadmaster has reviewed the application and has no objection to its approval as submitted.

No other comments have been received from adjacent or nearby property owners or government agencies as of the date of this staff report, September 16, 2009.

CONCLUSIONS AND RECOMMENDATIONS:

The February 23, 2009 School Siting Comparison Report submitted with the request to expand the Vernonia Urban Growth Boundary has successfully demonstrated why and how the Vernonia School District can adequately and efficiently support its proposed replacement of the existing K-12 school campus along Bridge Street to the proposed 22-acre Boot Site approximately ½ mile away. The coordinated and in-depth project undertaken by the Vernonia Oregon Solutions Team, the Vernonia School District and the City of Vernonia has also enabled these participants and citizens they represent to identify the extent to which each of the three possible new school sites could or could not adequately serve, efficiently maximize, and reasonably accommodate the new school's required public services and facilities. This Report's final recommendation of the Boot Site as the selected new K-12 school campus' location moreover, also complies with the provisions of the County's Comprehensive Plan and Zoning Ordinance as well as with the State's criteria identifying unique conditions under which only specific properties can be included and considered for proposed urban growth boundary expansions

If this proposal is approved it will allow the City and School Board to proceed with the actual implementation of this plan and secure sufficient funding resources that will help them secure this vital and integral component of their constituents' long-term economic and employment opportunities that in turn will help sustain this community's livability.

For these reasons that are based on the analysis, evaluation and findings in the Board of Commissioners Staff Report for PA 09-02, dated September 16, 2009 that reflect the Planning

Commission's August 20, 2009 Final Order recommending the Board approve the proposed UGB expansion, staff recommends the Board of Commissioners **APPROVE** this Comprehensive Plan Amendment that will allow the City of Vernonia to expand its urban growth boundary by approximately 22 acres with these conditions:

1. The Official Comprehensive Plan Map designation of the three subject properties known as the Boot Site shall be changed from Rural Residential and Single Family Residential to Urban Growth Boundary.

2. The Official Zoning Map designation of the three subject properties known as the Boot Site shall be changed from Rural Residential (RR-5) and Single Family Residential (R-10) to Community Service Institutional (CSI).

3. The subject property shall only be used for a community school site, the proposed use by the City of Vernonia. Other uses listed in the Community Service Institutional zone may not be located on this site without a new Urban Growth Boundary analysis meeting state and county criteria.

Attachments: The Planning Commission's August 20, 2009 Final Order recommending the Board approve proposed PA 09-02
Application from the City of Vernonia for PA 09-02
School Siting Comparison Report dated February 23, 2009
Summary Report on School Siting dated March 2, 2009
DLCD Comments concerning # PA 09-02 dated August 7, 2009
Supplemental Findings September 3, 2009and September 17, 2009
Comparative Assessment of Transportation Needs, Kittlesons & Associates February 09
Vicinity Map
Comprehensive Plan Map
Area Maps

cc: Winterbrook Planning, Attn: Greg Winterowd, 310 SW Fourth Ave., Suite 1100, Portland, OR 97204
Vernonia School District, 475 Bridge Street, Vernonia, OR 97064
Carole Connell
Upper Nehalem CPAC
Gary Fish, DLCD

BEFORE THE

COLUMBIA COUNTY PLANNING COMMISSION

ST. HELENS, OREGON

In the Matter of the Application of the City of Vernonia for a Comprehensive Plan Amendment to expand the City of Vernonia's Urban Growth Boundary (UGB) by approximately 22 acres and amend the Comprehensive Plan Map from Single-Family Residential (R-10) and Rural Residential (RR-5) to the City of Vernonia's UGB.	**RECOMMENDATION TO THE BOARD OF COMMISSIONERS FOR PA 09-02.**

This matter came before the Columbia County Planning Commission on the application of the City of Vernonia for a Comprehensive Plan Amendment to expand the City of Vernonia's UGB by approximately 22 acres and amend the Comprehensive Plan Map from R-10 and RR-5 to the City of Vernonia's UGB.

Notice of the Quasi-judicial and Legislative Hearing was published in the Daily News, Spotlight, and Chronicle on August 5, 2009. Notice of these Hearings were also published in The Vernonia Voice and Independent on their respective publishing dates closest to August 5, 2009. Adjacent property owners within 250 feet were also notified of the proposed Comprehensive Plan Amendment on July 1, 2009 as were the applicable agencies and members of the Upper-Nehalem CPAC. A public hearing was held on August 17, 2009. The Planning Commission heard testimony from the applicant and interested parties and considered written materials including the Staff Report. Upon Staff's recommendation, the Planning Commission approved proposed revisions to the August 7, 2009 Staff Report related to the Quasi-judicial nature of this site-specific proposed UGB expansion of only the approximate 22-acre property known as the "Boot Site" in order to allow the relocation of the existing K-12 school campus out of the Floodplain.

After due consideration, and adding a fourth condition of approval requiring the applicant to respond by September 8, 2009 to the August 7, 2009 Department of Land Conservation's concerns related to the Transportation Planning Rule, and with the necessary revisions to the Staff Report related to the Quasi-judicial nature of this site-specific UGB expansion, the Columbia County Planning Commission recommends that the Board of County Commissioners **APPROVE** this Comprehensive Plan Amendment as presented in the revised Staff Report dated August 18, 2009 with the addition of Condition 4 recommended by the Planning Commission. The amendment will expand the City of Vernonia's Urban Growth Boundary by approximately 22 acres and is consistent with the Zoning Ordinance, Comprehensive Plan, and State law.

1. The Official Comprehensive Plan Map designation of the three subject properties known as the Boot Site shall be changed from Rural Residential and Single Family Residential to Urban Growth Boundary.

2. The Official Zoning Map designation of the three subject properties known as the Boot Site shall be

changed from Rural Residential (RR-5) and Single Family Residential (R-10) to Community Service Institutional (CSI).

3. The subject property shall only be used for a community school site, the proposed use by the City of Vernonia. Other uses listed in the Community Service Institutional zone may not be located on this site without a new Urban Growth Boundary analysis meeting state and county criteria.

4. The applicant shall respond to LDS by September 8, 2009 to the Department of Land Conservation's concerns related to the Transportation Planning Rule listed in the August 7, 2009 written correspondence.

COLUMBIA COUNTY PLANNING COMMISSION

Guy LeTourneau

GUY LETOURNEAU, CHAIRMAN

20-AUG-09

DATE

COLUMBIA COUNTY
LAND DEVELOPMENT SERVICES
COURTHOUSE
230 STRAND
ST. HELENS, OREGON 97051
(503) 397-1501

General Application

File No. PA 09-02

GENERAL LAND USE PERMIT APPLICATION

Application Purpose: Plan Map Amendment & Zone Change

APPLICANT: Name: CITY OF VERNONIA

Mailing address: 1001 Bridge Street Vernonia, OR 97064

Phone No.: Office 503-429-5291 Home _____

Are you the _____ property owner? X owner's agent?

PROPERTY OWNER: _____ same as above, OR:

Name: PROPOSED SCHOOL DISTRICT #47J

Mailing Address: 475 Bridge Street Vernonia OR 97064

PROPERTY ADDRESS (if assigned): _____

TAX MAP NO.: 4N4W4 :TL 100, 300 & 400 Acres: 22 Zoning: RR-5

_____ Acres: _____ Zoning: _____

_____ Acres: _____ Zoning: _____

PRESENT USES: (farm, forest, bush, residential, etc.)

Use:	Approx. Acres
Vacant + Residential	22
Total acres (must agree with above):	22

S:\Planning Division\FORMS\Application Forms\General Land Use Application2.wpd

Updated 11/18/02

RECEIVED
COLUMBIA COUNTY
JUN 24 2009
LAND DEVELOPMENT
SERVICES

General Application

File No. PA 09-02

PROPOSED USES:

Future Vernonia School District #47J new School Complex

WATER SUPPLY: _____Private well. Is the well installed? ____Yes ____No

__X__Community system. Name_____

METHOD OF SEWAGE DISPOSAL: __X__Community Sewer. Name_____
_____ Not applicable.
_____ Septic System.

If Septic, does the subject property already have a system?_____Yes _____No
If no, is the property approved for a Septic System?_____Yes _____ No

CONTIGUOUS PROPERTY: List all other properties you own which have boundary lines touching this property:

Tax Map No.	Acres	Co-owners (if any)

CERTIFICATION:
I hereby certify that all of the above statements, and all other documents submitted, are accurate and true to the best of my knowledge and belief.

Date: 6/22/09 Signature: [signature]

NOTE: Please attach an accurate and detailed plot plan, including property lines, existing and proposed structures, location of septic tank and drainfield, farm - forest areas, large natural features (cliffs, streams, etc.).

++

Planning Department Use Only

Date Rec'd. 6/24/09 Hearing Date:_____
Or: Administrative_____

Receipt No._____

Zoning:_____ Staff Member:_____

CITY OF VERNONIA

URBAN GROWTH BOUNDARY & COMPREHENSIVE PLAN AMENDMENT

PROPOSAL:

This narrative supports the following proposed amendments to the Vernonia Comprehensive Plan:

1. Expand the Vernonia Urban Growth Boundary (UGB) to include Tax Lots 4N4W Section 5 100, 300, and 400, also known as the Boot Site.

2. Apply an Institutional Public plan designation to the Boot Site.

APPLICANT:

The applicant is the **City of Vernonia**. Contact Jim Johnson, City of Vernonia, at (503-429-5291).

The City is represented in this matter by **Winterbrook Planning** / 310 SW Fourth Avenue, Suite 1100 / Portland, Oregon 97204 / Contact Greg Winterowd. Phone (503) 827-4422

SITE DESCRIPTION:

The estimated 22-acre site is located in an unincorporated exception area, adjacent to the UGB but outside the 100-year floodplain. The site abuts Spencer Park and is bordered by single family housing. The site has 3 lots and 2 single-family homes, has relatively flat to moderately rolling topography with a mix of cleared grassland and forested areas. The site is currently connected to the City of Vernonia by Missouri and Texas Avenues.

MAPS:

Map A: Proposed UGB Amendment and Annexation Site
Map B: Natural Constraints - Steep Slopes and Floodplain
Map C: Alternative Sites

APPENDICES

Appendix A: *Vernonia School Siting Comparison Report*

TABLE OF CONTENTS

INTRODUCTION

A. Background

The existing Vernonia school site is located in downtown Vernonia near the intersection of Bridge and State Streets within the 100-year floodplain. The City of Vernonia has experienced a major flood event twice in the last ten years. With the school district's main campus located in the 100-year floodplain, school facilities have experienced heavy damage in both of the last two flood events. Extensive flooding from Nehalem River and Rock Creek in December 2007 caused significant damage to public and private property within Vernonia including all three public school buildings and led to the demolition of the Vernonia High School.

B. Adopted Planning Documents

The City of Vernonia Comprehensive Plan and Implementing Ordinances was revised in 1996. During the revision process, the City and Columbia County passed an Urban Growth Management Agreement to facilitate the orderly and efficient transition from urbanizable to urban land uses within Vernonia's UGB. The Comprehensive Plan and Urban Growth Management Agreement are discussed in Section V.

C. Goal 14 Requirements

Goal 14 requires cities and counties to jointly establish and maintain urban growth boundaries (UGBs) to provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities. OAR Chapter 660, Division 024 clarifies procedures and requirements of Goal 14 regarding local government adoption or amendment of a UGB.

Amendments to UGBs are based upon consideration of six factors:

Need Factors

1. ***Demonstrated need to accommodate long range urban population, consistent with a 20-year population forecast coordinated with affected local governments;***

2. ***Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space;***

Location Factors

3. ***Efficient accommodation of identified land needs;***

4. ***Orderly and economic provision of public facilities and services;***

5. ***Comparative environmental, energy, economic and social consequences; and***

6. ***Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the urban growth boundary.***

As noted in Goal 14 itself:

> ***In determining need, local government may specify characteristics, such as parcel size, topography or proximity, necessary for land to be suitable for an identified need.***

As explained in OAR 660-024-0060(5), cities may identify site requirements for specific land uses and apply these requirements to address ORS 197.298 Priorities for urban growth boundary expansion:

> ***5) If a local government has specified characteristics such as parcel size, topography, or proximity that are necessary for land to be suitable for an identified need, the local government may limit its consideration to land that has the specified characteristics when it conducts the boundary location alternatives analysis and applies ORS 197.298.***

In this case, Vernonia has specified parcel size, topographical and proximity criteria in Table 1 of this document and in Appendix A.

SECTION 1: SCHOOL SITE NEED

Factor 1: Demonstrated need to accommodate long range urban population, consistent with a 20-year population forecast coordinated with affected local governments;

The existing (2008) Vernonia population is estimated at 2,365. Columbia County contracted Portland State University to prepare a coordinated population projection for the County and its cities. The final draft projections from Portland State are currently being reviewed by the cities and County, with the first County hearing expected in late May or early June. The final draft projection allocates Vernonia a 2030 projection of 3,068.

The new high school is needed to replace the existing high school which lies within the 100-year floodplain. The replacement school will serve the same projected population served by

the existing high school. The Vernonia population is projected to grow over the next 20 years by 703. Therefore, there is an existing and future need for a high school to serve Vernonia's existing and projected population growth. It should also be noted that School District 47 serves the unincorporated area surrounding the City and the population forecast is just within the city limits; thus, the projection probably understates the number.

Factor 2: Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space;

The City of Vernonia has experienced two major flood events in the last ten years which have caused major damage to existing school facilities, resulting in the demolition of the Vernonia High School. Thus, there is an historical demonstrated need to site the school outside of the floodplain.

A. Identified School Site Requirements

To address OAR 660-024-0060(5), Winterbrook consolidated key locational and site factors identified by David Evans and Associates, Kittelson and Associates, SERA architects, the City of Vernonia and the Vernonia School District. (See Appendix A – *Vernonia School Siting Comparison Report.*) These site requirements are summarized in Table 1 below.

Table 1. Summary of Specified School Site Characteristics

Factor	Characteristic
Topography	Flat with a slope less than 10%; Outside of the 100-year floodplain; No significant wetlands
Size	Large site (26-46 acres or greater)
Transportation	Access to existing transportation infrastructure
Proximity	Within ½ mile of the City Center and existing park and school facilities
Environmental	Compatible land use with attractive setting (not planned for or adjacent to heavy industrial area)
Services	Efficient service of water, sewer, natural gas, telecommunications facilities

Source: Winterbrook Planning, DEA, SERA, Kittelson, City of Vernonia and Vernonia School District

B. Alternatives within the Existing UGB

As prescribed in Goal 14:

Prior to expanding an urban growth boundary, local governments shall demonstrate that needs cannot reasonably be accommodated on land already inside the urban growth boundary.

Approximately 60 percent of the City is located within the floodplain, thus relatively flat land located *outside* of the floodplain is severely limited. Based on GIS analysis, there are no sites that meet the school siting criteria outside of the floodplain within the existing UGB.

GIS analysis of City tax lots indicated two undeveloped residentially-planned tax lots of 20 acres or larger within the existing Vernonia UGB:

- Tax Lot 4N4W Section 5 100: 20 acres abutting the western UGB. Approximately 6 acres of this site contain slopes over 10%. This site would not have enough suitable acreage to meet school needs.

- Tax Lot 4N4W Section 4 101: 33 acres abutting the northern UGB. This site was recently approved for a residential subdivision, removing it from consideration as a school site.

There is also a large industrial site within the Vernonia UGB – the Knott Site discussed in Appendix A. While this site meets size and slope requirements, it is over a mile away from the City Center, and access to this site from nearly all of Vernonia's residential areas requires crossing Highway 47, while other potential sites can be accessed from most residential areas without crossing the Highway.

The Knott site is currently planned and zoned for industrial use, and is Vernonia's only large industrial site. The Knott site is also part of a larger industrial area, and bordered by industrial lands to the south and agricultural lands to the north and east. All of these characteristics make it well-suited for industrial use, as documented in the Vernonia Comprehensive Plan and adopted Ordinance #689, which is why the City of Vernonia expanded its UGB in 1994 to include the Knott Site in order to meet identified industrial land needs.

These factors combine to make the site incompatible with identified school siting requirements, undesirable for school use from a land use compatibility standpoint, and needed to meet the City's Goal 9 (Employment) needs.

In conclusion, there are no sites meeting the siting criteria defined in Table 1 inside the Vernonia UGB.

SECTION 2: EVALUATION OF ALTERNATIVE SITES OUTSIDE THE VERNONIA UGB

The *Vernonia School Siting Study* included an evaluation of sites within the UGB and concluded that an additional school site of 26-46 acres was needed to meet 20-year school site needs.

As prescribed by State statute, once need has been determined, alternative boundary locations must be evaluated consistent with ORS 197.298 and OAR Chapter 660 Division 024 with consideration of the Goal 14 "locational" factors.

A. ORS 197.298 Priorities for Urban Growth Boundary Expansion

Under ORS 197.298, land within the URA is "first priority" for inclusion within a UGB:

> ***"(a) First priority land to be included in an urban growth boundary is that which has been designated urban reserve land under ORS 195.145."***

Vernonia does not have an urban reserve designation; therefore ORS 197.298(a) does not apply.

> ***"(b) Second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land"***

The proposed site is located adjacent to the City's acknowledged UGB in an unincorporated rural exception area. Thus, under ORS 197.298(b) the proposed site is the highest available priority for inclusion in the UGB.

B. Identification of Alternative Sites

Winterbrook worked with the City's GIS technician to identify future potential school sites of about 26 acres or greater adjacent to the Vernonia UGB and outside of the 100-year flood plain. We identified two alternatives (see Table 2, below). As shown in Table 2, the Northwest Corner Site is located primarily on EFU lands, making it a lower statutory priority for inclusion. In contrast, the Boot Site is located in a higher-priority exception area, and meets all site suitability requirements.

Based on GIS analysis, there is only one suitable school site located within highest priority exception lands – a portion of the Boot Site. However, Goal 14 location factors related to the

efficient provision of public facilities and environmental, social, economic, and energy consequences must also be considered.

Therefore, this analysis will compare the Boot Site with the Northwest Corner Site to ensure that ORS 197.298(3) exceptions to the ORS 197.298(1) priorities cannot be met. Table 2 summarizes key locational qualities of the Boot and Northwest Corner sites.

Table 2. Summary of Alternative Site Characteristics

Site Name	Future Comprehensive Plan and Zoning Designations	Location	Attribute Summary
Northwest Corner Site		Northwestern border of City; 4N4WS5 TL 200	Currently outside of the City's UGB; Adjacent to a cemetery and single family housing; Located on a hill connected to the City by a dirt road (Reservoir Road), which provides access to a water reservoir. Hilly terrain with a portion of the site occupied by dense forest
Boot Site		Between Louisiana Ave. & Nehalem River; 4N4W4 TL100, 300, and 400	Unincorporated exception area, outside UGB; adjacent to Spencer Park, single family housing, and the Nehalem River. Relatively flat to moderately rolling topography with a mix of cleared grassland and forested areas. Currently connected to the City of Vernonia by Missouri and Texas Avenue.

Source: Winterbrook Planning and Kittelson and Associates

C. Findings Demonstrating Consistency with Goal 14 Location Factors 3 – 6

The four Goal 14 location factors are: (1) Efficient accommodation of identified land needs; (2) Orderly and economic provision of public facilities and services; (3) Comparative environmental, energy, economic and social consequences; and (4) Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

Factor 3: Efficient accommodation of identified land needs

The Boot site is bordered by the City Limits, the existing UGB and rural residential exception areas and is located within a half mile of the City Center. The site is relatively flat and meets the identified size requirements. It is also located in a compatible land use district with an attractive setting (e.g., adjacent to Spencer Park in a single family residential neighborhood, near existing schools and the Nehalem River.)

The site also has direct access to transportation public streets (connected to the City of Vernonia by Missouri and Texas Avenues), a city park and available parking, and sanitary sewer and water facilities.

While the Northwest Corner Site meets the size requirement, it does not have other locational characteristics identified in Table 1. The Northwest Corner Site is located on hilly terrain and is partially located adjacent to a cemetery. The Northwest Corner Site is located about three-quarters of a mile from the City Center. Additionally, the Northwest Corner Site lacks direct access to an improved public street; its only access is via Reservoir Road, which is not improved.

Factor 4: Orderly and economic provision of public facilities and services

David Evans and Associates researched availability of utilities for the Boot Site in the *Vernonia School Siting Comparison Report* (Appendix A). Based on its report dated January 22, 2009, there is an existing 10" water line at the intersection of Texas Avenue and Oklahoma Avenue and an existing 2" service extending north from this point. A new booster pump will be required for water service

There is an existing gravity sanitary sewer at the intersection of Texas Avenue and Oklahoma Avenue. There is also a sanitary sewer line located in Locker Road, extending north and terminating just north of Locker Road. Existing grades on the Boot Site indicate that the site could be served by a gravity system (no sanitary pump station will be required). Connection to the existing system is available.

City system maps indicate a 2" gas line in Texas Avenue. NW Natural indicated this line should be sufficient for a new school. The telephone and cable services points of connection are at a similar distance as the natural gas service.

As noted below, the Northwest Corner Site is further from and more expensive to serve than the Boot site for several reasons. The northwest site is located on hilly terrain and is connected to the City by an unimproved dirt road (Reservoir Road).

As shown in Appendix A, projected service costs for the Boot Site are about a third of those for the Northwest Corner Site. Boot Site service costs are estimated at $306,000 to $400,000. For the Northwest Corner Site, service costs are projected at $949,000 to $1,233,000.

For these reasons, the City can provide urban services to the Boot Site in an orderly and efficient manner, when compared with the other site under consideration. (See also discussion under Goals 11 and 12 in Section 3.)

Factor 5: Comparative environmental, energy, economic and social consequences

Environmental Consequences – In Vernonia, natural resources generally are confined to the floodplains of the Nehalem River and Rock Creek Rivers. In the past, these rivers have led to extensive flooding and resulted in severe adverse impacts to the school district.

Both potential school sites are outside of the 100-year floodplain, avoiding adverse impacts on water related natural resources in the area, and protecting children, parents, and teachers from flood risks. This results in comparable environmental consequences for each.

Energy Consequences – Primary energy concerns with school sites involve transportation efficiency – proximity to parks and other existing schools, and central location provide more positive energy consequences – and ability to provide efficient water and sewer service.

As noted in the "efficiency of service" discussion, the Boot Site is more efficient to provide with all public facilities than the Northwest Corner Site. Its central location is also closer to existing school and park facilities.

From that perspective, the energy consequences of choosing the Boot Site are positive, while choosing the Northwest Corner Site would have negative energy consequences.

Economic Consequences – Providing a school site outside the floodplain is essential to community's economic future. In that respect, both sites provide positive economic consequences.

From a pure cost basis, as indicated in the Appendix A, the Boot Site is less costly to provide with public facilities than the other alternatives. In this respect, the Boot Site provides a positive economic consequence, while the Northwest Corner Site would be negative.

Social Consequences – The positive social consequences of providing K-12 educational opportunities are numerous, ranging from providing a basis for financial stability to promoting and encouraging societal values. Provision of a basic education is a cornerstone of national and local governing policy.

For both alternatives, the social consequences of providing a replacement school site are positive.

In summary, providing a replacement school at the Boot Site has entirely positive ESEE consequences, while the Northwest Corner Site would have negative energy and economic consequences.

Factor 6: Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the urban growth boundary

The Boot Site is located within a boot-shaped inclusion to the Vernonia UGB. The site is bordered on three sides by the UGB, and on the remaining side by additional rural residential exception lands.

Including the Boot site into the UGB would have no adverse impacts on nearby agricultural or forest activities because the site would be buffered by intervening urban and rural exception areas.

SECTION 3: TRANSPORTATION

Appendix A provides a detailed analysis of transportation planning implications involved in bringing the Boot Site into the UGB. The report identifies three options for transportation to serve the Boot Site. Importantly, none of these options requires an amendment to the Vernonia TSP.

The Boot Site is centrally located in Vernonia and is well-served by local access streets that connect to Bridge Street. Three site access options have been considered for providing multi-modal access to this site for students, faculty, and staff:

- Option 1: Missouri Avenue Widening utilizing and upgrading Missouri Avenue from Bridge Street to provide primary access to the site.

- Option 2: Texas Avenue Widening using and upgraded Texas Avenue from Bridge Street to provide primary access.

- Option 3: North Boot Site Access routing trips north from Bridge Street via State Avenue, along Stoney Point Road north of Vernonia and then to Mellinger Road, and then south along a newly constructed road into the school site.

In order to accommodate traffic generated by the new school campus, as well as to accommodate bicycle and pedestrian access, street improvements and right-of-way acquisition will be required for each of these options.

The City's adopted Transportation System Plan has two roadway options that could be used to provide access to the site. The urban collector is the most appropriate street designation for primary, multi-modal access to the Boot Site, and is the recommended option. A less preferred, alternate street standard may be a local street minimum retrofit, which is the option with the least amount of connectivity for both pedestrians and cyclists. This option would not adequately accommodate non-vehicular travel modes, and will result in safety hazards. (To build a roadway that is intermediate between these two standards, the City would need to amend its TSP.)

In the case of the North Boot Site Access Option, a preferred option may be to construct the primary auto-access streets (State Avenue, Stoney Point Road, Mellinger Road, and the new north-south street) to an urban local minimum retrofit standard in conjunction with providing a separated bicycle-pedestrian path as extensions to added bicycle lanes and sidewalks on either Missouri or Texas Streets. In this way, the primary auto access streets will have minimal pedestrian facilities (sidewalk on one side only) with no separate bike lanes, but the more direct routes to the Boot Site will be equipped with bicycle and pedestrian facilities.

Based on the Boot Site's three access options, the cost to build the transportation infrastructure will be low-to moderate for the two southern access options due to the small amount of road upgrades needed, and the moderate amount of road improvements needed. The North Boot Site Access Option has substantially higher construction costs, and when combined with its circuitous route, may be less preferable.

Under the Texas Avenue Widening Option, ODOT staff has indicated that there may be a need to widen the westbound approach at the Bridge Street/Texas Avenue intersection, thereby providing an exclusive left turn lane. A traffic signal will not likely be warranted. If the Boot Site is selected, detailed turn lane warrant analysis would need to be conducted to confirm this need. Due to topographical constraints, widening Bridge Street in this section could be difficult, and would likely be expensive ($500,000 to $1 million). Additionally, Louisiana Avenue intersects with Texas Avenue within 50 feet of Bridge Street.

This close proximity of intersections is problematic due to turning maneuver conflicts, potential queue spillbacks, and driver uncertainty. This close proximity of intersections would require that Louisiana Avenue be disconnected from its intersection with Texas Street, thereby impacting access to the neighborhood. The physical cost of terminating Louisiana Avenue is relatively inexpensive (estimated to be about $8,000), but the impact on neighborhood access and increased volumes on alternative local streets would be significant.

SECTION 4: STATEWIDE GOAL CONSISTENCY ANALYSIS

This section addresses compliance with applicable Statewide Planning Goals.

Goal 1 Citizen Involvement

Goal 1 calls for the opportunity for citizens to be involved in all phases of the planning process.

The plan amendment package carries out direction established by the *Vernonia Comprehensive Plan*, by including sufficient land to meet identified school land needs.

School District 47 provided an extensive public involvement process that considered a range of alternatives before making a decision to provide a new school on the Boot site. This process is documented in Appendix A.

Public hearings will be duly noticed and held before the City and County Planning Commissions and elected officials prior to adoption of the proposed plan amendment package.

Goal 2 Land Use Planning

Goal 2 (Land Use Planning) requires an adequate factual base and consideration of alternatives prior to making land use decisions. Land use decisions must also be made in accordance with adopted comprehensive plans and land use regulations. The alternatives analysis provided in Appendix A was conducted with broad state agency involvement and is consistent with adopted policies in the Vernonia Comprehensive Plan. All pertinent documentation has been made available to all interested parties. Goal 2 has been met.

Goals 3 Agricultural Lands and 4 Forest Lands

As stated in 660-024-0020(b), Goals 3 and 4 are not applicable when establishing or amending an urban growth boundary. No further analysis is required.

Goal 5 Open Spaces, Scenic and Historic Areas & Natural Resources

Goal 5 requires local governments to inventory and protect natural resources. There are no inventoried Goal 5 resources on the Boot Site; therefore, Goal 5 does not apply.

Goal 6 Air, Water and Land Resources Quality

Goal 6 requires local comprehensive plans and implementing measures to be consistent with state and federal regulations. Construction on the Boot Site will comply with acknowledged Goal 6 policies in the Vernonia Comprehensive Plan and DEQ standards. By complying with applicable air, water and land resource quality policies, Goal 6 will be met.

Goal 7 Areas Subject to Natural Disasters and Hazards

Goal 7 requires that jurisdictions apply appropriate safeguards when planning development in areas that are subject to natural hazards such as floods or landslides. The existing school site is located within the 100-year floodplain and has experienced major destruction

due to flooding events over the last ten years. This proposal seeks to enhance public health and safety by providing a school site outside of the floodplain. The Boot Site is not located in any identified natural disaster or hazard area. Thus, Goal 7 has been met.

Goal 8 Recreation Needs

Goal 8 requires each community to evaluate its areas and facilities for recreation and develop plans to deal with the projected demand for them. Vernonia's recreation needs have been addressed in the *Vernonia Comprehensive Plan*. The site proposed for inclusion within the UGB is located next to an existing park—Spencer Park. This park will be replaced by the City (in cooperation with the School District), probably at the existing school complex location. The proposed UGB expansion area has not been identified as a potential park or recreation area. Therefore, Goal 8 has been met.

Goal 9 Economy of the State

Goal 9 calls for diversification and improvement of the economy. It asks communities to inventory commercial and industrial lands, project future needs for such lands and plan and zone accordingly. The proposal does not alter the amount of employment land within the Vernonia UGB. While the proposed UGB expansion is not directly related to Vernonia's economic objectives, providing a safe and effective K-12 education is a fundamental element of achieving Statewide and local employment objectives. For the above reasons, Goal 9 has been met.

Goal 10 Housing

Goal 10 requires cities to inventory their buildable residential lands, project future needs for such lands, and to plan and zone enough buildable land to meet those needs. The City has addressed the requirements of Goal 10 during the 1996 comprehensive plan update. The proposed UGB amendment does not alter the amount of buildable land planned for housing in Vernonia. Therefore, Goal 10 has been met.

Goal 11 Pubic Facilities and Services

Goal 11 requires that a city or county develop and adopt a public facility plan for areas within an urban growth area containing a population greater than 2,500 persons. Portland State's Center for Population Research and Census estimates Vernonia's current population at 2,365 – so Vernonia does not need to adopt a public facilities plan to comply with Goal 11.

However, it remains imperative for Vernonia to be able to provide public facilities to sites proposed for inclusion into its UGB.

The Vernonia School Siting Comparison Report (Appendix A) described the public facilities serviceability for the Boot Site as follows:

> *"The best available information on the water system in this area shows an existing 10-inch water line at the intersection of Texas Avenue and Oklahoma Avenue. There appears to be an existing 2-inch service extending north from this point, but the anticipated demands of a new school will require a 10-inch waterline extension to provide adequate fire protection. Given the relative elevation of this area, and the close proximity to existing services, it is not anticipated that a new booster pump will be required.*
>
> *The most likely connection point for sanitary sewer would be at the intersection of Texas and Oklahoma, though the City of Vernonia has indicated that there may be an existing sanitary sewer line north of Spencer Park; there are no public records of this line. The existing grades on the Boot Site would indicate that the site could be served by a gravity system; no sanitary pump station will be required.*
>
> *The storm water management for The Boot site would be managed on-site and conveyed to existing natural drainage ways on the site. Parking and roof areas would be collected using catch basins and pipes. Storm water detention and water quality facilities will be constructed to minimize impacts to downstream properties. The existing soils on the site consist of a silt loam material and are not conducive to storm water infiltration facilities. Therefore, storm water disposal using infiltration facilities is not a likely strategy. The storm water management facilities may include a detention pond and water quality swales.*
>
> *The existing power near the Boot Site is single phase power. The nearest point of connection is at Texas Avenue.*
>
> *NW Natural has a distribution system in the area. City system maps indicate a 2-inch gas line in Texas Avenue. NW Natural indicated this line should be sufficient for a new school.*
>
> *The telephone and cable services points of connection are assumed to be a similar distance as the natural gas service, which is approximately 500 feet."*

Additional public facilities and services consequences have been considered in the Goal 14 alternatives analysis process. The properties can be served in the short-term in an orderly and efficient manner. For the above reasons, Goal 11 has been met.

Goal 12 Transportation

Goal 12 encourages the provision of a safe, convenient and economic transportation system. This goal also implements provisions of other statewide planning goals related to transportation planning in order to plan and develop transportation facilities and services in coordination with urban and rural development (OAR 660-012-0000(1).

As stated in 660-024-0020(d):

> ***"the transportation planning rule requirements under OAR 660-012-0060 need not be applied to an urban growth boundary amendment if the land added to the urban growth area is zoned as urbanizable land, either by retaining the zoning that was assigned prior to inclusion in the area or by assigning interim zoning that does not allow development that would generate more vehicle trips than development allowed by the zoning assigned prior to inclusion in the boundary."***

The proposal is to replace an existing high school within the flood plain with a new high school, approximately 1/3 mile away, outside of the flood plain. Transportation impacts have been addressed in Section 3 of this document. The proposed school site can be served without amending the TSP and does not significantly affect an existing state facility.

Thus the requirements of Goal 12 have been met.

Goal 13 Energy

Goal 13 requires cities to consider energy conservation during the planning process. By choosing a high school location near existing schools and parks, and within a half mile of the City Center, the City has met Goal 13. Energy consequences of the proposed urban growth area amendment have been considered in the Goal 14 alternatives analysis process. Therefore, Goal 13 has been met.

Goal 14 Urbanization

Goal 14 has been complied with as demonstrated in Sections 2 and 3 of this report.

Goal 15 through 19

Goals 15 through 19 are related to the Willamette Greenway and coastal resources. As such, these goals do not apply to the subject site and no further analysis is required.

SECTION 5: COMPLIANCE WITH CITY POLICIES

A. Comprehensive Plan

The proposed plan amendment package is consistent with applicable *Vernonia Comprehensive Plan* goals and policies for reasons stated below.

Urban Growth Area Policies

1. ***The Urban Growth area is shown on the Comprehensive Plan map. The City shall consider the state wide goals, presently available vacant land within reach of City services and cost of extension when considering any changes in the Urban Growth Boundary.***

The justification and findings in this report and Appendix A address the requirements of this policy. This policy is met.

2. ***Land use designations of surrounding lands within Columbia County shall be coordinated with city designations. The agreement to adopt the Urban Growth Boundary and to manage the unincorporated area within it is included as Appendix A of this plan.***

The Urban Growth Management Agreement is discussed in subsection B below. This policy is met.

3. ***In order for City services to be further extended or expanded outside the City's limits, annexation must occur.***

These findings and Appendix A evaluate the feasibility of extending City services to the proposed UGB expansion area. Public facilities can be extended to the Boot Site efficiently. The City intends to annex the Boot Site prior to extending services, compliant with this policy.

B. Urban Growth Management Agreement

The City and County shall cooperate in the development of a Comprehensive Plan and in the zoning of the Urban Growth Area.

The City of Vernonia has coordinated with Columbia County regarding the proposed plan amendment in accordance with the City of Vernonia Columbia County Urban Area Management

Agreement (1980)..If the Boot Site is brought into the City UGB, it will retain County zoning until annexation into the City. At the time of annexation the site will be designated and zoned institutional public to accommodate the proposed school. The City is compliant with the requirements of the UGMA.

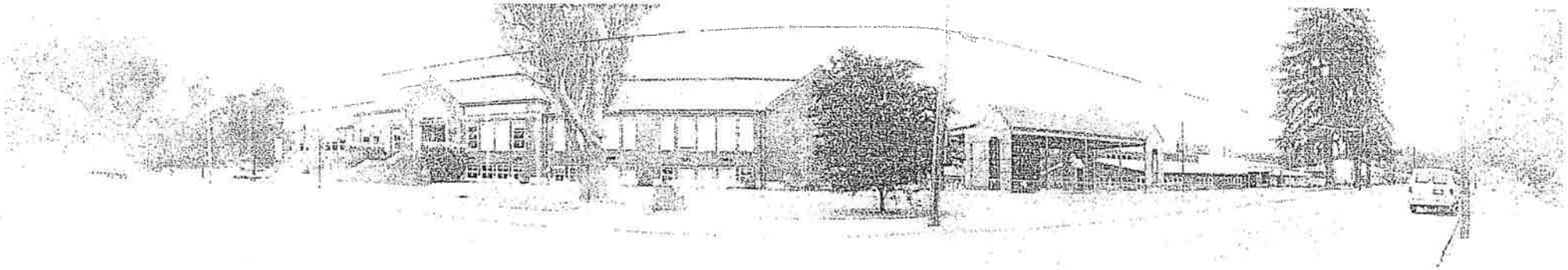
CONCLUSION

Based on the findings in Sections 1-5 above, the proposed plan amendment package (including UGB expansion and comprehensive plan and zoning map changes), complies with applicable Statewide Planning Goals and provisions of the *Vernonia Comprehensive Plan*.

School Siting Comparison Report

TGM Vernonia School Siting Study

23 February 2009
FINAL



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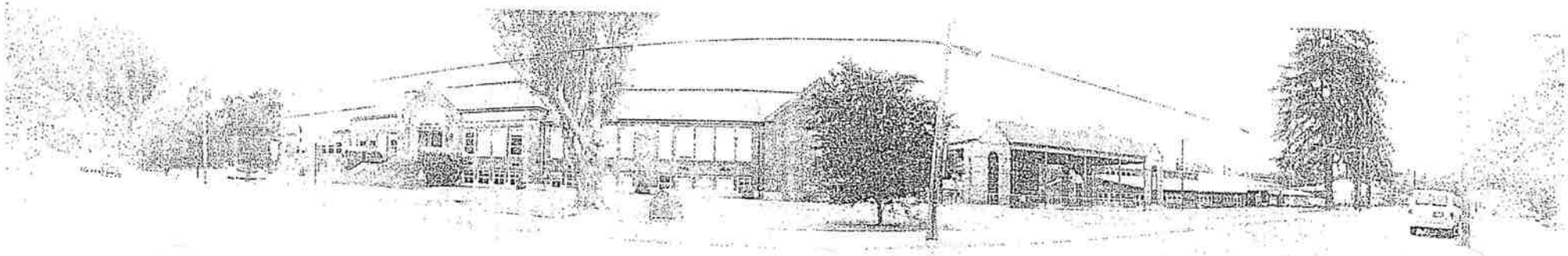
"This project is important to me and my staff. The problem of relocating and funding Vernonia's schools needs to be addressed immediately. Education is one of my highest priorities and with that comes the need to provide students with a safe and healthy environment in which to learn."

- Governor Ted Kulongoski, April 2008

School Siting Comparison Report

TGM Vernonia School Siting Study

23 February 2009
FINAL



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This plan was prepared with funding from the State of Oregon through the Transportation and Growth Management (TGM) Program, a joint program of the Department of Transportation and the Department of Land Conservation and Development. Specifically this project was funded through the Quick Response section of TGM.

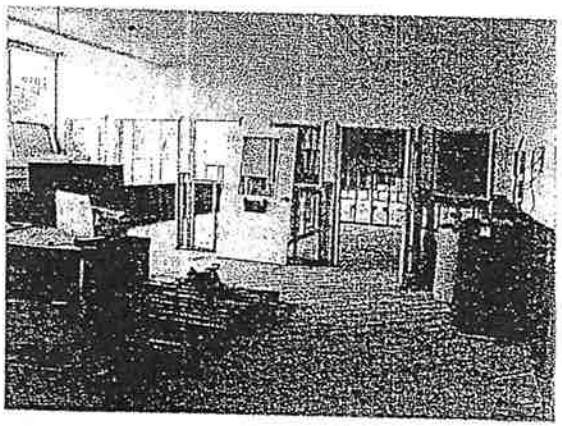
The TGM program supports community efforts to expand transportation choices for people. By linking land use and transportation planning, TGM works in partnership with local governments to create vibrant, livable places in which people can walk, bike, take transit or drive where they want to go.

Unless it has been adopted by a duly authorized body, this report does not represent an official policy position of the State of Oregon.

INTRODUCTION

Extensive flooding from the Nehalem River and Rock Creek in December 2007 caused significant damage to public and private property within Vernonia. Numerous homes and businesses were affected, as were all three public school buildings. Following the flood event, the Vernonia School District (District) restored operations in the Middle School and Washington Grade School buildings. The High School, however, could not be restored and was largely demolished in September 2008. Temporary modular buildings are being used for high school classes and administrative functions that were formerly housed in the high school building. Following the flood, the Army Corps of Engineers drafted new flood maps that show the schools within the 100-year floodplain. (These new maps have not yet been officially adopted.) In April 2008, Governor Kulongoski designated the Vernonia Schools Project as an Oregon Solutions project in order to help Vernonia plan for and finance a new school complex.

Vernonia High School during and after the December 2007 flood event



Given that the school location decision will have significant long-term community development and transportation impacts, the State of Oregon's Transportation and Growth Management Program (TGM) provided a "Quick Response" technical assistance grant to evaluate potential school locations. This grant was used to hire a consultant team comprised of SERA Architects (urban design and planning), David Evans and Associates (structural, hydraulic, utilities), and Kittelson and Associates (traffic and transportation).

This report presents a brief comparison of three potential school sites and their unique issues and associated costs. The detailed, technical analyses supporting this report are included in the Appendix.

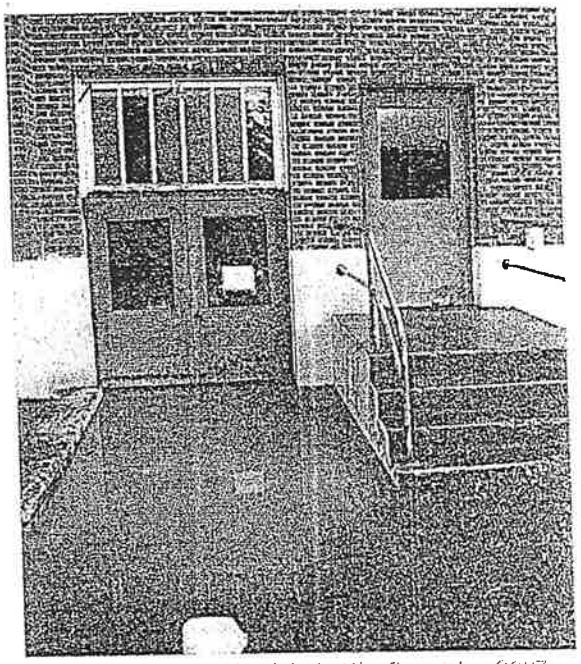
The three sites analyzed as part of this project include the **Existing Site**, the **NW Corner Site**, and the **Boot Site** (see map). These last two describe general areas, with the understanding that precise campus locations at either the NW Corner or Boot area would be determined through negotiations with existing property owners, careful analysis of existing site conditions (topography, habitat, wetlands, landslide potential, etc.), and site design. Therefore, for the purpose of this analysis, approximate site areas were utilized. Additional sites were considered by the Oregon Solutions Team prior to this study, but it was determined that none of them were viable school campus locations.

The **Existing Site** is located in downtown Vernonia near the intersection of Bridge and State Streets - where the existing school campus sits today. For the purposes of this report, it was assumed that in order to make the existing buildings and site viable, the existing Washington Grade School building would be seismically upgraded and flood-proofed, the existing Middle School building would be flood-proofed, and that a new, two-story high school and gymnasium complex would be constructed - elevated above the floodplain. Details of these proposed solutions are available in the Appendix; a diagram of the campus is on page 4 (Figure 2).

For the purposes of this study, a generic "Compact Campus" concept was developed to accommodate a school campus program prepared in conjunction with the Vernonia School District. This Compact Campus was designed to meet the District's program needs while maximizing the efficient use of land and therefore minimizing the amount of land acquisition necessary. It was assumed that the Compact Campus concept would be utilized on both the NW Corner and Boot sites, and it should be understood that this study did not entail detailed site planning for individual sites. Details of the Compact Campus concept are available in the Appendix; a diagram of the Compact Campus concept is on page 5 (Figure 3).

The **NW Corner Site** is located primarily on City-owned land roughly at the northwestern terminus of Bridge Street on the western edge of the city. A 20-acre portion of the site is located within City limits; the approximately 50 remaining acres of the site falls outside of both the City limits and the urban growth boundary (UGB).

The **Boot Site** is located at the northern terminus of Missouri and Texas Avenues. Five of the six parcels that comprise the site are privately owned and located outside of both the City limits and the UGB. The publicly-owned Spencer Park is considered part of the Boot Site.



Washington Grade School during the December 2007 flood

High water marks for the 1996 and 2007 floods noted in the Washington Grade School basement.

Each of these three sites was evaluated for its potential to accommodate the Vernonia schools campus, with chief consideration given to determining what regulatory hurdles would need to be cleared to build on each site; what investments (in buildings and/or infrastructure) would need to be made; and what those investments would cost. The Vernonia School District will be responsible for financing all of the necessary utility and transportation infrastructure improvements as part of its development. The following criteria and their forecasted costs are discussed for each of the three proposed sites:

1. Land use process
2. Land acquisition
3. Transportation
4. Building Design and Construction
5. Flood-proofing
6. Insurance
7. Site Improvements
8. Utilities
9. Community function
10. Other Issues

Cost forecasts are conceptual, are presented as a range, and have been rounded to the nearest thousand. They have been calculated based on 2008 dollars, and do not include an inflation factor for acquisition and/or construction in 2009 or beyond.

Summary tables for both quantitative and qualitative analyses are included at the end of this document.

It is generally understood that eventual school siting and construction will be subject to successful property owner negotiations, land use processes, and the availability of project funding.

EXISTING SITE

1. Land Use Process. The Existing Site is located with the Vernonia City limits and UGB. There will be no additional land use processes necessary beyond typical building and site development permitting as required by City, County, and State code.

Qualitative rating: n/a

2. Land Acquisition. The Vernonia School District currently owns all of the Existing Site land. No additional acquisition is necessary.

Forecasted costs: none
Qualitative rating: n/a

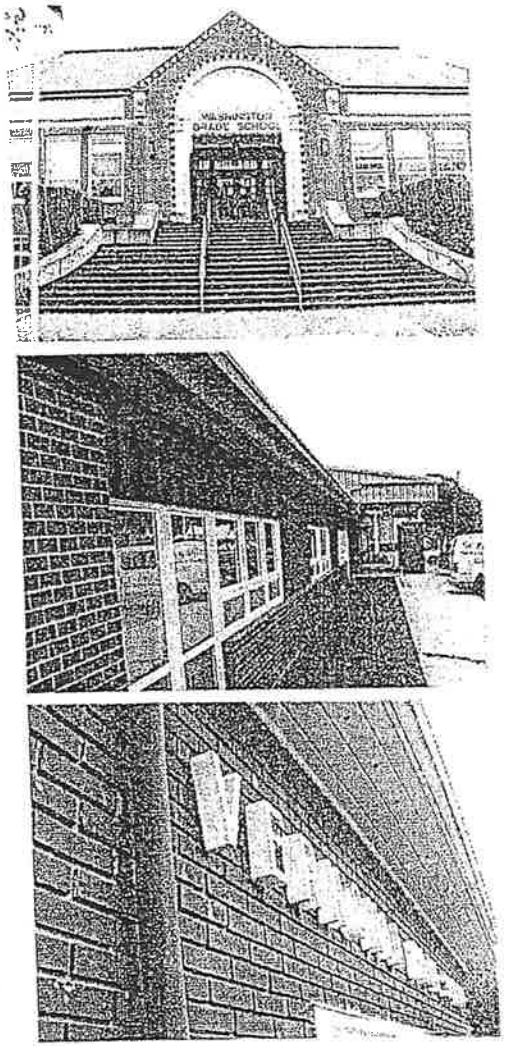
3. Transportation. The Existing Site is centrally located and accessed by the city's primary regional arterial (State Highway 47). The site can be easily accessed by foot, bike, and, by automobile. No additional transportation improvements are necessary.

Forecasted costs: none
Qualitative rating for bike / ped access: excellent

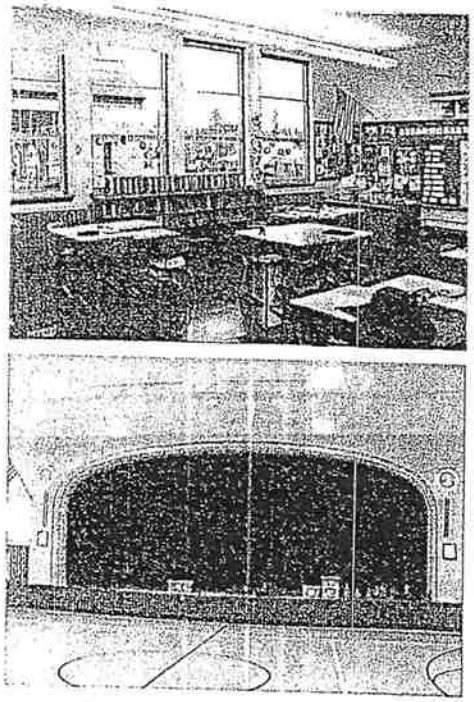
4. Building Design and Construction. The Washington Grade School would need to be seismically upgraded, and a new, elevated Vernonia High School and gymnasium would need to be constructed on this site. The Vernonia Middle School does not require physical rehabilitation. Costs for this work would derive from necessary site work, construction costs, overhead and profit, bonds/insurance, a contractor's contingency, and soft costs (architectural and engineering fees, permits, loan fees, etc.).

Forecasted costs: $32,676,000 to $38,362,000

5. Flood-Proofing. The Washington Grade School and Vernonia Middle School would need to be flood-proofed, and there are options for how this could be done. The Grade School could be flood-proofed by either constructing a floodwall or by allowing the building's basement to flood (assuming that vital systems within would be flood-proofed). Flood-proofing for the Middle School could be done by constructing a floodwall or by elevating the structure. The new



Washington Grade School, Vernonia Middle School and the former Vernonia High School



Washington Grade School classroom and gym

Vernonia High School and gymnasium would need to be elevated above the floodplain as part of its construction (and these costs have been included above in "building design and construction").

Forecasted costs: $733,000 to $2,470,000

6. Insurance. There are challenges and complexities associated with acquiring insurance for future uses on the Existing Site. Insurance implications for the site are still being researched.

Forecasted costs: tbd

7. Site Improvements. The Existing Site is flat and will not require special site improvements (beyond flood-proofing and mitigation) for construction.

Forecasted costs: none
Qualitative rating: easy

8. Utilities. The Existing Site is currently well served by water, sanitary sewer, natural gas, communication, and power. No additional utility improvements are necessary.

Forecasted costs: none

9. Community Function. Schools serve the entire community for many years by providing a place for public gatherings, information, organization, and shelter in the event of a disaster. Such a facility typically should be centrally located and easily accessible by foot, bike, automobile, and transit to ensure that all members of the community (especially children and the elderly) have equal access to it. The Existing Site is an excellent location for day-to-day community functions as it is centrally located and easily accessible by all transportation modes. The site's limitation is its location in the floodplain, which renders it inaccessible during a flood event. While the buildings would be protected from flooding, access to and from the buildings would be restricted during a flood.

Qualitative rating: excellent

10. Other Issues. None revealed.

NW CORNER SITE

1. Land Use Process. A 20-acre portion of the NW Corner Site (owned by the City of Vernonia) is located within both the City limits and UGB. The remaining 50 acres of City-owned land are outside of both the City limits and the UGB.

There are three options for amending the UGB to accommodate a new school campus outside of the existing UGB:

A. Conduct a conventional UGB expansion process, which requires a buildable lands analysis, a County-coordinated population projection update, and analysis of other factors that have changed since the last UGB expansion - including changes to the floodplain;

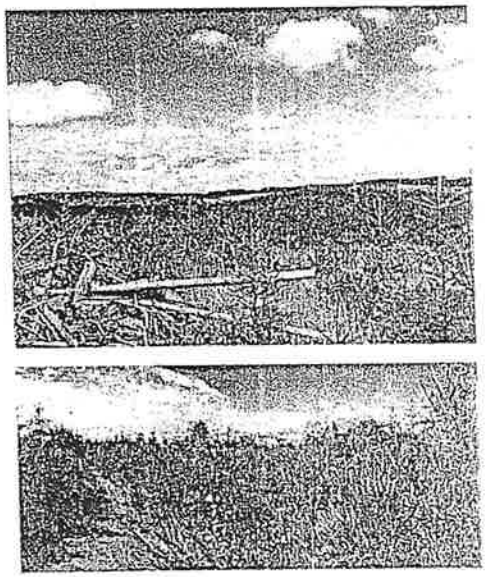
B. Conduct a UGB expansion process to include only the land necessary for a school campus, which is contingent upon this study and an analysis of alternative boundary expansion areas as measured against various state criteria—but limited to suitability for a school site;

C. Swap "like for like" lands within the UGB for those outside of the UGB. Under this option, the City would rezone some of its City-owned General Commercial land and add it to the Low Density Residential (LDR) land that is located in the floodplain and then exchange it for land that would be zoned for LDR or public facility use necessary to accommodate the school facilities.

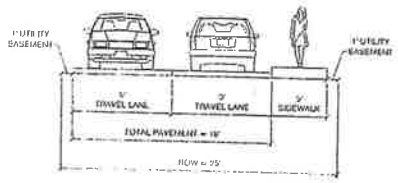
Forecasted costs: City and County staff time, ~6-month public process
Qualitative rating: more difficult

2. Land Acquisition. The NW Corner Site is currently owned by the City of Vernonia. The City has expressed a willingness to sell the approximately 20 acres of the NW Corner site that sits within the City limits and urban growth boundary for $450,000 – approximately $22,500 an acre. However, there is currently an option on these 20 acres, and they will be unavailable until the option expires on June 30, 2009. An accurate survey of this property (and other potential sites) will be necessary to determine whether or not it could accommodate the Compact Campus Design. Further, the Compact Campus Design itself likely would need to be adapted to local site conditions. If the City were able to bring additional land into the UGB, the City would likely conduct a third-party appraisal at that time and cooperate with the School District to negotiate the terms of a sale.

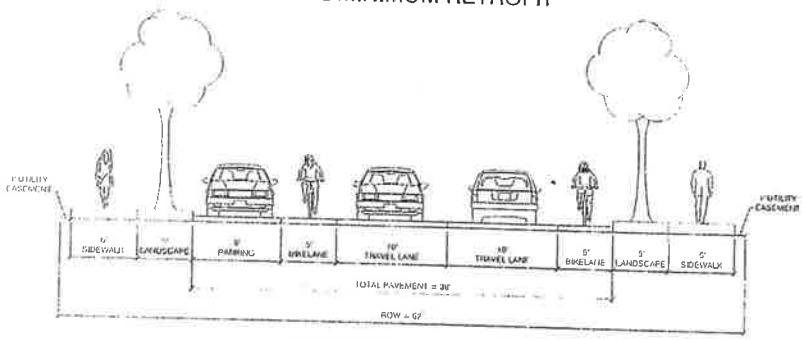
Forecasted costs: $450,000
Qualitative rating: relatively easy (one owner)



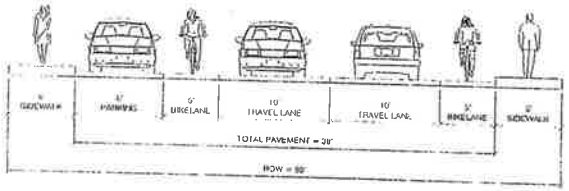
Views of the City-owner portion of the NW Corner site from the radio tower area



LOCAL MINIMUM RETROFIT



URBAN COLLECTOR



MODIFIED URBAN COLLECTOR
(REQUIRES VARIANCE TO STREET STANDARDS)

Potential cross-sections for use in accessing either the NW Corner or Boot Site. The "Local Minimum Retrofit" is not preferred because of its minimal bike / ped facilities. The "Urban Collector" represents the preferred, full cross-section, but would result in ROW acquisition. The "Modified Urban Collector" likely will fit within existing ROW, but is not an adopted Vernonia street standard.

3. Transportation. The NW Corner is poorly served by the City's existing transportation system. Two site access options have been considered for providing multi-modal access to this site for students, faculty, and staff.

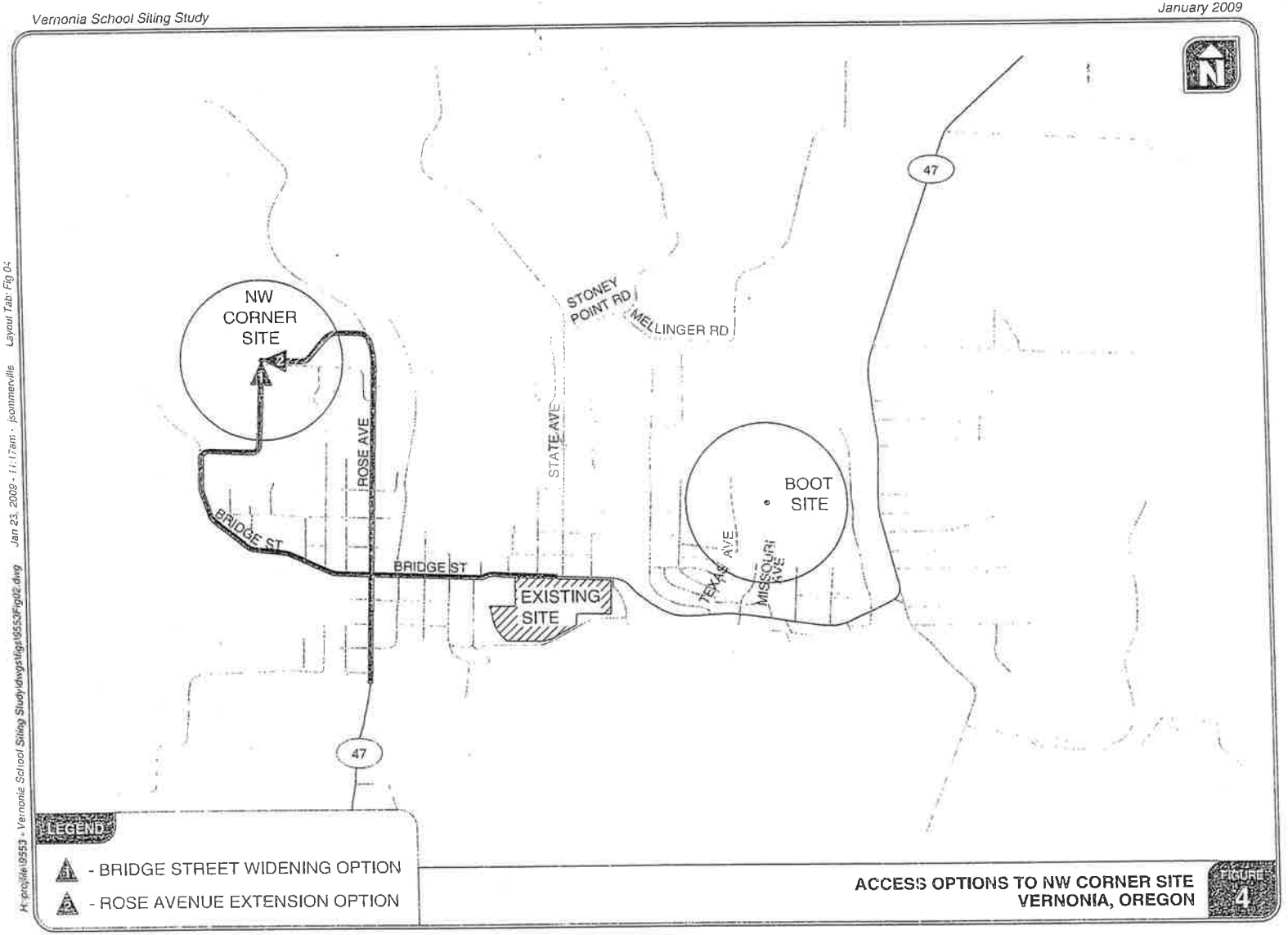
- ***Option 1: Bridge Street Widening*** utilizing an upgraded Bridge Street to provide primary access to the site. Under this option, it would be necessary to construct an extension from the Bridge Street terminus to the new campus.
- ***Option 2: Rose Avenue Extension*** routing trips north on an upgraded Rose Avenue and then west along a newly constructed road into the school site.

In order to accommodate the new traffic, as well as bike and pedestrian access, road improvements would be required for either access option. Based on design standards adopted in the Vernonia Transportation System Plan (TSP), there are two potential options for road types to the NW Corner site: Urban Collector and Urban Local Minimum Retrofit. Of these two road types, the urban collector is the recommended, preferred option, as it would allow not only for automobile and bus access to the site, but would also accommodate bicyclists and pedestrians. The local street minimum retrofit standard includes two nine-foot travel lanes (unstriped), a sidewalk on one side, and no bike lanes. This less-preferred option would not adequately accommodate non-vehicular travel modes, and may result in safety hazards. Either road standard, in either location, will require not only construction spending, but right-of-way acquisition as well. To build a roadway that is intermediate between these two standards - and therefore potentially avoid right-of-way acquisition - the City would need to amend its TSP or grant some type of variance to its adopted street standards. (Transportation improvement costs, discussed below, were calculated using the preferred option - the Urban Collector.)

Major transportation improvements with substantial associated costs should be expected if the NW Corner Site is chosen. The amount and cost of right-of-way that would be needed from adjacent residential properties is substantial, thereby

Vernonia School Siting Study

January 2009



ACCESS OPTIONS TO NW CORNER SITE
VERNONIA, OREGON

FIGURE 4

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING

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potentially resulting in transportation-related construction delays and additional costs. Due to the steep terrain and limited right-of-way of key streets accessing the site, the possibility of increased unforeseen costs should also be considered. These can stem from excessive cut-and-fill during road construction, the need for soil stabilization, and tree removal and clearing.

Vegetation near the radio tower on the NW Corner Site

Due to the relative remote location of the NW Corner Site, as well as the steep terrain that must be climbed to access it, it can be expected that the transportation mode split will shift to favoring more busing, students driving, and parent drop-off. Busing costs are largely fixed (~$504,000 per year) and would not increase substantially by locating the school campus on the NW Corner Site.

Secondary site access likely would be necessary. While this access could be built to full local road standards, it may be feasible or allowable to construct a narrow roadway with a gravel surface in order to minimize construction costs. Such an access could be restricted with a locked gate if necessary. Routes for such an access have not been planned, and costs for right-of-way acquisition and construction therefore have not been estimated. However, a planning-level estimate for a standard gravel road (assuming minimal vegetation clearing and cut-and-fill) is $7.50/ square foot.

Forecasted costs:
*Bridge Street: $1,769,000 to $3,838,000**
*Rose Avenue: $2,298,000 to $5,533,000**
Busing Costs: $504,000 / year
Qualitative rating for bike / ped access: poor

** Includes construction and r-o-w acquisition for minimum urban retrofit (low) to urban collector (high)*

4. Building Design and Construction. As mentioned previously, it is assumed that the Compact Campus concept would be developed on the site. The forecasted costs include all site work (assuming a flat site), construction costs, overhead and profit, bonds/insurance, a contractor's contingency and soft costs.

Forecasted costs: $33,862,000 to $39,252,000

5. Flood-Proofing. Flood-proofing the school buildings would be unnecessary at the NW Corner site.

Forecasted costs: n/a

6. Insurance. Standard property coverage insuring against fire, wind, vandalism and theft is approximately 10¢/$100 value.

Forecasted costs: $33,900 to $39,300 per year

7. Site Improvements. A survey of the site area has not been conducted. A preliminary site visit has revealed that the terrain is sloped and partially forested. Additional site design and site work costs will be necessary to accommodate the slope. Geotechnical expertise and engineering may be necessary.

Qualitative rating: difficult

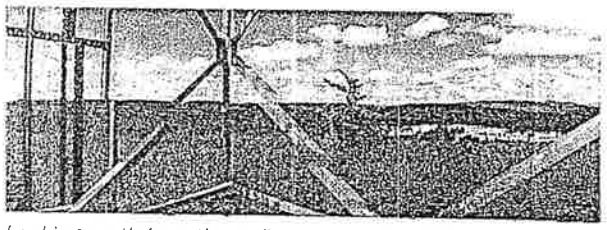
8. Utilities. The NW Corner is not currently directly served by sanitary sewer, storm drainage, power, communications, or gas. Domestic water is located within the site boundary.

The City of Vernonia has indicated that the existing water reservoir is at capacity and that a new 400,000 gallon water tank will be required to serve the new facilities. The school site is also near the elevation of the existing water tank and therefore it is anticipated that a new booster pump station will be required. ($590,000 - $767,000)

The city's Public Works Department indicated that there is an existing gravity sanitary sewer just south of the cemetery. The existing elevation of the NW Corner Site would indicate that the site could be served by a gravity system (no sanitary pump station will be required). An 8" sanitary sewer service will be required for a new school. ($186,000 - $242,000)

The storm water for the NW Corner site would be managed on-site and conveyed to existing natural drainage ways on the site. Parking and roof areas would be collected using catch basins and pipes. Storm water detention and water quality facilities would be constructed to minimize impacts to downstream properties. The existing soils on the site consist of a silt loam material and are not conducive to storm water infiltration facilities. Therefore, storm water disposal using infiltration facilities is not a likely strategy. The storm water management facilities may include a detention pond and water-quality swales. ($38,000 - $48,000)

Resource timber on private lands adjacent to the NW Corner Site



Looking north from the radio tower on the NW Corner Site

The existing power near the NW Corner site is single phase power. The nearest point of connection is at the cell tower location approximately 1,780 feet to the center of the NW Corner Site. ($62,000 - $81,000)

NW Natural has a distribution system in the area. City system maps indicate a 4-inch gas line just south of the cemetery. NW Natural indicated that this line should be sufficient for a new school. ($19,000 - $25,000)

The telephone and cable services points of connection are assumed to be a similar distance as the natural gas service. ($54,000 - $70,000)

Forecasted costs: $949,000 to $1,233,000

9. Community Function. The NW Corner is the least favorable location for a community center due to its isolated location and lack of residential land uses surrounding the site. As a UGB expansion to include additional acreage for residential development is extremely challenging, it is unlikely that residential uses will be able to develop to the north and west of a new school and, as such, the school campus / community center will remain on the edge of town indefinitely.

Qualitative rating: poor

10. Other Issues.

The Vernonia Fire District does not currently have the ability to fight fires on structures taller than two stories and would likely request funding for a new ladder truck that has the ability to fight fires in taller structures.

Forecasted costs: $30,000 to $460,000

The NW Corner site is located on a School District "snow route" which means that it would be inaccessible to most vehicles during snow and ice events. The City currently does not have the snow removal resources to ensure that the routes to the site could be maintained during winter weather events.

Forecasted costs: unknown

THE BOOT SITE

1. Land Use Process. Five of the six properties that comprise The Boot Site are located outside of the City limits and the UGB. To amend the UGB to allow for the siting of the school campus on the Boot Site, the City would need to undergo one of the three processes described above in the discussion of the NW Corner Site.

Forecasted costs: City and County staff time, ~6-month public process
Qualitative rating: easier to justify

2. Land Acquisition. Six properties comprise the Boot Site; five of those are privately held. Two parcels are developed as home sites and three parcels are currently undeveloped. The City of Vernonia has jurisdiction over Spencer Park and is willing to discuss a land swap with the School District.

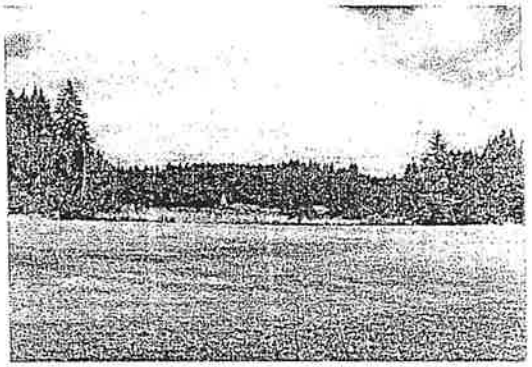
Forecasted costs: $1,518,000 to $1,791,240
Qualitative rating: potentially challenging (multiple owners)

3. Transportation. The Boot Site is well-served by local access streets that connect to Bridge Street. Three site access options have been considered for providing multi-modal access to this site for students, faculty, and staff:

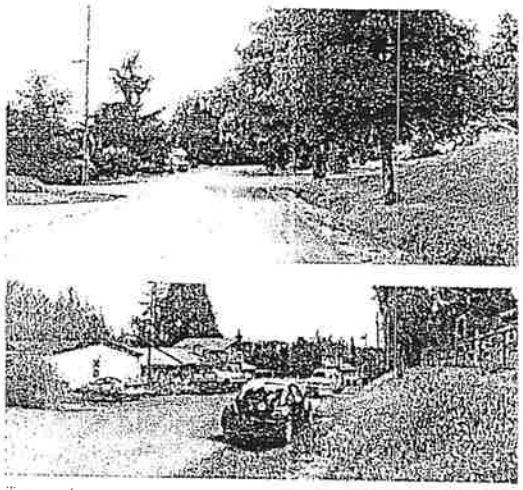
- ***Option 1: Missouri Avenue Widening*** utilizing and upgraded Missouri Avenue from Bridge Street to provide primary access to the site.
- ***Option 2: Texas Avenue Widening*** using and upgraded Texas Avenue from Bridge Street to provide primary access.
- ***Option 3: North Boot Site Access*** routing trips north from Bridge Street via State Avenue, along Stoney Point Road north of Vernonia and then to Mellinger Road, and then south along a newly constructed road into the school site.

In order to accommodate traffic generated by the new school campus, as well as to accommodate bicycle and pedestrian access, street improvements and right-of-way acquisition will be required for each of these options.

The City's adopted Transportation System Plan has two roadway options that could be used to provide access to the site. The urban collector is the most appropriate street designation for primary, multi-modal access to the Boot Site,



A potential portion of The Boot Site



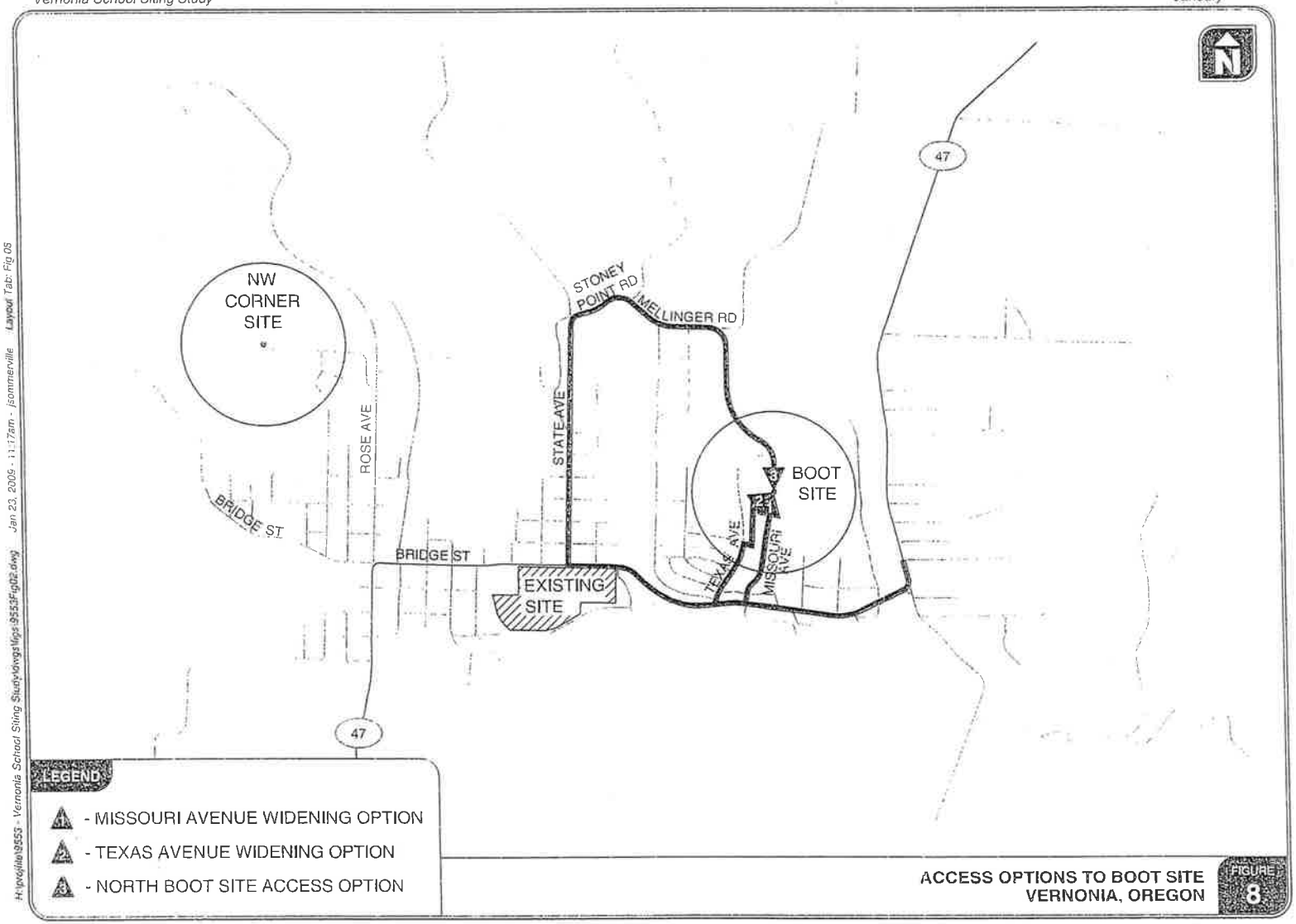
Texas Avenue

and is the recommended option. A less-preferred, alternate street standard may be a local street minimum retrofit, which is the option with the least amount of connectivity for both pedestrians and cyclists. This option would not adequately accommodate non-vehicular travel modes, and will result in safety hazards. To build a roadway that is intermediate between these two standards, the City would need to amend its TSP or grant a variance to its adopted street standards. (Illustrations of these three cross-sections are included above in the discussion of the NW Corner Site.)

In the case of the North Boot Site Access Option, a preferred option may be to construct the primary auto-access streets (State Avenue, Stoney Point Road, Mellinger Road, and the new north-south street) to an urban local minimum retrofit standard in conjunction with providing a separated bicycle-pedestrian path as extensions to added bicycle lanes and sidewalks on either Missouri or Texas Streets. In this way, the primary auto access streets will have minimal pedestrian facilities (sidewalk on one side only) with no separate bike lanes, but the more direct routes to the Boot Site will be equipped with bicycle and pedestrian facilities.

Based on the Boot Site's three access options, the cost to build the transportation infrastructure will be low-to-moderate for the two southern access options due to the small amount of road upgrades needed, and the moderate amount of road improvements needed. The North Boot Site Access Option has substantially higher construction costs, and when combined with its circuitous route, is considered less preferable.

Under the Texas Avenue Widening Option, ODOT staff has indicated that there may be a need to widen the westbound approach at the Bridge Street/Texas Avenue intersection, thereby providing an exclusive left turn lane. A traffic signal will not likely be warranted. If the Boot Site is selected, detailed turn lane warrant analysis would need to be conducted to confirm this need. Due to topographical constraints, widening Bridge Street in this section could be difficult, and would likely be expensive ($500,000 to $1 million). Additionally, Louisiana Avenue intersects with Texas Avenue within 50 feet of Bridge Street. This close proximity of intersections is problematic due to turning maneuver conflicts, potential queue spillbacks, and driver uncertainty. This close proximity of intersections would require that Louisiana Avenue be disconnected from its intersection with Texas Street, thereby impacting access to the neighborhood. The physical cost of terminating Louisiana Avenue is relatively inexpensive (estimated to be about $8,000), but the impact on neighborhood access and increased volumes on alternative local streets would be



ACCESS OPTIONS TO BOOT SITE
VERNONIA, OREGON

FIGURE 8

H:\projects\9553 - Vernonia School Siting Study\dwgs\Figs-9553\Fig02.dwg Jan 23, 2009 - 11:17am - jsommerville Layout Tab: Fig 05

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING

significant. The costs of Bridge Street widening and disconnecting Louisiana Avenue have not been included in the cost summary for this alternative, as further study is needed.

Under the Missouri Avenue Widening option, the stop-controlled intersection of Missouri Avenue and Bridge Street will experience higher traffic volumes. A traffic signal at this intersection would not be needed based on a preliminary estimate performed for this analysis.

Due to the site being less central to the student population than the existing school site, it is expected that even with proper facilities to promote pedestrian and bicycle modes, trips via these alternative modes will decline slightly. Thus, slightly increased trips will come to the site via vehicle, either from increased parent drop-off, students driving, or increased bus service. Busing costs (~$504,000/year) are largely fixed and would not be affected by locating the campus on the Boot Site.

Forecasted costs:
*Missouri Avenue : $584,000 to $1,392,000**
*Texas Avenue : $771,000 to $1,835,000**
*North Boot Access : $2,952,000 to $4,849,000**
Busing Costs: $504,000/year
Qualitative rating for bike / ped access: good

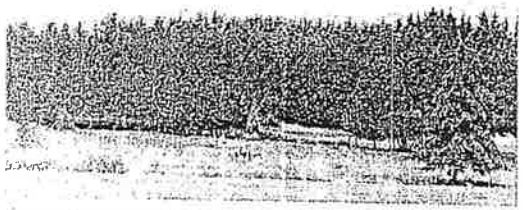
* *Includes construction and row acquisition for minimum urban retrofit (low) to urban collector (high)*

4. Building Design and Construction. It is assumed that the Compact Campus concept would be developed on the site. The associated costs include all site work (assuming a flat site), construction costs, overhead and profit, bonds/ insurance, a contractor's contingency and soft costs.

Forecasted costs: $33,862,000 to $39,252,000

5. Flood-Proofing. Flood-proofing the school buildings will be unnecessary at The Boot Site.

Forecasted costs: n/a



A potential portion of The Boot Site

6. Insurance. Standard property coverage insuring against fire, wind, vandalism and theft is approximately 10¢/$100 value.

Forecasted costs: $34,000 to $39,000 per year

7. Site Improvements. A survey of the site area has not been conducted. A site visit has revealed that the terrain is moderately sloped and partially forested. Additional site design and site work costs will be necessary to accommodate the slope. Geotechnical expertise and engineering may be necessary.

Qualitative rating: difficult

8. Utilities. The Boot site is not currently directly served by domestic water, sanitary sewer, storm drainage, power, communication, or gas.

The best available information on the water system in this area shows an existing 10-inch water line at the intersection of Texas Avenue and Oklahoma Avenue. There appears to be an existing 2-inch service extending north from this point, but the anticipated demands of a new school will require a 10-inch waterline extension to provide adequate fire protection. Given the relative elevation of this area, and the close proximity to existing services, it is not anticipated that a new booster pump will be required. ($102,000 - $132,000)

The most likely connection point for sanitary sewer would be at the intersection of Texas and Oklahoma, though the City of Vernonia has indicated that there may be an existing sanitary sewer line north of Spencer Park; there are no public records of this line. The existing grades on the Boot Site would indicate that the site could be served by a gravity system; no sanitary pump station will be required. ($134,000-$175,000)

The storm water management for The Boot site would be managed on-site and conveyed to existing natural drainage ways on the site. Parking and roof areas would be collected using catch basins and pipes. Storm water detention and water quality facilities will be constructed to minimize impacts to downstream properties. The existing soils on the site consist of a silt loam material and are not conducive to storm water infiltration facilities. Therefore, storm water disposal using infiltration facilities is not a likely strategy. The storm water management facilities may include a detention pond and water quality swales. ($38,000 - $48,000)

The existing power near the Boot Site is single phase power. The nearest point of connection is at Texas Avenue. ($18,000-$24,000)

NW Natural has a distribution system in the area. City system maps indicate a 2-inch gas line in Texas Avenue. NW Natural indicated this line should be sufficient for a new school. ($6,000-$8,000)

The telephone and cable services points of connection are assumed to be a similar distance as the natural gas service, which is approximately 500 feet. ($16,000 - $21,000)

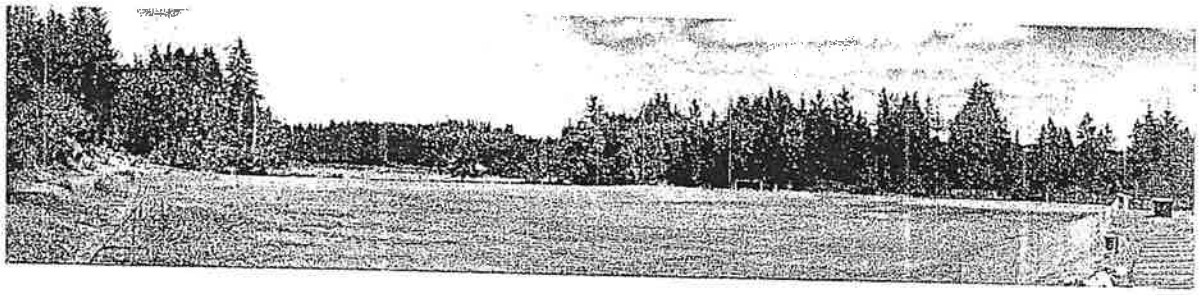
Forecasted costs: $306,000 to $400,000

9. Community Function. The Boot Site would be adequate for a community center, given its somewhat central location and close access to Bridge Street / OR 47. It is surrounded by an established residential neighborhood and 65 new homes are currently planned north of the site. While the site can be accessed easily by automobile on local streets from Bridge Street / OR 47, sidewalks and pathways will be needed along Texas and Missouri to improve pedestrian and bicycle access.

Qualitative rating: good

10. Other Issues. The Vernonia Fire District does not currently have the ability to fight fires on structures taller than two stories and will likely request funding for a new ladder truck that has the ability fight fires in taller structures.

Forecasted costs: $30,000 - $460,000



Spencer Park

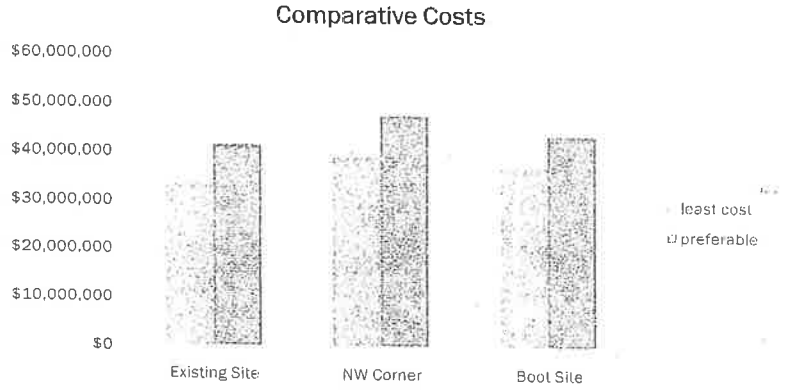
COMPARISON TABLES

As the preceding pages and the attached appendices indicate, there are difficult processes which must be undertaken, and high costs which must be borne, in order to either rebuild the Vernonia Schools Campus on its existing site or to construct it anew elsewhere in the community. The following tables and graphs provide a useful summary of these issues and costs, but are greatly oversimplified given the complexity of the undertaking. Readers are therefore encouraged to seek additional information from the technical assessments included within the Appendix.

	Existing Site	NW Corner Site	The Boot Site
Bicycle & Pedestrian Access (relative ease of access for bicyclists and pedestrians)	*excellent*	*poor*	*good*
Community Function (relative potential for the site to serve other community uses and around which future residential uses could be sited)	*excellent*	*poor*	*good*
UBG Expansion (relative degree of difficulty of expanding the UGB to accommodate school site)	*n/a*	*more difficult*	*easier to justify*
Ability to Insure (relative ease of acquiring insurance for the school facilities, not including cost)	*challenging*	*typical*	*typical*
Ability to Acquire Land (relative ease of land acquisition, not including cost)	*n/a*	*relatively easy (one owner)*	*potentially challenging (multiple owners)*
Site Improvements (relative degree of difficulty for improving site to accommodate school facilities)	*easy*	*difficult*	*difficult*
Flood Mitigation (need for mitigating flooding and floodplain impacts)	*necessary*	*n/a*	*n/a*

Cost forecasts are conceptual, are presented as a range, and have been rounded to the nearest thousand. They have been calculated based on 2008 dollars, and do not include an inflation factor for acquisition and/or construction in 2009 or beyond.

The variation between "low" and "high" cost assumes differences in both scope and quality. More accurate ranges would be available following schematic design and/or preliminary engineering. Site work costs for the Existing Site assume elevating the Middle and High Schools. Site work costs for the NW Corner and Boot sites assume a generic, flat site and do not factor in specific mitigation measures that may be necessary. Allowances for soft costs are based on industry averages.



	Existing Site		NW Corner		Boot	
	low	*high*	*low*	*high*	*low*	*high*
Land costs	$0	$0	$450,000	$450,000	$1,518,000	$1,791,000
Transportation costs						
Infrastructure (Urban Collector)	$0	$0	$3,742,000[2]	$4,491,000[2]	$1,247,000[3]	$1,647,000[4]
ROW Acquisition (up to 62' for Urban Collector)	$0	$0	$96,000[1]	$1,042,000[2]	$145,000[3]	$189,000[4]
Busing	$504,000	$504,000	$504,000	$504,000	$504,000	$504,000
Existing site building costs						
Existing Site Site Work	$3,190,228	$2,692,368				
Washington Grade School	$7,312,922	$10,243,319				
Vernonia Middle School	$977,283	$2,375,683				
Vernonia High School + Gym	$21,195,567	$23,550,630				
NW Corner and Boot Site building costs						
Compact Campus Design			$33,862,000	$39,252,000	$33,862,000	$39,252,000
Flood proofing	$733,000	$2,470,000	n/a	n/a	n/a	n/a
Utility infrastructure	$0	$0	$949,000	$1,233,000	$306,000	$400,000
Insurance	tbd	tbd	$34,000	$39,000	$34,000	$39,000
Incidentals (fire truck, snow route)	$0	$0	$30,000	$460,000	$30,000	$460,000
	$33,913,000	$41,836,000	**$39,667,000**	**$47,471,000**	$37,646,000	$44,282,000

[1] *costs for the Bridge Street Urban Collector option*
[2] *costs for the Rose Avenue Urban Collector option*
[3] *costs for the Missouri Urban Collector option*
[4] *costs for the Texas Urban Collector option*

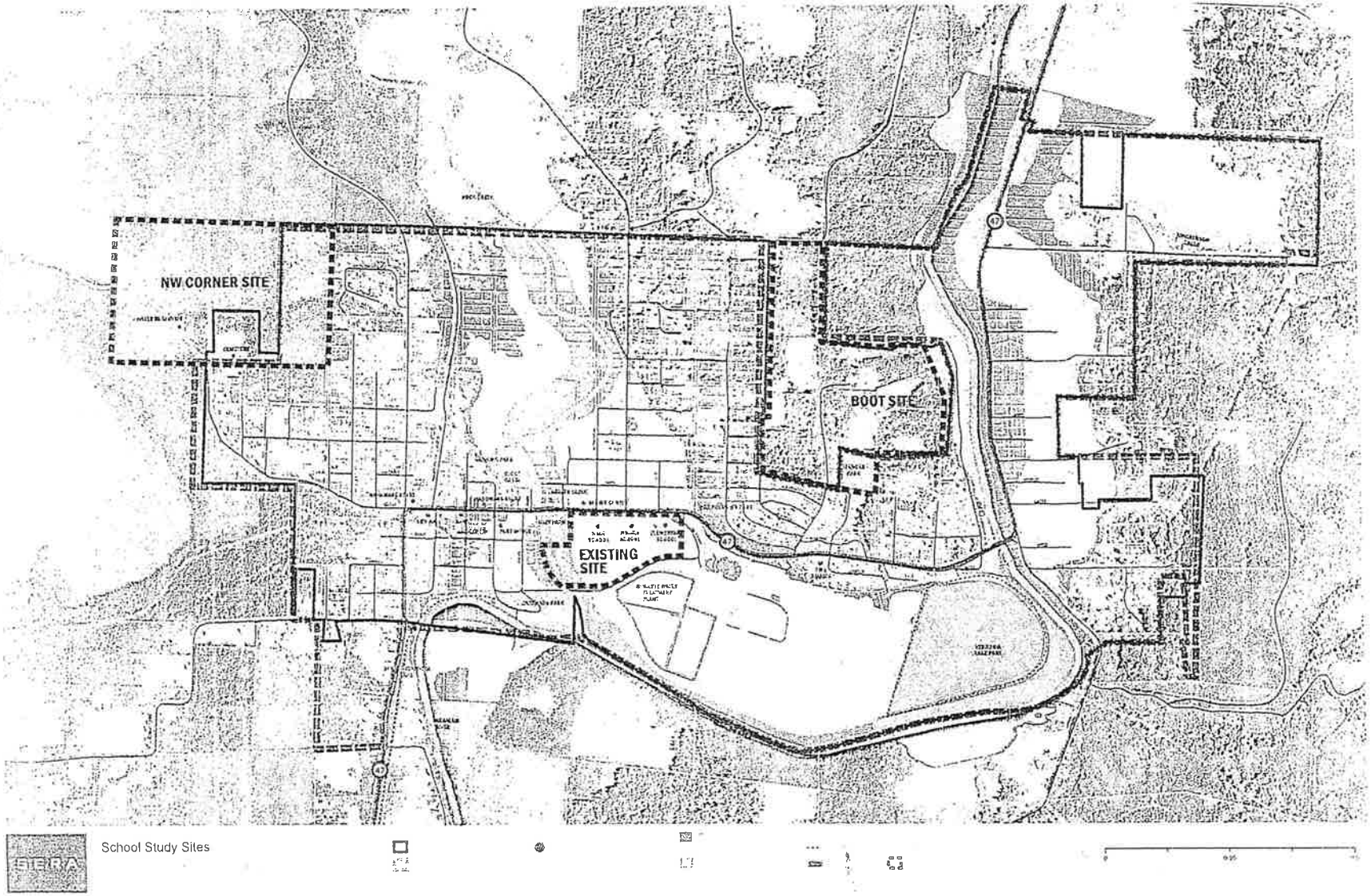


Figure 1. Study site locations

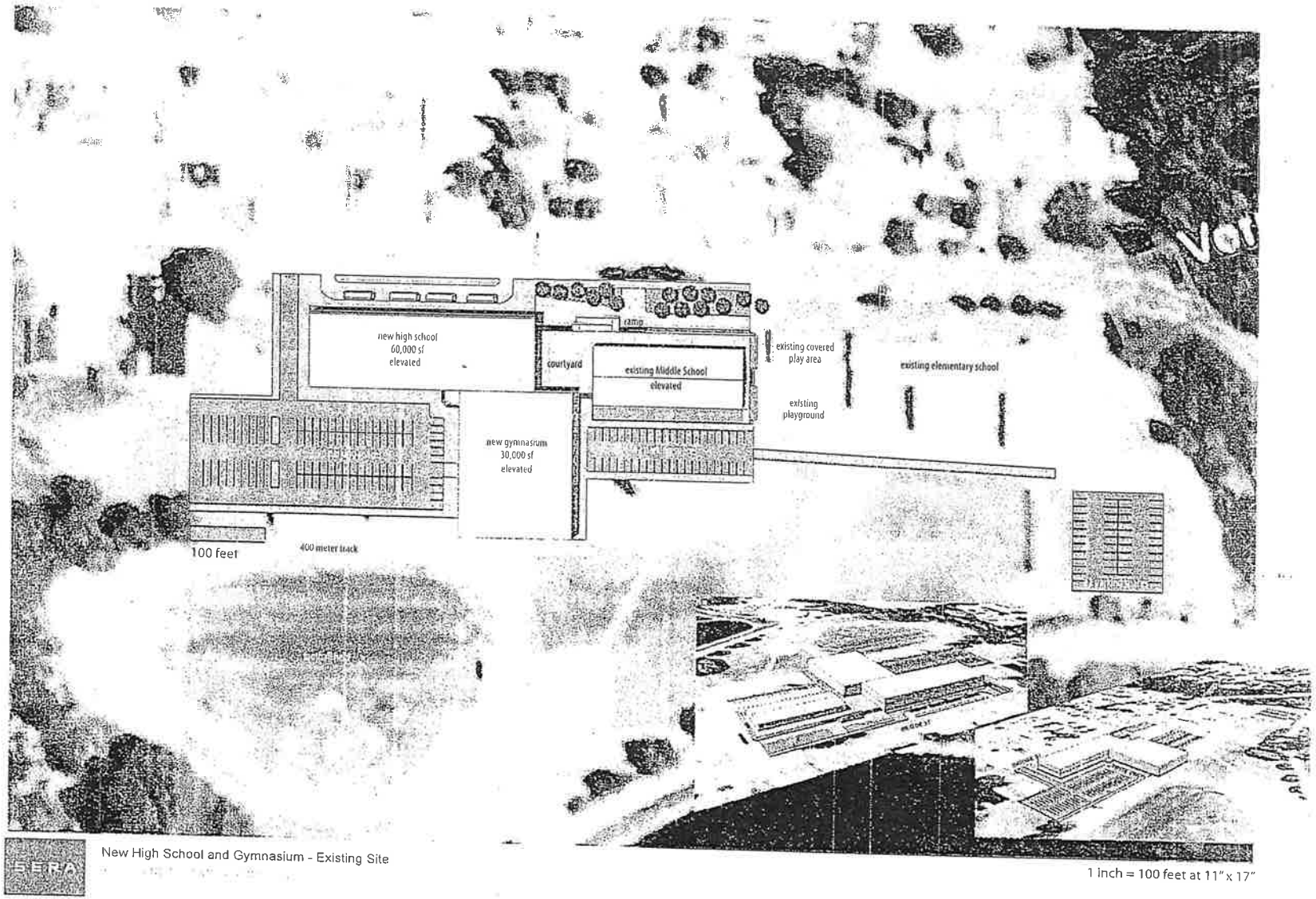
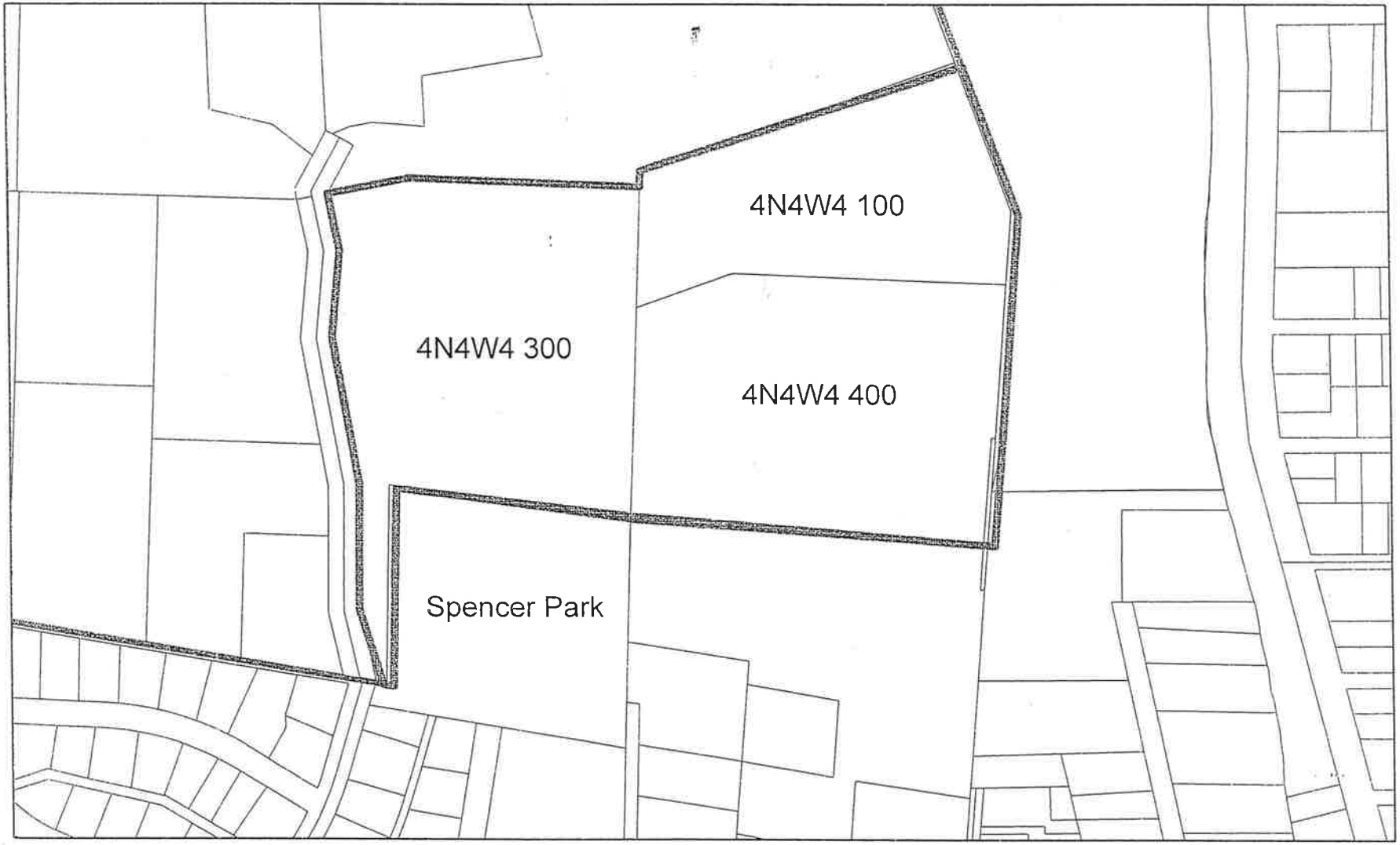


Figure 2. Existing Campus Concept - Preferred

Map A: Preferred Site (Boot)

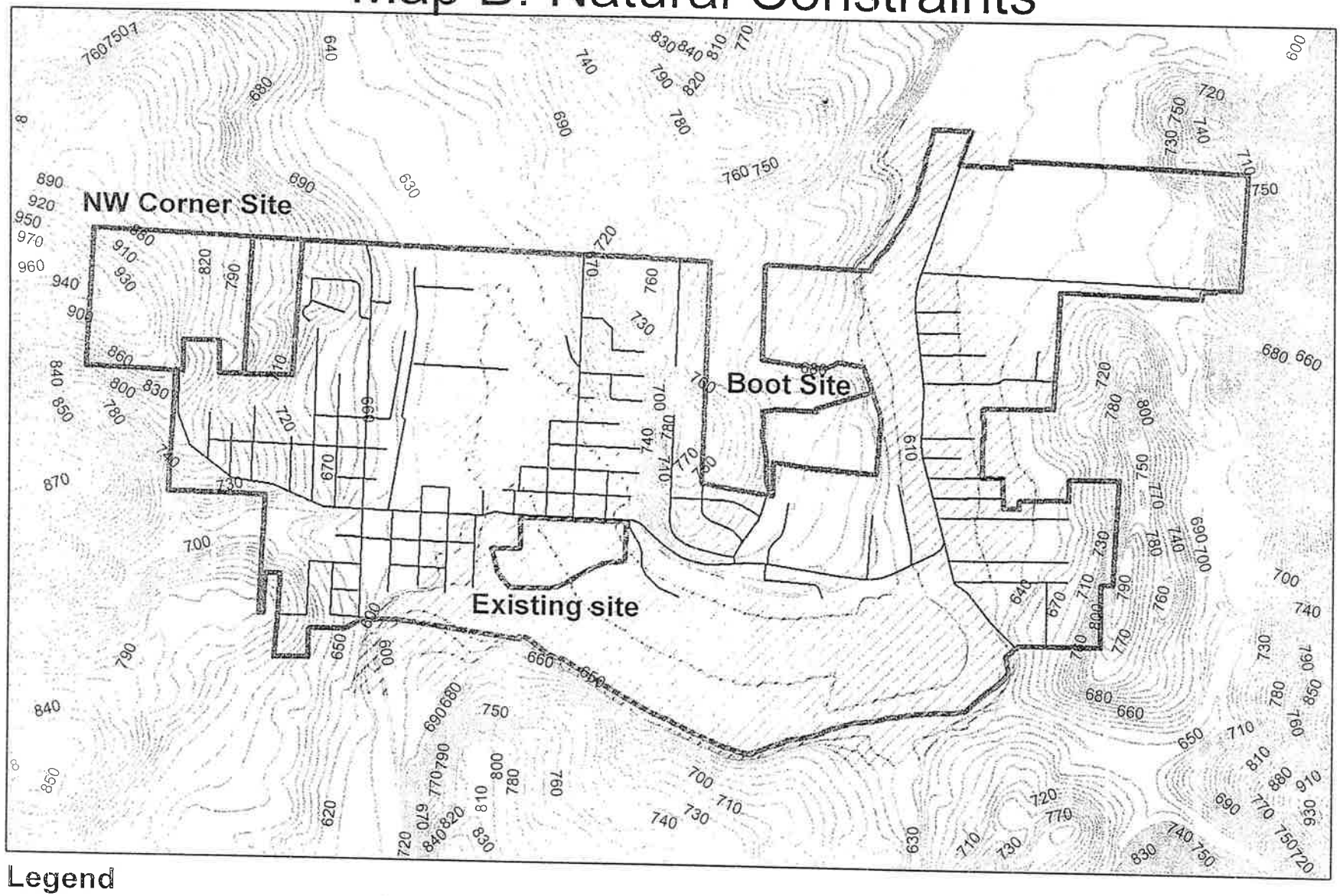


Legend

- Proposed UGB Amendment and Annexation Site
- City limits and UGB
- Tax lots

FOREST TRAILS PARKS STREAMS
VERNONIA OREGON

Map B: Natural Constraints

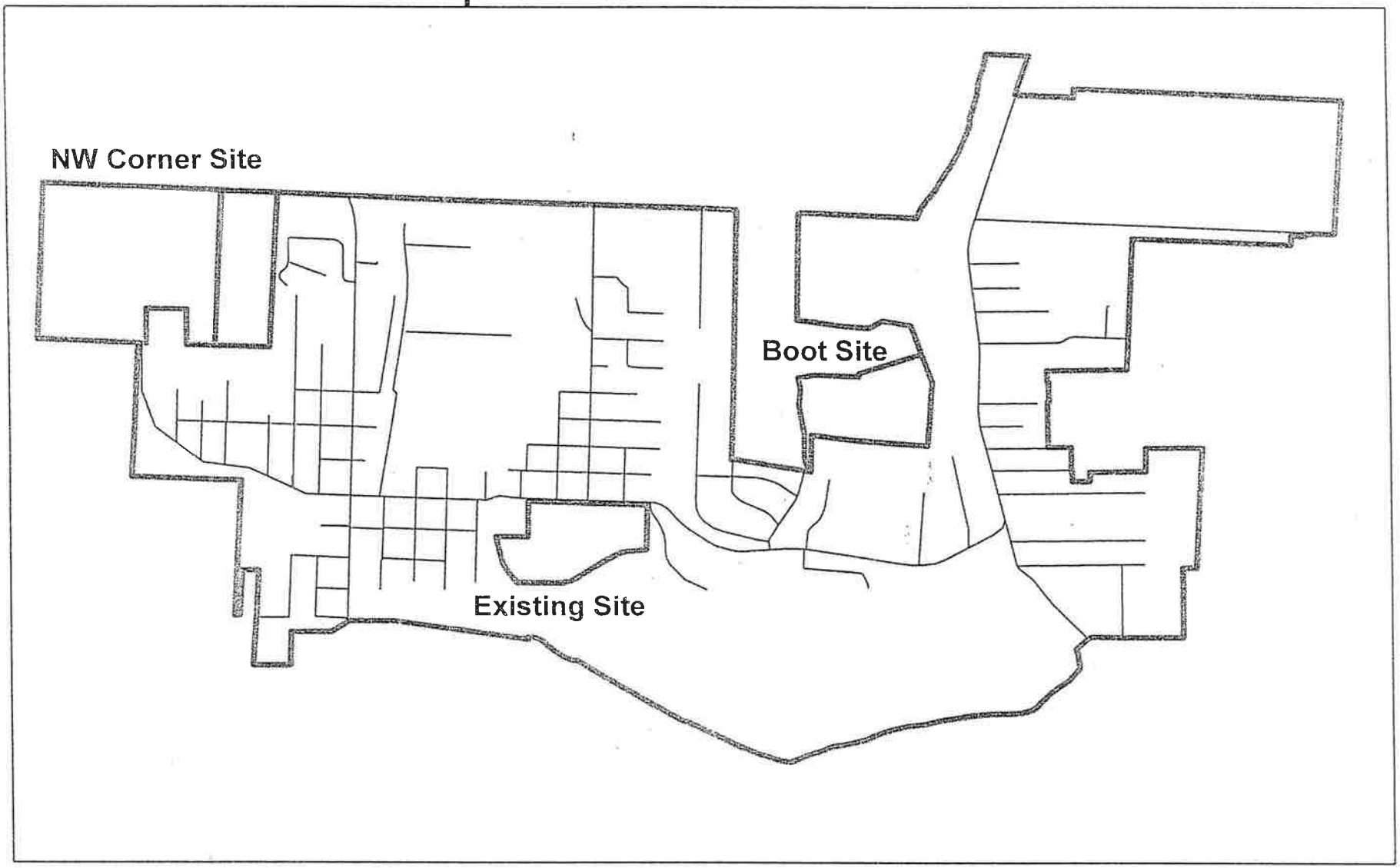


Legend

- Proposed Sites
- City limits and UGB
- Floodplain
- 10 foot contour

FOREST TRAILS PARKS STREAMS VERNONIA OREGON

Map C: Alternative Sites



Legend

- Alternative site locations
- City limits and UGB

FOREST TRAILS STREAMS PARKS VERNONIA OREGON

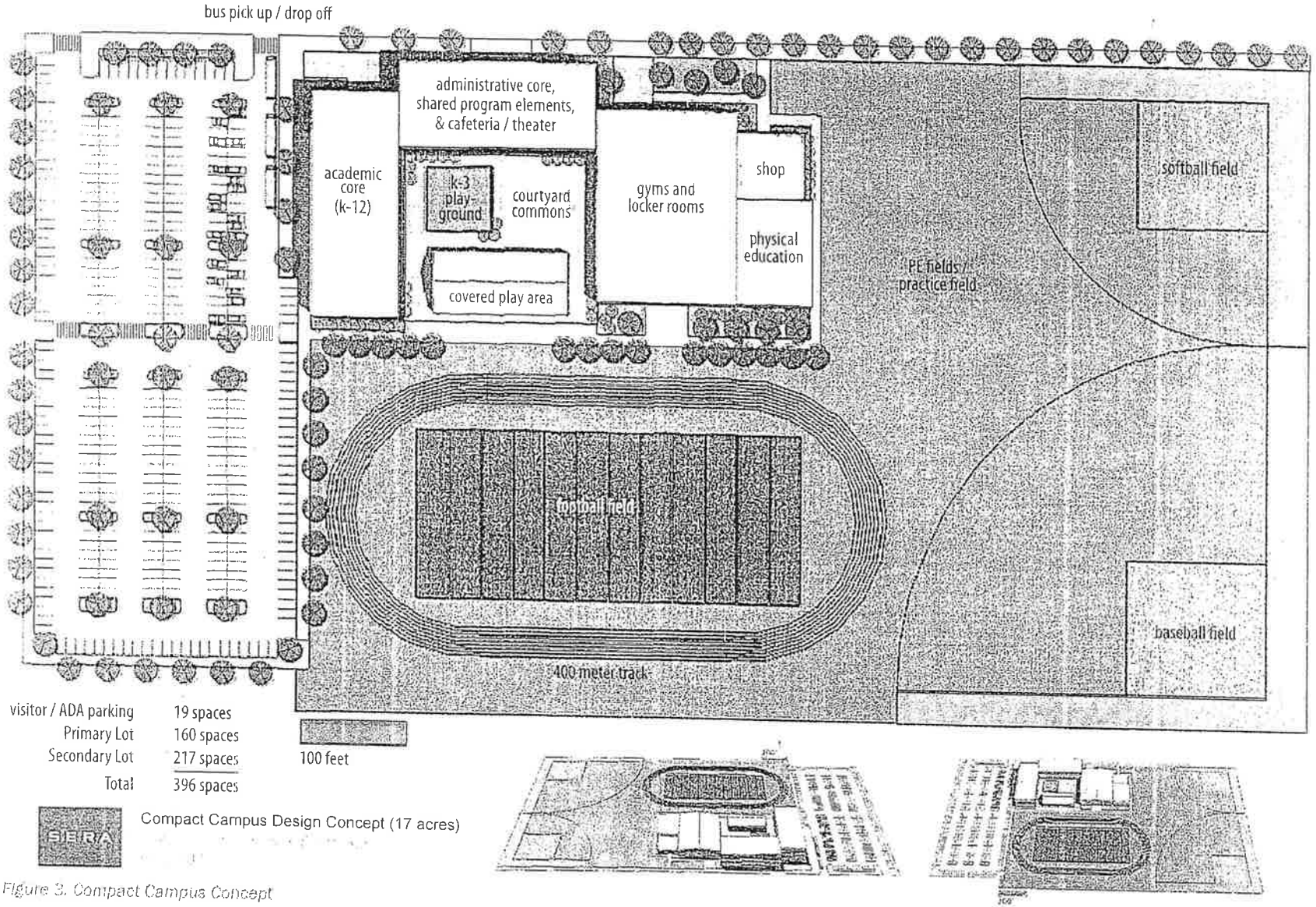


Figure 3. Compact Campus Concept

Presented to the Vernonia School District Board
of Directors and the Vernonia Community

March 2, 2009

SUMMARY REPORT ON SCHOOL SITING

FROM THE VERNONIA OREGON SOLUTIONS TEAM

Oregon Solutions Team

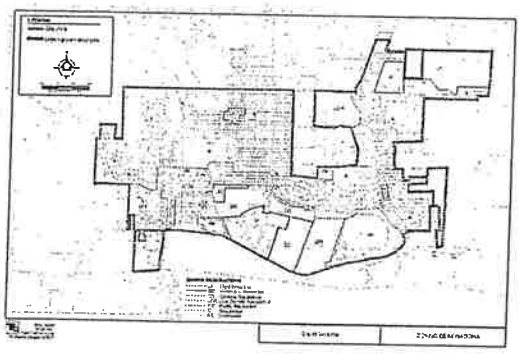
- Glenn Ahrens, Oregon State University Extension Service
- Dan Brown, City of Vernonia - Planning Commission
- Steve Bryant, Oregon Solutions
- Chip Bubl, Oregon State University
- Tim Collier, Northwest Regional ESD
- Ken Cox, Vernonia Public Schools
- Ryan Deckert, Oregon Business Association
- Mark Ellsworth, Governor's ERT team
- John Emrick, Meyer Memorial Board Member/Norm Thompson President and CFO
- Marc Farmer, West Coast Electric Coop
- Phyllis Gilmore, Providence Medical Group
- Sam Goldstein, USDA Rural Development
- Fritz Graham, Office of Senator Wyden
- Bill Haack, Columbia County Flood Relief
- Tony Hyde, Columbia County
- Betsy Johnson, State Senator
- Tom Kelly, President, Neil Kelly Co.
- Jim Krahn, Vernonia School Board
- Jim Mabbott, Superintendent Northwest Regional ESD
- Kelly Marks, Portland Community College
- Steve Marks, Office of Congressman Wu
- Donna Nyberg, Office of Representative Brad Witt
- Randy Parrow, Vernonia City Council
- Mike Pihl, Mike Pihl Logging Co., Inc
- Dennis Sigrist, Oregon Emergency Management
- Gordon Smith, Sentry Market
- Larry Steele, Cedar Ridge
- Jim Tierney, Community Action Team
- Kim Wallace, Vernonia School Board
- Richard Whitman, Department of Land Conservation and Development
- Wendy Willis, Oregon Solutions
- Brad Witt, State Representative

Introduction

- What this Summary Report includes:
  - Presentation of possible sites for new school complex
  - Brief review of technical reports and financial issues
  - Presentation of a recommendation from the Vernonia Oregon Solutions Team
  - Some next steps

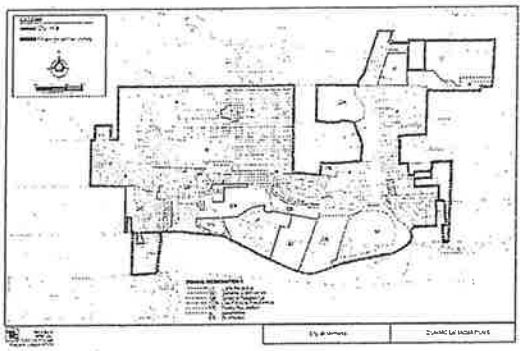
Review of Sites

- First step was to develop a list of sites and begin to evaluate them
- City and District staff looked at the following sites:
  - A site owned by the City near the NW corner of Vernonia near the cemetery
  - A variety of sites within the unincorporated "boot area" of the city, north of Spencer Park



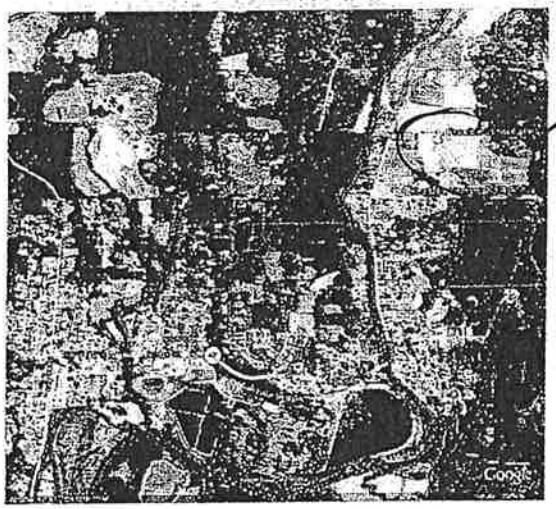
Review of Sites

- A site off Knott Street at the NE corner of the city
- And, two sites south of the city and outside the city limits
- These preliminary sites were scored using a point system; some sites were then dropped from further analysis
- It was also decided to thoroughly analyze the existing site and buildings to see if they could be made safe



Knott Street Site

- Request at recent School Board Meeting to provide additional information on the Knott Street Site
- Advantages of this site:
  - Virtually all of the site is outside of floodplain
  - Site is flat and easy to develop
  - Already in urban growth boundary



Knott Street Site

Knott Street Site

- Advantages of this site:
  - Only one property owner to work with
  - Street improvements at site would be easy; no steep slopes to worry about
  - Utilities—water, sewer, power, and natural gas—are nearby

Knott Street Site

- Disadvantages of this location:
  - Is not very centrally located; remote from central part of city
  - Walking and bicycle use would be difficult for students; use Hwy 47 or build new bike/walking path

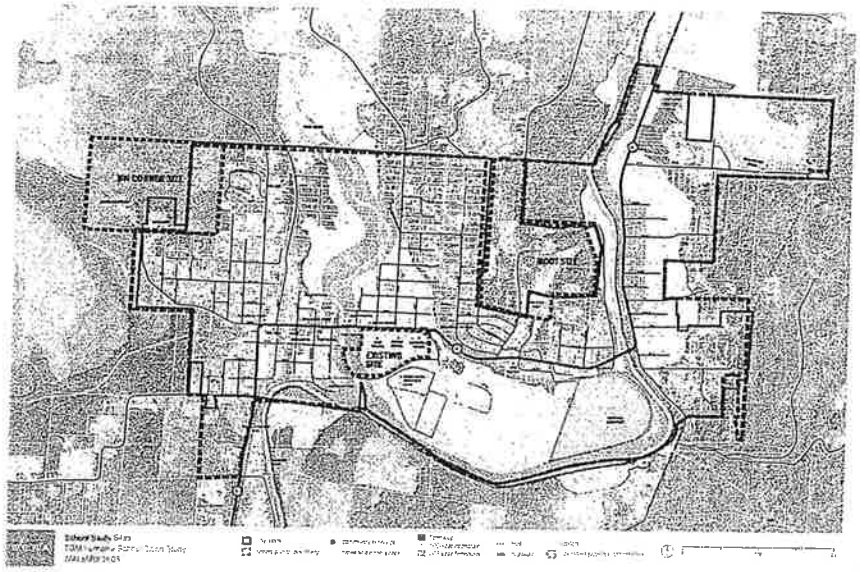
Knott Street Site

- Disadvantages of this location:
  - Property is zoned Light Industrial—is the only practical location for light industry in the city; important for job creation and city and school tax base
  - During the next flood, most of the city would be cut-off and isolated from the schools

Knott Street Site

- Disadvantages of this location:
  - Eastern portion of site has wetlands present; new street would have to cross salmon-bearing stream—not impossible to overcome, but difficult
  - A new water reservoir would be needed to serve a new school campus

Narrowed to Three Sites



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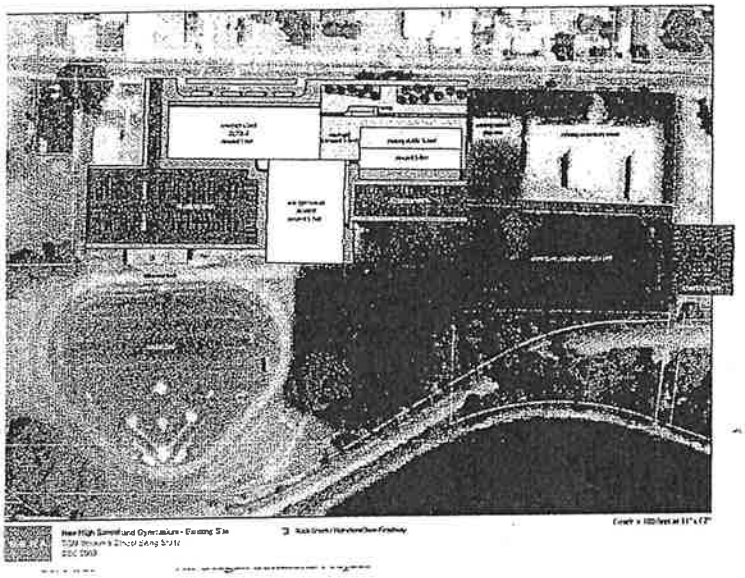
Technical Studies

- Subcommittee's work is based on a series of technical studies done by SERA Architects and their specialists: Kittleson & Associates and David Evans and Associates, Inc.; both engineering firms
  - Analysis of the Existing Site and Buildings
  - Hydraulic Technical Report
  - Cost Forecast for Utilities
  - Comparative Assessment of Transportation Needs
  - Variety of Technical Memoranda
  - School Siting Comparison Report

New High School – Existing Site



Analysis of Existing Site and Buildings

- **Flood Protection Options**
  - Washington Grade School
    - Allow basement to Flood
    - Build flood wall around school
  - Middle School
    - Raise school to required flood elevation
    - Build flood wall around school
  - High School
    - Assumed that new high school would be elevated above required flood elevation

Analysis of Existing Site and Buildings

- **Need to Meet Current Seismic Codes**
- Washington Elementary School
  - Significant work is needed
- Middle School
  - Meets seismic codes in effect when built, but if elevated, then new seismic code compliance would occur with elevation process
- High School
  - New high school would be built to new seismic codes

Hydraulic Analysis

- A process to determine whether a flood-proofing solution would increase flooding downstream or negatively impact adjacent property
- Engineers analyzed a flood wall around the elementary school and the middle school
- Analysis determined that no negative impact would occur

Compact Campus Design

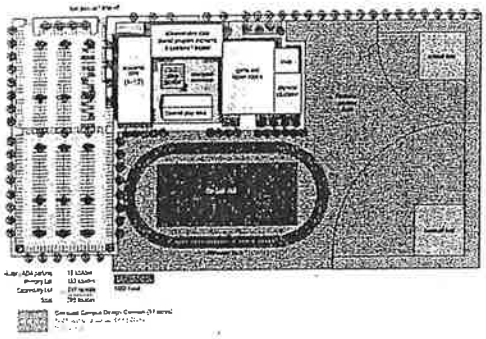
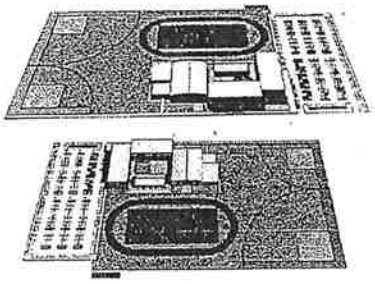


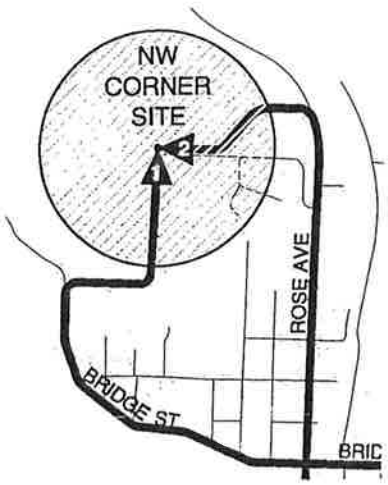
Table 2: Tigard's Schools Compact Campus Area Calculations

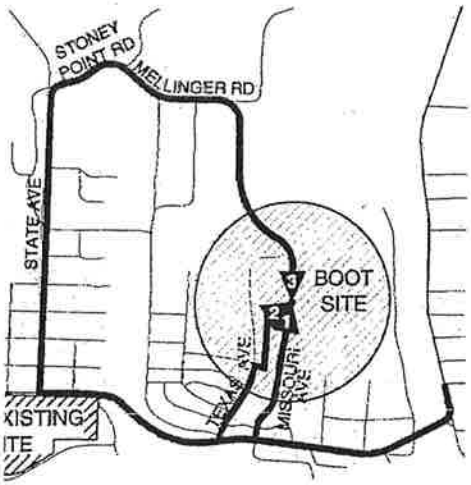
Site Area	Area in SF	Acres
Parking Lot Area	153,510 SF	3.5 acres
Campus Core	130,620 SF	3.2 acres
Central plaza	28,800 SF	
Play fields + open space	463,165 SF	10.6 acres
Total Campus Site Area	**755,295 SF**	**17.3 acres**

Figure 3: 3D massing diagram of the Compact Campus Design

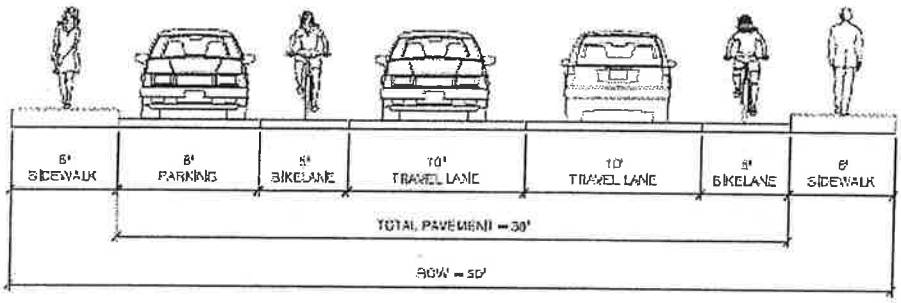


Transportation Issues





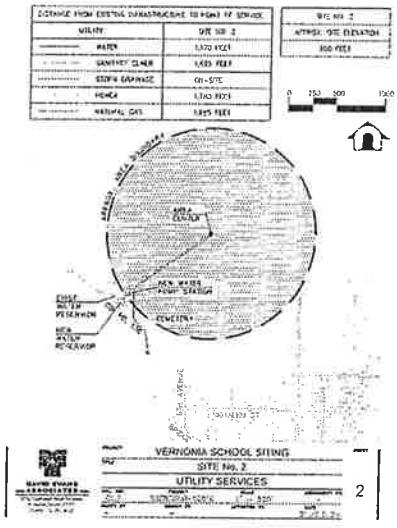
Possible Street Cross-Section



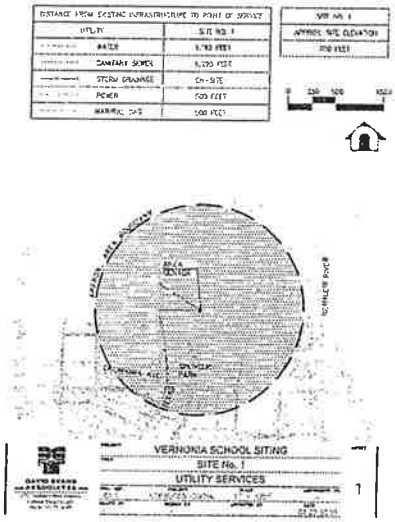
MODIFIED URBAN COLLECTOR
(REQUIRES VARIANCE TO STREET STANDARDS)

Utility Issues

NW Corner Site



Boot Site



Comparison Table

- The next slide is a comparison table showing rough cost ranges for the three sites.
- The forecast is based on industry average costs for buildings similar in size and scope.
- The costs are rough at this point and will probably end up being higher.

Comparison Table

	Existing Site		NW Corner		Boot	
	low	*high*	*low*	*high*	*low*	*high*
Land costs	$0	$0	$450,000	$450,000	$1,518,000	$1,791,000
Transportation costs	-	-	-	-	-	-
Infrastructure (Urban Collector)	$0	$0	$3,742,000	$4,491,000	$1,247,000	$1,647,000
ROW Acquisition (up to 62' for Urban Collector)	$0	$0	$96,000	$1,042,000	$145,000	$189,000
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NW Corner and Boot Site building costs						
Compact Campus Design			$33,862,000	$39,252,000	$33,862,000	$39,252,000
Flood proofing	$733,000	$2,470,000	n/a	n/a	n/a	n/a
Utility infrastructure	$0	$0	$949,000	$1,233,000	$306,000	$400,000
Insurance	tbd	tbd	$34,000	$39,000	$34,000	$39,000
Incidentals (fire truck, snow route)	$0	$0	$30,000	$460,000	$30,000	$460,000
	$33,913,000	$41,836,000	$39,667,000	$47,471,000	$37,646,000	$44,282,000

Comparison Matrix

	Existing Site	NW Corner Site	The Boot Site
Bicycle & Pedestrian Access (relative ease of access for bicyclists and pedestrians)	*excellent*	*poor*	*good*
Community Function (relative potential for the site to serve other community uses and around which future residential uses could be sited)	*excellent*	*poor*	*good*
UBG Expansion (relative degree of difficulty of expanding the UGB to accommodate school site)	*n/a*	*more difficult*	*easier to justify*
Ability to Insure (relative ease of acquiring insurance for the school facilities, not including cost)	*challenging*	*typical*	*typical*
Ability to Acquire Land (relative ease of land acquisition, not including cost)	*n/a*	*relatively easy (one owner)*	*potentially challenging (multiple owners)*
Site Improvements (relative degree of difficulty for improving site to accommodate school facilities)	*easy*	*difficult*	*difficult*
Flood Mitigation (need for mitigating flooding and floodplain impacts)	*necessary*	*n/a*	*n/a*

Recommendation

- The Vernonia Oregon Solutions Team considered all of the information and recommends to the School Board that a location within the Boot Site is the most preferred of the three sites.
- This recommendation is subject to change based on public input, land use approvals, land acquisition, and other factors.
- Some reasons why the Team thinks this is a reasonable recommendation:

Existing School Site

- Existing site is not preferred, primarily because of safety reasons.
  - Buildings can be flood-proofed, but schools will be an island in the middle of future flood waters
  - Buildings will not be accessible to parents in a flood
  - Insurance costs are likely to be high
  - Washington Elementary can be flood-proofed and made to meet current seismic codes, but you would still have an old building that is costly to operate and maintain

Northwest Corner Site

- NW Corner Site is not as preferred as the Boot Site:
  - Distance from the city center increases road improvement costs
  - A remote campus setting would result—would not be a "community-centered" campus
  - Steep grade means there is likely less bicycle use and fewer walkers to the new campus and more difficulties in ice and snow
  - An urban growth boundary approval process could be longer and more contentious because of the timber resource lands on a portion of the site

Boot Site

- Boot Site is the preferred site because:
  - It is outside the floodplain—safer than existing site
  - It is closer to the city-center than NW Corner Site—more likely that a community-centered school campus can be created
  - Utility extension and road construction are both easier and less costly than NW Corner site
  - Land use approval is easier and will happen more quickly than NW Corner Site
  - Closest site to existing and proposed residential uses
  - Use of Spencer Park as part of campus provides benefits

Next Steps

- March 2 – Town Hall meeting to explain recommendation and hear comments from community members and parents
- March 12 – School Board meeting where Oregon Solutions recommendation will be debated
- April – begin land use process for urban growth boundary adjustment

Thank You

- Thank you for your help and support!

Oregon
Theodore R. Kulongoski, Governor

Department of Land Conservation and Development
635 Capitol Street NE, Suite 150
Salem, Oregon 97301-2524
Phone: (503) 373-0050
First Floor/Coastal Fax: (503) 378-6033
Second Floor/Director's Office Fax: (503) 378-5518
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Web Address: http://www.oregon.gov/LCD

August 7, 2009

Deborah Jacob, Planner
Columbia County
230 Strand St.
St. Helens, OR 97051

SUBJECT: DLCD Columbia Co. PAPA file # 005-09 / Columbia Co. file # PA 09-02
Reference DLCD Vernonia PAPA file #003-09

Dear Deborah:

Thank you for the opportunity to comment on Vernonia's post-acknowledgement plan amendment (PAPA) proposal to expand the city's Urban Growth Boundary (UGB) by approximately 22 acres to accommodate a relocated K–12 campus. Based on the information provided, we have some suggestions for supplementing the city's findings. The department offers these comments to help the community successfully complete rebuilding its public schools that were extensively damaged by flooding in December 2007. Please enter these comments into the record for the planning commission hearing and subsequent hearings on the matter.

20-year Population Forecast

The department understands that Columbia County has scheduled a final hearing for August 18 to adopt a new coordinated 20-year population forecast for cities and the county's unincorporated area into the county's comprehensive plan. We also understand that the city and county agree on the county's proposed forecast for Vernonia's urban area, which includes current and future city residents and current and future residents outside the city limits but within the UGB. Prior to the county's final adoption of its coordinated population forecast, the city may begin hearings to consider the proposed UGB amendment. In order to comply with relevant statutes and rules, however, the city should adopt the UGB amendment after the county's final adoption of the population forecast.

Using the Population Forecast to Demonstrate Need

Goal 14: Urbanization includes two land need criteria:

(1) Demonstrated need to accommodate long range urban population *consistent with a 20-year population forecast* coordinated with affected local governments; *and*
(2) Demonstrated need for housing, employment opportunities, livability or such uses as public facilities, streets and roads, *schools*, parks or open space, or any combination of the need categories in this subsection (2)."

The department recommends the city include findings that explain why existing school facilities cannot be rebuilt in their current location in the 100-year flood plain, thereby demonstrating a need for new school facilities in a different location. This explanation should be adequately addressed in the proposed findings. The explanation could include factors such as the difficulty

of financing and insuring improvements at this location following the two flood events, concerns regarding public safety, and desire to anchor new development in the eastern half of the community out of the floodplain. DLCD remains committed to help the city develop these suggested findings in a manner that will demonstrate compliance with relevant planning goals and rules.

Boundary Location Analysis

The department suggests that supplemental findings for potential locations for new school facilities, both inside and outside the existing UGB, are needed to support the city's decision to add the "boot site" to its UGB. The proposed UGB amendment mentions only one site within the existing UGB (the existing site) and considers only two sites outside the UGB (the NW Corner Site and the Boot Site). We understand that the city completed an extensive comparative analysis of additional sites within a designated study area, but did not include these data and findings in the proposed UGB plan amendment. Inclusion of those earlier findings will strengthen the city's case for expanding the current UGB to accommodate a new school campus site.[1]

Transportation Planning Rule

The department believes that the Transportation Planning Rule (TPR) should be addressed at this time. In order for the Vernonia School District to begin construction as soon as possible, the city will need to annex and rezone the property now, which will require appropriate transportation planning. The findings presented would defer consideration of transportation considerations until a later date, which would be appropriate if the area is to retain rural county zoning.

The department encourages the city to address transportation issues as soon as possible to select the alignment(s) that will be used for motor vehicle access and select the level of improvement that will be constructed along the access route. In addition, the city should consider ways to make it easier to walk or bicycle to the new school site. This could include paths connecting surrounding neighborhoods and other improvements along existing streets. The city should also address connections to the newly approved subdivision north of the school site.

If the city elects to defer addressing transportation issues to a later stage, the department believes that the city would only defer those decisions to an additional refinement planning effort. Please see the recommended general findings needed to defer transportation decisions to a refinement plan, along with specific suggestions for how those could be addressed below:

- Explain what is known about the issue, including the need, the function, and the general location

[1] When deciding how to supplement the findings, keep in mind that the Goal 14 Boundary Location factors are applied only if there is more land in a priority category than is needed for the planning period. The Goal 14 "factors" are used to narrow down and select the most suitable parcels that meet the amount of land need (see OAR 660-024-006). They are applied only to parcels within the same land priority category. The current findings don't indicate whether there is less, the same amount, or more exception land than the city needs for new school facilities. If exception parcels don't meet the need, and the city looks at resource land, we recommend including a soils capability map with the boundary lines of all suitable parcels that were analyzed for potential addition to the UGB.

Suggestion: The existing transportation system serving the boot site is not adequate to provide access to a school campus. There is a need for motor vehicle access on a street classified as a collector. The Siting Comparison Report identifies three potential alignments. Based on the information in that report, the northern option is rejected, leaving the general access location on either Missouri or Texas streets. There is also a need for improved accessibility for pedestrians and bicycles along existing streets and/or on new paths.

- Explain what is not yet known and why it is not yet known

Suggestion: The choice between Missouri and Texas is not being made at this time because additional public involvement and design work is needed for a more detailed evaluation of these alternatives. The appropriate cross section for the improved street is not yet selected for the same reason. The best routes for pedestrian and bicycle access are not yet selected.

- Findings that the unresolved issues do not invalidate the decision that is being made

Suggestion: The Comparison Report establishes that it is possible to provide adequate access to the selected school site at a cost that is similar to other sites. This is enough to support the decision to select this site and expand the UGB. There are no unresolved issues that would make it impossible to utilize this site or to challenge the siting and UGB decisions on that basis.

- Describe how and when the issue will be resolved.

Suggestion: The decision on street alignment, cross section standards, and pedestrian improvements will be made in conjunction with an upcoming city-initiated Transportation System Plan (TSP) update. These decisions will be made prior to or concurrent with site plan approval of the new school campus facilities. Construction of necessary street improvements will be completed before the opening of new school campus facilities.

Thank you again for the opportunity to comment on this post-acknowledgment plan amendment to expand the city's UGB. The department is committed to assisting the city in addressing the concerns noted in this letter. Please contact me by phone at (503) 373-0050 ext. 254 or by e-mail at gary.fish@state.or.us if you have any questions.

Yours truly,

Gary Fish

Gary Fish
Regional Representative

cc: *Darren Nichols, Gloria Gardiner, Matt Crall (DLCD e-mail only), DLCD files*
Jim Johnson-City of Vernonia (e-mail); Deborah Jacob, Columbia County (e-mail)

City of Vernonia, Oregon
UGB Expansion

SUPPLEMENTAL FINDINGS

September 3, 2009

To: The Vernonia City Council
The Columbia County Board of Commissioners

From: Carole Connell, AICP
Vernonia City Planner

Subject: Additional findings to support the City of Vernonia's request to expand the Vernonia Urban Growth Boundary (UGB) by an estimated 22 acres for the purpose of constructing a new public school complex for Vernonia School District #47J.

- City File # PA 09-02
- County File # PA 09-02

A. Introduction

Prior to the initial hearing on this request, a letter was received from Mr. Gary Fish, Regional Representative, Department of Land Conservation and Development (DLCD), dated August 7, 2009. Mr. Fish identified the need for additional findings to satisfy city and county coordinated population policy, the boundary location analysis, and to better address the state Transportation Planning Rule. The DLCD believes the issues have not been adequately addressed in the form of findings to support an urban growth boundary amendment.

This report supplements the original application, narrative, exhibits and maps. In addition, since the initial public notice on June 24, 2009, issuance of the City Staff Report on August 6, 2009, and the County Staff Report on August 7, 2009, the following actions have occurred on the subject UGB amendment:

1. August 13, 2009: Vernonia Planning Commission public hearing and recommendation for approval.
2. August 17, 2009: Columbia County Planning Commission public hearing and recommendation for approval.
3. August 26, 2009: Columbia County BOCC public hearing tentatively adopting amendments to update population projections for the County and

incorporated cities.

B. Additional Exhibits

In addition to the original submittal and this report, the following additional exhibits shall be included in the record at the Vernonia City Council hearing on September 8, 2009:

1. Columbia County Plan Text Amendment application #TA 09-04 amending portions of the County Plan to include an updated population projection for the county and the incorporated cities; notice for same dated July 28, 2009; Minutes of August 26, 2009 BOCC hearing tentatively adopting the population projection.
2. Columbia County Land Development Services Staff Report for the subject Vernonia UGB amendment (File #PA 09-02) to the Columbia County Planning Commission and BOCC dated August 17, 2009; Minutes of the August 17, 2009 Columbia County Planning Commission hearing on subject UGB Amendment and subsequent recommendation to BOCC for approval.
3. Comparative Assessment of Transportation Needs Report, Kittleson & Associates, May 2008.
4. Nehalem View Subdivision Transportation Impact Study, Lancaster Engineering, May 2008.
5. Vernonia Transportation Growth Management (TGM) Grant Application Form, scope and products to include a Safe Routes to Schools Plan.
6. Minutes of the August 13, 2009 Vernonia Planning Commission public hearing and decision recommending City Council approval of the subject UGB amendment.
7. Vernonia School District Site Analysis and Map for K-12 Campus, February 28, 2008

C. Additional Findings in Support of the Proposed UGB Expansion

1. Population Projection

OAR 660-024-0030 requires counties to maintain a 20-year population forecast for the county and its incorporated cities, to be included in their Comprehensive Plan. The County prepared the projections with the Portland State University Population Research Center for the years 2010 – 2030. The report was prepared in February 2009, and the City and County have agreed on the methodology and projections. The County tentatively adopted the report and projections on August 26, 2009. DLCD stated that the City should not adopt the subject UGB amendment until after the county's final adoption of

the forecast.

FINDINGS: The City finds that the Columbia County tentatively adopted the coordinated population projection for Vernonia on August 26, 2009. The ordinance is being prepared for final readings by the BOCC. Final readings are anticipated in September 2009. Therefore, the City is proceeding with the subject UGB amendment, with the intent to not officially adopt the amendment until after the County has completed their ordinance adoption of the population projection.

The City further finds that this is the appropriate time to also adopt the coordinated population projection for Vernonia for the planning period 2010 – 2030. City Council held a work session and had no objections to the population projection methodology and figures generated by the County (File # TA 09-04). Therefore, as required by state statute, Columbia County and the City of Vernonia have an updated coordinated population projection for the City for the 2010 – 2030 planning period, in the final stage of adoption.

2. Demonstrated Need and Boundary Location Analysis

DLCD requested additional findings explaining the full search for sites inside the City and UGB. They also asked for findings of why the school facilities cannot be rebuilt in their current location in the 100-year flood plain, thereby demonstrating a need for new school facilities in a different location. The City provides the following additional findings.

a. Boundary location analysis: Representatives from the School District, Dull Olsen Weeks Architects (DOWA), and the City performed the initial analysis of all possible sites inside and outside the City and the UGB. They prepared a list of site criteria, and a matrix rating system for five possible sites. See exhibit *Vernonia School District Site Analysis for K-12 Campus, February 2008.*

(1). Specified School Site Criteria: Their analysis was based on certain criteria related to site size, topography, floodplain, transportation access, zoning, wetlands and availability of services. This coincides with OAR 660-024-0060(5) whereby:

If a local government has specified characteristics such as parcel size, topography, or proximity that are necessary for land to be suitable for an identified need, the local government may limit its consideration to land that has the specified characteristics when it conducts the boundary location alternatives analysis and applies ORS 197.298.

The initial search found that the primary constraints on land inside the City and UGB were site size, floodplain and steep slopes. There are very few sites in the UGB that are 30– 40 acres in size and not constrained by flood plain, wetlands, or slopes of 10% or less. See Map B Natural Constraints in the narrative.

Of the five initial sites, a portion of Site C is in the City limits and it became the NW Corner site that was retained as a possibility and was subsequently studied in depth. Site A is inside the UGB but it was eliminated because it was brought into the UGB in the past exclusively for industrial use, because it is not centrally located and walking and bicycle access would be difficult. Further, in the event of a flood, the school would be difficult to access because of the extensive flood plain between the site and existing neighborhoods. Site E was eliminated due to its lack of proximity to the UGB, potential wetlands, steep topography and difficult public utility extension issues.

The initial analysis left three possible sites based on the site criteria: the NW Corner, the Boot and the existing school sites. These became the three sites that the Oregon Solutions Team examined in depth, as found in the original application narrative and exhibits.

(Also see the Columbia County Staff Report dated August 7, 2009 which addresses the OAR 660-024-0040 Land Need requirements.)

(2). Soils: The City finds the soils type on the Boot site and the NW Corner site are Class IV soil, which are not prime agricultural soil.

(3). ORS 197.298 Priority of Land within the UGB:

(a). Urban Reserves: The City finds there are no lands identified as Urban Reserves adjoining the Vernonia UGB.

(b). Exception areas: The City finds the Boot site is classified as an Exception Area and is zoned by the County Rural Residential RR-5. The NW Corner site is not an exception area and is zoned Primary Forest. The Boot site meets the second priority land.

Two other Exception areas near but not adjacent to the UGB include the Lone Pine Estates development, a residential mobile home park on rural residential size lots in the flood plain south of the Vernonia UGB, and the Stoney Point Road area north of the UGB where there are small plated lots in addition to heavily forested areas with steep slopes. These latter two sites were never considered because they do not meet the size requirement

and have topographic constraints.

b Existing site: With direction from the Oregon Solutions and Technical Advisory committees, the Consultant Team prepared the *School Siting Comparison Report,* to study the three potential sites. One of the three sites that was studied in detail was the existing school campus site on Bridge Street. The City and the Vernonia School Board decided the existing site is undesirable and are against rebuilding in the current location because:

(1). The existing site is in the 100-year flood plain and has experienced two 100-year floods in the last 11 years.
(2). The annual flood insurance premium for the school complex is estimated to be $250,000 at a minimum.
(3). A re-built campus on the existing site will be an inaccessible island during future floods, thereby creating safety concerns and disrupting school schedules.
(4). The City and School Board desire to locate a new school site out of the 100-year flood plain and off of a state highway.
(5) Insurance and FEMA funds are not enough to pay the total cost of repairing, replacing and meeting code requirements for the remaining flood damaged school structures.

3. Transportation Planning Rule OAR

The DLCD believes the state Transportation Planning Rule analysis of the Boot site should be addressed now as a part of the UGB amendment. Alternatively, if the City chooses to defer transportation decisions to a later permitting process, additional findings to that effect should be provided now. As suggested by DLCD staff, the following findings address the City's intent to address the TPR prior to a future land use approval required to construct the school complex.

FINDINGS: The City chooses to defer the TPR analysis of the preferred Boot Site for the following reasons:

a. *The Vernonia School Siting Comparison Report* includes a detailed *Comparative Assessment of Transportation Needs*, Kittleson & Associates, February 13, 2009. The transportation report provides a comprehensive study of access to the NW Corner site and the Boot site. The report provides a thorough analysis of current access deficiencies to the Boot site and measures that must be taken to assure the site has safe, efficient and cost effective transportation access. The report identifies the need for motor vehicle access on a street classified as a collector, and identifies three potential alignments. There is also a need for improved accessibility for pedestrians and bicycles to the

future school site, and some of those facilities are currently in place to serve the Boot site as described in the report.

The City also finds that the *Traffic Impact Study for the Nehalem View Subdivision,* May 2008, a potential residential development that adjoins the Boot site, provides additional relevant and current traffic count, level of service and other safety data that can be utilized in the school site transportation analysis.

The City finds that a significant portion of the transportation analysis for the Boot site has been completed and clearly indicates that safe and adequate access can be made available to the Boot site. At the time of the required and detailed site development and conditional use permit application reviews, transportation impact standards and review criteria are in the Title 9 Vernonia Land Use and Development Code, Chapters 9.01.06-10 Conditional Uses and 9.01.10-70 Site Design, which must be adequately addressed before a school can be approved and built.

b. The City finds that the choice between improving either Missouri or Texas street, as discussed in the Kittlelson Transportation Assessment Report, to serve the school cannot be made at this time. After approval of the UGB amendment, the City and the School District will be able to process with additional site development planning, refined cost estimates and public involvement to assure a thorough evaluation of the alternative street accesses is obtained and utilized to make the appropriate choice.

c. The City finds that there are no significant unresolved transportation issues that would later invalidate the UGB amendment approval when the detailed site planning and conditional use reviews are made. There is current, professional and defensible transportation data available now to assure that safe and adequate access can be made available to the Boot site, assuming specific improvement measures. In addition to required conditional use and site planning permits, the City has been awarded a TGM grant to update the Vernonia TSP. An update task includes analysis and policies to provide access to a future school site. Therefore, final decisions on street alignment, cross-section standards, pedestrian and bicycle improvements will be made in accordance with the "Safe Routes to Schools" standards as described in the TGM scope of work.

D. CONCLUSION

The City finds these supplementary findings and exhibits provide the necessary additional support to approve the proposed Vernonia Urban Growth Boundary amendment to add 22 acres of the Boot site into the UGB..

September 17, 2009 DRAFT 1

To: Vernonia City Council
From: Carole Connell, City Planner
Re: UGB Amendment for the School site

In anticipation of the second reading of Ordinance # 862 on September 21, 2009, as requested by Council on September 8, 2009, staff provides the following findings in response to state administrative rules for expanding urban growth boundaries.

OAR 660-024-0050

(6) When land is added to the UGB, the local government must assign appropriate urban plan designations to the added land, consistent with the need determination. The local government must also apply appropriate zoning to the added land consistent with the plan designation or maintain the land as urbanizable land until the land is rezoned for the planned urban uses, either by retaining the zoning that was assigned prior to inclusion in the boundary or by applying other interim zoning that maintains the land's potential for the planned urban development. The requirements of ORS 197.296 regarding planning and zoning also apply when local governments specified in that statute add land to the UGB.

Additional Findings:

1. The City and the County have determined in findings submitted to date that there is a "need" to expand the Vernonia UGB solely for a new school complex. The County proposes to apply the appropriate Urban Growth Boundary designation to the subject 22 acres, indicating the land is urbanizable. They also propose to zone the subject site Community Service Institutional CSI so that the site will be utilized for the school complex.
2. Consistent with the stated "need" and the County's proposed urbanizable plan designation for the subject site, the City proposes to designate the site Institutional Public IP. Upon future annexation, the City will propose to zone the subject site IP, consistent with the Plan designation applied now.
3. The City finds that the requirements of ORS 197.296 stated in OAR 660-024-0050 above, are not applicable to Vernonia because the provisions apply to jurisdictions with a population greater than 25,000; to a jurisdiction that is in periodic or legislative review of its Comprehensive Plan, and because DLCD has not established specific factors for urban growth in Vernonia.

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
610 SW Alder Street, Suite 700, Portland, OR 97205 · 503.228.5230 · 503.273.8169

TECHNICAL MEMORANDUM

Project #: 9553.0

Date: February 13, 2009

To: Matthew Arnold
SERA Architects

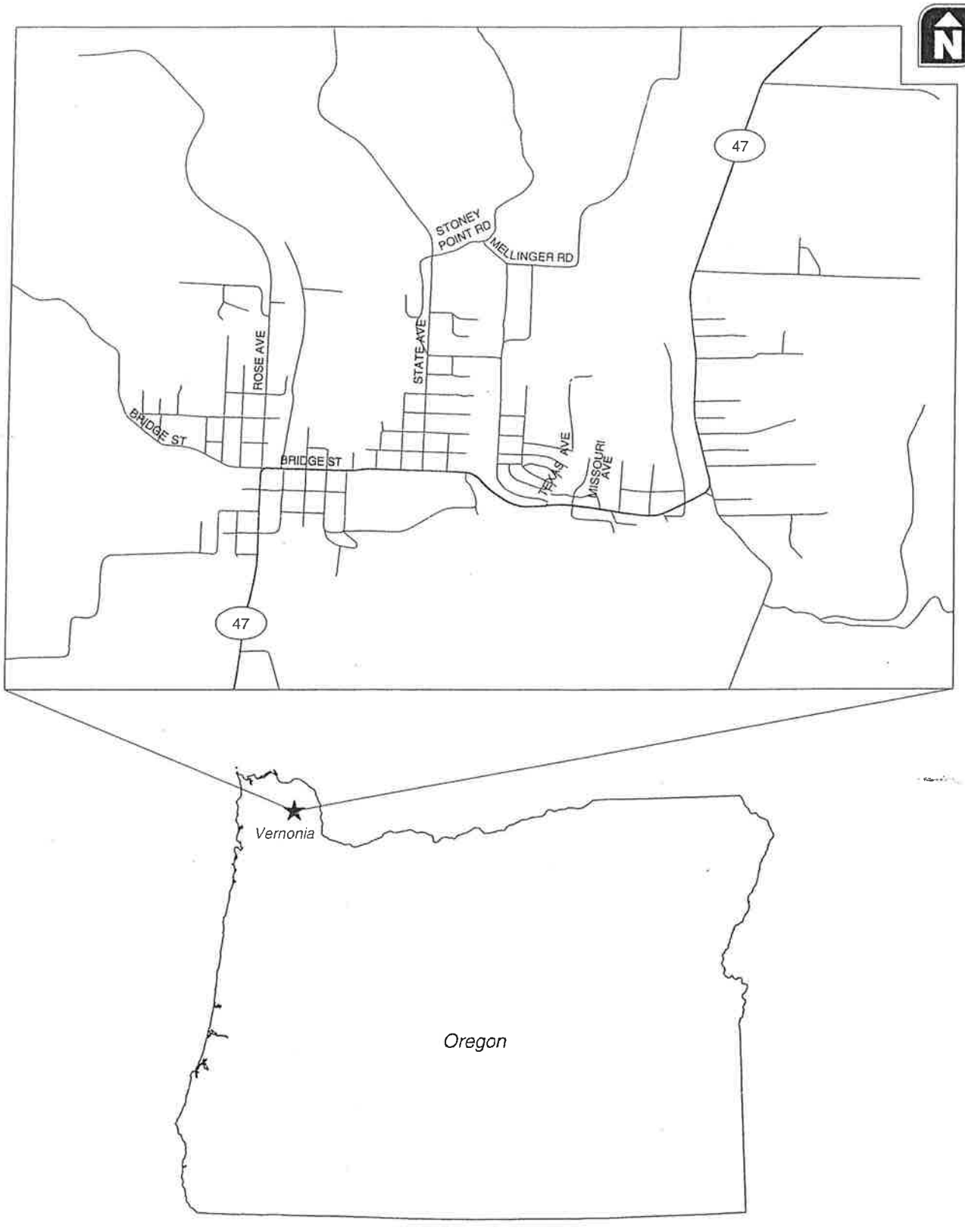
From: Dan Seeman, Alex Kiheri, Julia Kuhn
Project: Vernonia School Siting Study
Subject: Comparative Assessment of Transportation Needs

This report analyzes the transportation infrastructure needs of alternative sites for the Vernonia K-12 school campus. This project has been conducted for the TGM Program to aid in determining the next steps to rebuild Vernonia schools damaged in the 2007 floods.

Introduction

The City of Vernonia has experienced a major flood event twice in the last ten years. With the school district's main campus located in the city's floodplain, school facilities have experienced heavy damage in both of the last two flood events. The most recent event in 2007 led to the demolition of the Vernonia High School. Figure 1 shows the site vicinity and general street system in Vernonia.

In response to this flood, the feasibility of relocating the school outside of the floodplain is being investigated. Two sites outside of the floodplain have been considered. Figure 2 shows the location of the existing site and the two alternative sites. The alternative sites have been labeled the Northwest Corner Site, due to its relative location in the city, and the Boot Site, due to its location in the boot shaped portion of land outside of the city's urban growth boundary.



SITE VICINITY MAP
VERNONIA, OREGON

FIGURE 1

KITTELSON & ASSOCIATES, INC.
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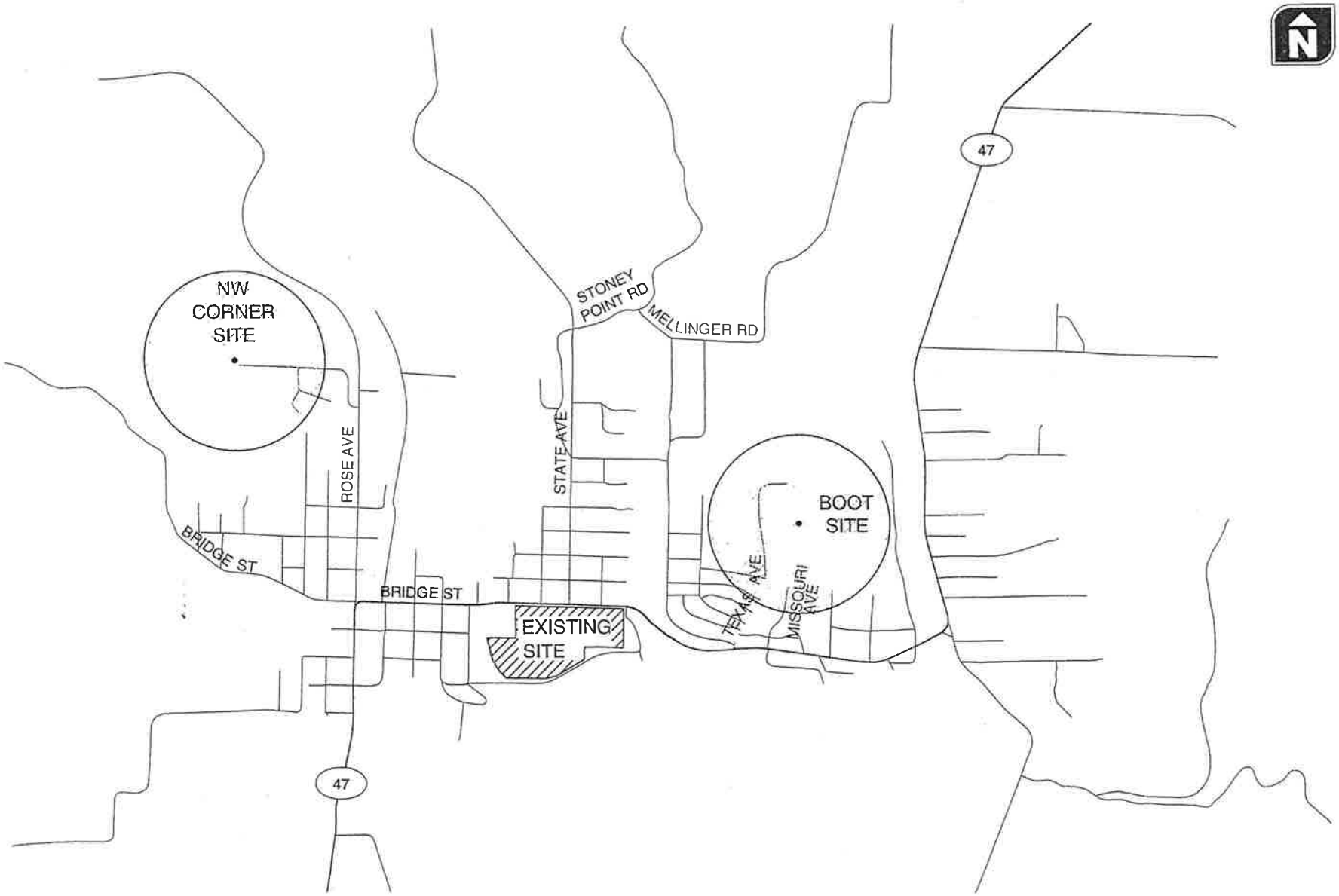


ALTERNATIVE SITE LOCATIONS
VERNONIA, OREGON

FIGURE 2

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING

Northwest Corner Site

SITE DESCRIPTION

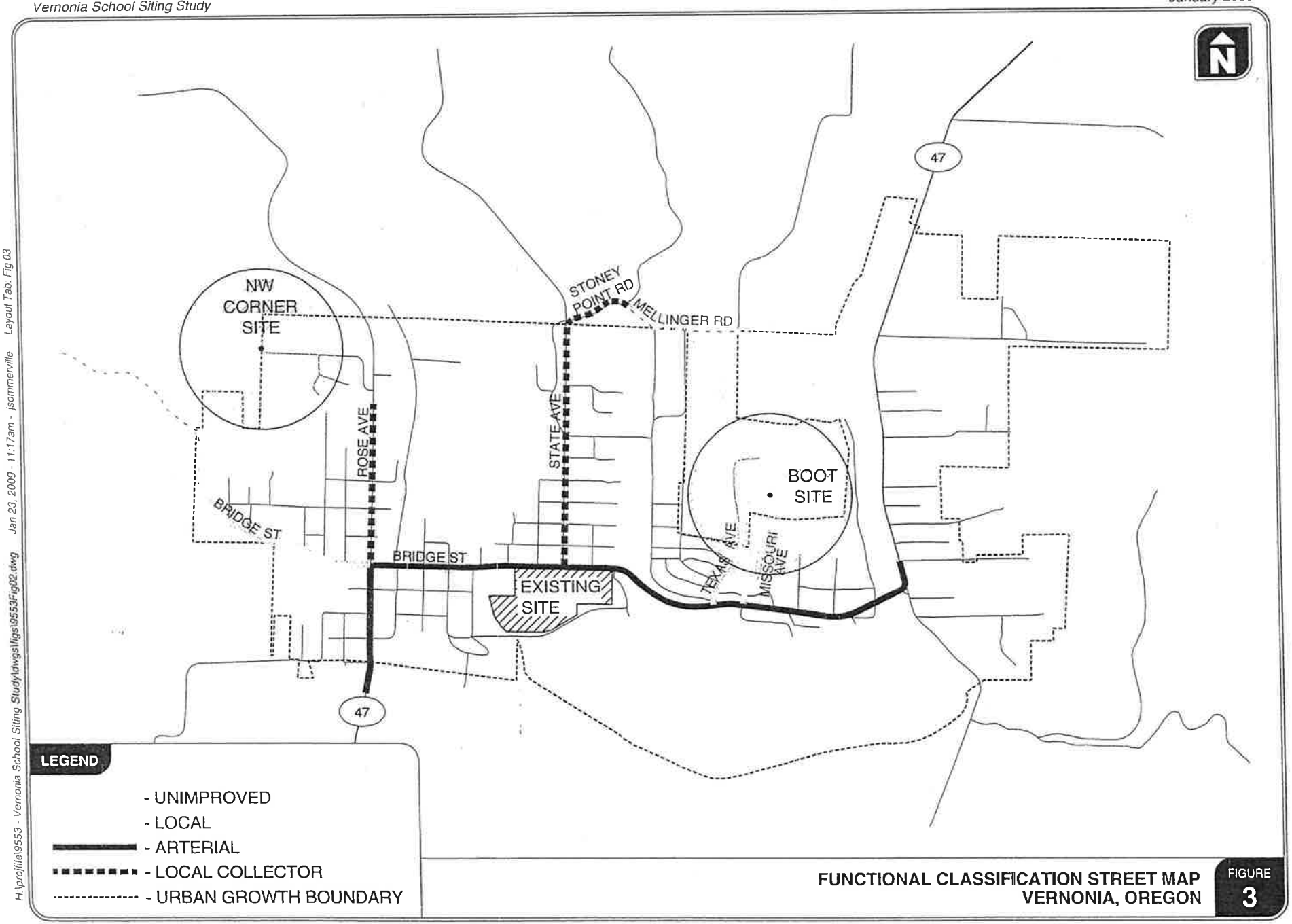
The proposed Northwest Corner Site is located adjacent to the city's northwest corner. The Northwest Corner Site is currently outside of the City of Vernonia's urban growth boundary. Adjacent to this site and inside the city's urban growth boundary is a cemetery and single family housing. The site sits atop a hill which is currently connected to the City of Vernonia by a dirt road (Reservoir Road), which provides access to a water reservoir. The site's terrain is hilly with a portion of the site occupied by dense forest.

SITE ACCESS

Two site access options have been considered for providing multi-modal access to this site for students, faculty, and staff. Option 1: *Bridge Street Widening* utilizes Bridge Street to provide primary access to the site. Option 2: *Rose Avenue Extension* will route trips north on Rose Avenue and then west along a newly constructed road into the school site. These options are evaluated with respect to how they accommodate each transportation mode. An existing street inventory for this site is provided in Table 1 below. Figure 3 shows the functional classifications of the streets in Vernonia related to this study. Figure 4 shows the options evaluated for access to the Northwest Corner Site.

Table 1 Northwest Corner Site Existing Street Inventory

Road	Functional Classification	Observed Width (ft.)	Parking	Planter Strip	Bike lane	Sidewalk
Rose Avenue	Rural Collector	20	N	N	N	N
Bridge Street (east of Rose Avenue and west of N. Mist Drive)	Arterial	40	Y	Y	N	Y
Bridge Street (west of Rose Avenue)	Rural Local	20	N	N	N	N



FUNCTIONAL CLASSIFICATION STREET MAP
VERNONIA, OREGON

FIGURE 3

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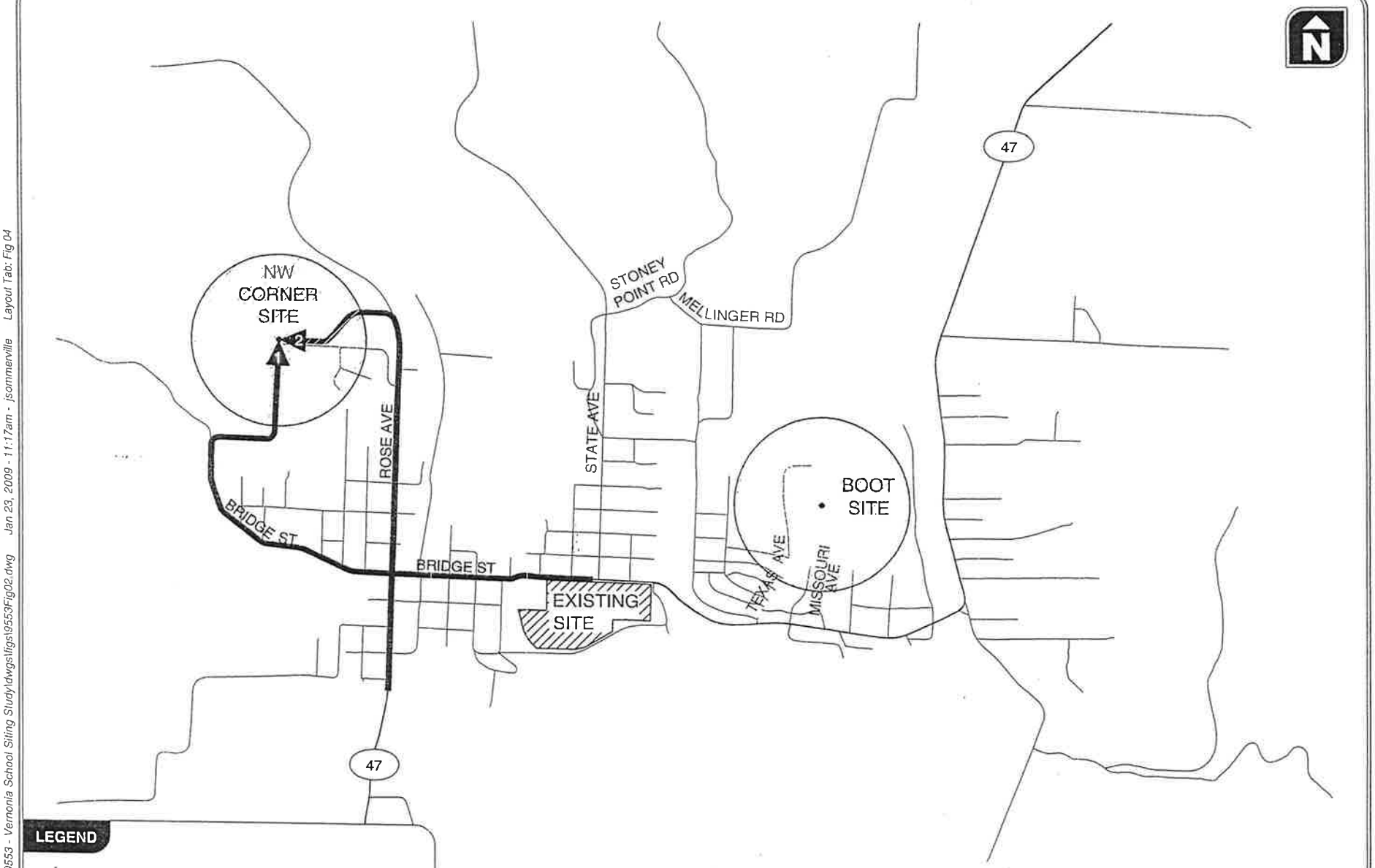

LEGEND

1 - BRIDGE STREET WIDENING OPTION

2 - ROSE AVENUE EXTENSION OPTION

ACCESS OPTIONS TO NW CORNER SITE
VERNONIA, OREGON

FIGURE 4

KITTELSON & ASSOCIATES, INC.
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Vehicular Access

The *Bridge Street Widening Option* will use Bridge Street to provide primary vehicular access. Currently this street is classified in the Vernonia Transportation System Plan (TSP) as a *local* street. This designation is inappropriate to facilitate primary school access, and as a primary school access Bridge Street should be reclassified to an *urban collector*. The field-measured width of Bridge Street west of Rose Avenue is between 18-20 feet. Currently, there are no shoulders, bike lanes or sidewalks along this stretch of road. Bridge Street is relatively steep, with grades of 6-10 percent. According to the 1999 Vernonia TSP, Bridge Street carries approximately 50-60 p.m. peak hour trips, equating to average daily two-way volume of 500-600 vehicles. In order to accommodate a school site with primary access, Bridge Street should be improved to include sidewalks and shoulder bike lanes. The existing 19-20 foot width is insufficient to provide bike lanes – hence, the street needs to be widened to collector standards to facilitate pedestrians and bicycles.

From the northwestern terminus of Bridge Street, a road will have to be constructed based on the final location of the school site. If the site is placed further up the hill (west of the cemetery), the road would encounter a significant grade (6-8 percent). Existing dirt roads currently allow for access to property north of the cemetery and further northwest on the hill near the reservoir.

In the *Rose Avenue Extension Option*, school-related trips will travel north along Rose Avenue and then head west along a newly constructed road that would provide access into the site. Rose Avenue north of Bridge Street does not have shoulders, bike lanes, or sidewalks. Rose Avenue is currently classified as a *collector* in the Vernonia TSP. Rose Avenue primarily services adjacent residences; in addition, Rose Avenue provides access to areas north of Vernonia via Cleveland Road. In the event that Rose Avenue serves as the primary access to the school, it should be reconstructed to *urban collector* standards, with sidewalks and bike lanes, to provide multi-modal access to the school. In addition, the new east-west road connecting to the school site should be constructed to *urban collector* standards.

Secondary access can be provided to this site by an unimproved gravel road that would only be used in times of emergency or maintenance. This site has a number of existing unimproved roads in the area that could be linked to and then used for secondary access. A planning level estimate for a gravel road is roughly $7.50 a square foot. This equates to ¾ mile of gravel road costing $600,000 to construct. This assumes that no excessive cut-and-fill will be required, there is limited or no cost associated with clearing trees or other vegetation, and that only the most basic 20-foot unimproved road type will be used. Since this site is near other gravel roads, it will likely be feasible to simply connect the site to an existing road with a smaller segment of unimproved road. The length of road required is based on the distance it would take to extend existing streets to an imaginary "centroid" of the Northwest Corner site. In the event that the actual location of the school site is located closer to existing roads, the eventual cost associated with a second access may be significantly lower.

Under both options, the stop-controlled intersection of Rose Avenue and Bridge Street will experience higher traffic volumes. Based on an evaluation of this intersection in the 1999 Vernonia TSP, with typical sustained growth (which, in retrospect, Vernonia has not

experienced), this intersection is forecasted to fail by 2018, thereby requiring signalization. A more recent evaluation of this intersection conducted as a part of the school site selection study reveals that in the near-term future this intersection can accommodate additional school traffic within ODOT minimum mobility standards without signalization.

Based on a traffic operations analysis performed for this site evaluation *(see Appendix 'A')*, the new school site will generate about 450 a.m. peak hour and 145 p.m. peak hour vehicle trips, based on trip rates obtained in *Trip Generation: Seventh Edition* (published by the Institute of Transportation Engineers, 2003). Of these vehicle trips, an estimated 20 will be made by school buses, and the remaining will be via private automobile. This compares with an estimated 290 a.m. peak and 90 p.m. peak hour vehicle trips that are generated at the existing site today. Examination of results from the Travel Mode Survey corroborated these trip generation estimates.

Pedestrian / Bicycle Access

The Northwest Corner Site currently does not offer any pedestrian or bicycle-only transportation links. For both options, current pedestrian traffic would either have to walk along the side of the road or on adjacent property. In order to provide this connectivity, it is recommended for both the Bridge Street and Rose Avenue options that a sidewalk be built, at least on one side and preferably on both sides of these streets. To ensure bike safety and connectivity, it is recommended that a bike lane be constructed for both directions of bicycle travel. It is possible that pedestrian and bicycle access could be provided on alternative streets including Roseview, Cedar, Clatsop, 3rd or 4th.

Due to the site's remoteness and unfavorable grade, it is expected even with proper facilities to promote pedestrian and bicycle modes, trips via these alternative modes will be less to this site than to the existing site. Thus, increased trips will come to the site via vehicle, either from increased parent drop-off, students driving, or increased bus service. From the Travel Mode Survey (*see Appendix 'B'*), the current site has 150 students that walk to the campus. Given that the planned enrollment at the new site is 52 percent greater than at the current school campus (1000/660=1.52), student walkers to the existing site would increase to an estimated 230. A decrease in walking and biking trips would likely occur even with proper facilities due to the remote location of the Northwest Corner Site, although that decrease can be minimized by providing the necessary sidewalks and bike lanes. *Appendix 'C" shows the walking and bicycle access to each alternate site.*

SITE ACCESSIBILITY

Due to the relative remote location of the Northwest Corner Site, it can be expected that the transportation requirements will shift to favoring more busing, students driving, and parent drop-off. This is due to the site being within reasonable walking distance[1] of fewer students than

[1] A reasonable walking distance to the site has been defined as part of this analysis as being approximately one mile. Beyond this distance, the travel mode survey results indicate that virtually all students use a transportation mode to school other than walking.

the existing site. Table 2 below details the number of students that will be displaced and the mode they can be expected to use.

Table 2 Northwest Corner Site Walking Volumes

Site	Students Living Within One Mile	Students That Currently Walk to The Site	Percentage of Students Within 1 Mile Currently Walking	Expected Number of Walkers	Displaced Students New Mode		
					Total	Car	Bus
Existing	189	156	83%				
Northwest Corner Site	110			91[1]	65[2]	49[3]	16[3]

1 No. of Expected Walkers = % Students within 1 mi. that currently walk multiplied by Students within one mile of Northwest Corner Site
2 Displaced Students New Mode = Students that Currently Walk to Current Site minus Expected No. of Walkers
3 Displaced students by mode was determined based on the current mode split (percentage) multiplied by the number of displaced students

Table 2 shows the displaced students, and Table 3 below shows the approximate volumes of students into the site by mode based on data collected from the travel mode survey.

Table 3 Northwest Corner Site Travel Volumes, By Mode[1]

Location	Number of Students	Transportation Mode			
		Bus	Car	Walk	Bike
Current Enrollment					
Northwest Corner Site[2]	660[4]	205	273	91	12
Existing[3]	*660*[4]	*189*	*224*	*156*	*12*
Planned Enrollment					
Northwest Corner Site	***1000***	***310***	***415***	***140***	***20***

1. Reported as two-way person trips, in which a typical student arrives in the a.m. and leaves in the p.m.
2. Current number of students traveling to the Northwest Corner Site campus by mode if school existing today there
3. Number of students that travel to the existing campus today by mode
4. Based on an expected absentee rate of about 8-10 percent combined with special needs students that travel off campus, the number of students traveling to the campus on an average weekday is about 575 of the 660 projected enrollment.

As Table 3 shows, the Northwest Corner Site will have an increased number of students arriving by bus and car versus the existing site. An estimated 415 students will arrive via car, and about 310 will come to school via bus, considerably higher than at the existing school site.

Busing Requirements

Based on the analysis shown in Table 3, the Northwest Corner Site would have an estimated 16 more bussed students per day than the existing site. In addition, the Northwest Corner Site

requires slightly greater travel distance. Thus, it is reasonable to conclude that the cost of busing students may be higher at the Northwest Corner Site than at the existing site. However, it can reasonably be concluded that there will not be a need for more buses to serve the demand. Thus, at the conceptual level that this analysis is being conducted, these differences are not significant.

TRANSPORTATION IMPROVEMENTS

Roads

In order to accommodate the new traffic, road improvements will be required for both the *Bridge Street Widening* and the *Rose Avenue Extension* options. Table 4 shows the two options for road types to the proposed Northwest Corner Site, based on design standards in the Vernonia Transportation System Plan. Figure 5 shows the cross-sections of the design standards as detailed in the Vernonia TSP.

Table 4 Vernonia Street Design Standards

Street Type	Travel Lanes	Parking	Bikeways	Total Pavement	Planting Strips	Sidewalks	Right Of Way
Urban Collector	2-10'	8' one side	5' both sides	38'	5' both sides	6' both sides	62'
Urban Local Minimum Retrofit	18' (unstriped)	No	No	18'	No	5' one side	25'

The *urban collector* is the most appropriate street standard for Bridge Street, as it provides good connectivity for all travel modes expected to visit the campus. An alternate street standard may be a *local street minimum retrofit* which is the option with the least amount of connectivity for both pedestrians and cyclists. The *local street minimum retrofit* standard includes two nine-foot travel lanes (unstriped), a sidewalk on one side, and no bike lanes. This option would not adequately accommodate non-vehicular travel modes, and may result in safety hazards. It is recommended that Bridge Street be constructed to an *urban collector* standard in the event that Bridge Street is used as the primary access to the Northwest Corner Site.

Bridge Street Widening Option

The *Bridge Street Widening Option* will require the existing Bridge Street west of Rose Avenue be improved and then a new road to be built into the school site. This option assumes that approximately 0.75 miles of road will be improved.

Rose Avenue Extension Option

The *Rose Avenue Extension Option* will require the existing Rose Avenue to be improved to urban collector standards and then a new east-west street be built into the school site. This option assumes that approximately 0.90 miles of new street will be constructed.

Table 5 provides a cost estimate for these options.

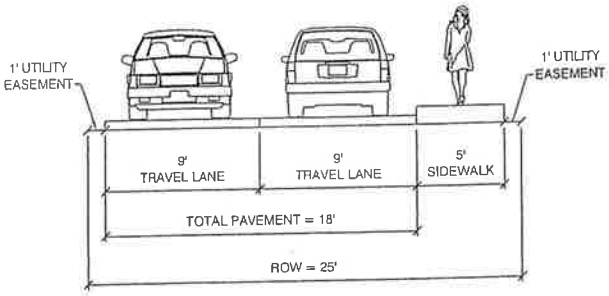
Table 5 Northwest Corner Site Street Improvement Cost

Option	Road Needed (ft)	Construction Cost[1]	
		Urban Collector	Urban Local Minimum Retrofit
Bridge Street Widening Option	3,960	$ 3,742,200	$ 1,752,300
Rose Avenue Extension Option	4,752	$ 4,490,600	$ 2,102,800

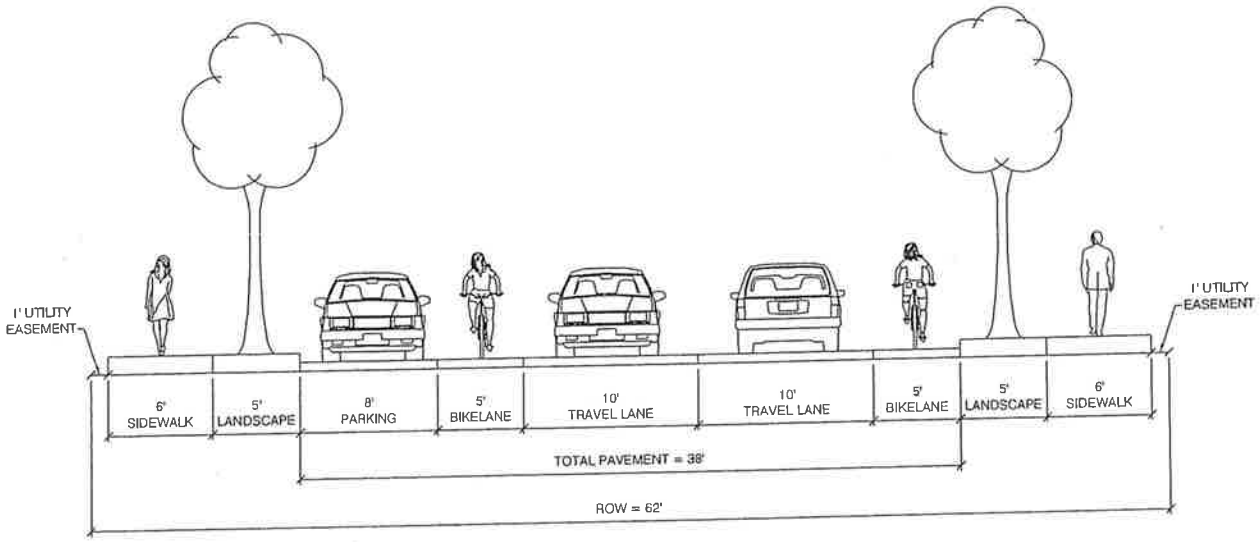
1 Construction cost does not include cost of right-of-way.

Costs are calculated based on the square footage of pavement and sidewalk required. A planning level value of $15.00 per square foot of pavement and $5.00 per square foot of sidewalk was used. Another $7.50 per square foot of pavement and $2.50 per square foot of sidewalk was used to account for removal of existing roadway, clearing, excavation, grading and site preparation.

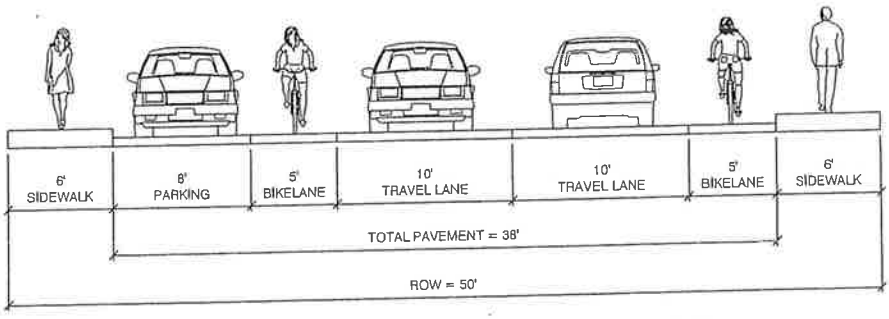
These costs assume that there will not be excessive cut-and-fill or geo-stabilization. Assumed is the cost of removal of existing roads and re-grading. Right-of-way acquisition is covered in a further section of this memo.



LOCAL MINIMUM RETROFIT



URBAN COLLECTOR



MODIFIED URBAN COLLECTOR
(REQUIRES VARIANCE TO STREET STANDARDS)

STREET DESIGN STANDARDS
VERNONIA, OREGON

FIGURE 5

Traffic Signals and Turn Lanes

The intersection of Bridge Street/Rose Avenue was identified in the 1999 Vernonia TSP as failing in a future 2018 condition. At the time of the 1999 TSP, the intersection operated at a Level of Service 'B' and a volume-to-capacity ratio of the minor street approach of 0.12, indicating acceptable performance based on ODOT mobility standards. The failing condition projected in the TSP was based on overly high growth assumptions. For this intersection, projected 2018 traffic volumes are +200% over existing 1999 traffic volumes, amounting to an annual growth factor of about 10%. Since 1999, Vernonia has experienced a decrease in population, and therefore, in retrospect the assumptions used in the TSP were likely overestimated.

If the schools are relocated to the Northwest Corner Site, significant new traffic would be routed through the Bridge Street/Rose Avenue intersection. Based on a preliminary estimate performed for this analysis, it is projected that a traffic signal would not be needed to meet ODOT mobility standards, nor would traffic signal warrants be met. It is reasonable to assume that at some future point this intersection will need to be signalized. Over time, the intersection should be monitored to determine whether a signal is needed or warranted in the future. The estimated cost of signalizing the intersection is approximately $370,000, although based on this analysis this cost should not be borne solely by the school district and this cost has not been included in the transportation cost estimates. *See Appendix A for site-assigned trip methodology and traffic operations analysis worksheets.*

Based on ODOT staff review, there may be the need for additional turn lanes at the Bridge Street/Rose Avenue intersection under either the access options considered. Currently, this intersection has two northbound lanes, including a free right turn lane that allows uncontrolled movements, and a left-through lane that is stop-controlled. The westbound approach has a single lane that allows free-flow movements (left, through, and right) through the intersection uncontrolled. Both the eastbound and westbound approaches have single lanes and are stop-controlled.

Under the *Bridge Street Widening Option*, ODOT staff has indicated that there may be a need to widen the northbound approach, thereby separating the left turns from through movements. If the Northwest Corner Site is selected, detailed turn lane warrant analysis would need to be conducted to confirm this need. In any case, it appears that there is sufficient right-of-way to accommodate this change, and the cost would likely be relatively low (less than $100,000). Thus, due to the uncertainty of need for this improvement and its relatively low cost (compared to the overall transportation costs), its cost has not been included in the cost summary for this alternative.

Under the *Rose Avenue Extension Option*, ODOT staff indicated that there may be the need to widen the westbound approach to facilitate two approach lanes, thereby separating right turns from through-left turn movements. This improvement could likely be accomplished within available right-of-way, and therefore would be relatively low cost (less than $50,000). Thus, due to the uncertainty of need for this improvement and its relatively low cost (compared to the

overall transportation costs), its cost has not been included in the cost summary for this alternative.

Planned Transportation Improvements

The Vernonia Transportation System Plan reviewed three different 2018 Future Conditions alternatives that include certain improvements to City facilities. The recommended alternative was the *OR 47 Alternative*. This alternative recommends making improvements at five locations in the vicinity of the Northwest Corner Site:

- **ST2. Highway47/ Rose Avenue between Maple Street and Bridge Street**—Retrofit this 0.06-mile section to meet urban arterial design standards. *Estimated cost in the Vernonia 1999 TSP: $121,000.*

- **ST9. Rose Avenue between Roseview Heights and the UGB**—Widen and pave Rose Avenue from Roseview Heights to the UGB (0.13 mile). *Estimated cost in the Vernonia 1999 TSP: $56,000.*

- **SF1. Traffic Flow problem and lack of proper channelization at intersection of Bridge Street and Rose Avenue**—Upgrade the intersection and install a fully actuated signal when warranted. *Estimated cost in the Vernonia 1999 TSP: $370,000.*

- **SF4. School delivery 'U' Turns and sight distance at Lincoln School on Bridge Street**—Provide turn-out for temporary parking for dropping off and picking up students, and construct turnaround across Bridge Street from the school. Also, improve signage to identify the school zone. *Estimated cost in the Vernonia 1999 TSP: $8,000.*

- **B12. Provide pedestrian facilities on Rose Avenue from Maple to Roseview Heights**—Construct five-foot sidewalks on both sides of the street for the entire 0.45-mile length of the segment. *Estimated cost in the Vernonia 1999 TSP: $92,000.*

These improvements correspond with the needs of a school campus at the proposed Northwest Corner Site with the exception of the School Delivery 'U' Turn project listed for Lincoln Elementary. Lincoln Elementary was closed and sold by the School District.

ADDITIONAL LAND REQUIRED

The amount of right-of-way required under each access option is depicted in Table 6. Also included is the number of parcels that the street improvement project will impact. The Northwest Corner Site, being in a predominately residential area, impacts a large number of parcels. The calculation of acreage required is based on the need to purchase land in excess of current available right-of-way.

Table 6 Northwest Corner Site Additional Right-of-Way Required

Option	#of Adjacent Parcels	# of Acres of ROW required	
		Urban Collector	Minimum Urban Local Retrofit
Bridge Street Widening Option	34	2.00 acres	0.75 acres
Rose Avenue Extension Option	52	3.53 acres	1.09 acres

Rose Avenue currently has a 50-foot right-of-way. This will allow the *minimum urban local retrofit* standard to be built with no additional right-of-way needed. The *urban collector* standard will require roughly 0.83 acres of right-of-way on the existing Rose Avenue as it requires a 62-foot of right-of-way. The north-south portion of this option will impact approximately 52 properties. The new east-west street required in conjunction with the *Rose Avenue Extension Option* crosses primarily vacant land and which will required acquisition of an additional 2.70 acres of land. Thus, the total additional right-of-way needed for the *Rose Avenue Extension Option* is 3.53 acres.

For the *Rose Avenue Extension Option*, a modified cross-section can be used as shown in Figure 5 that will fit within the 50-foot of right-of-way. This modified street section, which includes the same fundamental characteristics within the curb-to-curb section as the urban collector standard, would require a variance to street standards by the City. This will reduce the cost of land needed to be purchased.

Bridge Street currently has a 60-foot right-of-way. This will allow the *minimum urban local retrofit* standard to be built with no additional right-of-way needed. The *urban collector* standard will require roughly 0.13 acres of right-of-way as it needs a 62-foot right-of-way. Alternatively, the City could grant a relatively minor variance to its street standards to allow a 60-foot right-of-way. This option will impact approximately 34 properties. Additional right-of-way will need to be purchased to reach from the end of Bridge Street to the site. This has been estimated as 1.87 acres for the urban collector and .75 acres for the minimum urban local retrofit.

In recognition that the street curb-to-curb section for the Urban Collector is 38 feet, it is possible to provide six-foot sidewalks on either side within a 50-foot right-of-way. The additional 12 feet of right-of-way allows for 5-foot landscaping and one-foot utility easements on both sides. Thus, on Rose Avenue the City of Vernonia could grant a variance to its street standards, thereby allowing the curb-to-curb section and sidewalks to be constructed within the available 50-foot right-of-

way. This would eliminate the cost and disruption involved in widening the right-of-way. For purposes of cost-estimating, this analysis has taken the conservative assumption of assuming that the right-of-way would be required.

In the case of Bridge Street, the City would need to grant a street standard variance to allow an Urban Collector to be constructed within the 60-foot right-of-way. Thus, it is likely that such a variance would eliminate the need to acquire additional right-of-way. However, for purposes of cost-estimating, this analysis has taken the conservative assumption of assuming that the right-of-way would be required.

Cost of Right-of-Way

The right-of-way cost required under each option is depicted in Table 7.

Table 7 Northwest Corner Site Cost of Right-of-Way

Option 1	Cost of Land Required	
	Urban Collector	Minimum Urban Local Retrofit
Bridge Street Widening Option	$95,600	$16,875
Rose Avenue Extension Option	$1,042,000	$195,050

Providing an urban collector street to the school, the *Bridge Street Widening* option has an estimated right-of-way acquisition cost of $95,600, more than $900,000 less than the cost of right-of-way for the *Rose Avenue Extension Option*. Even if constructed to a lesser standard (minimum urban local retrofit), the cost of right-of-way for the *Rose Avenue Extension Option* would be substantially higher.

Figure 6 shows the improvements needed for each of the access options considered. These improvements include installation of crosswalks at the Bridge Street/Rose Avenue intersection, as well as street construction as described above. This figure also shows the potential need for additional turn lanes on Bridge Street.

TRANSPORTATION OBSERVATIONS

The Northwest Corner Site currently is served by a very limited transportation infrastructure that is primarily focused on serving local residential traffic. Major transportation improvements with substantial associated cost should be expected if the Northwest Corner Site is chosen. The amount and cost of right-of-way that is needed from adjacent residential properties is substantial, thereby potentially resulting to transportation-related construction delays and additional costs.

Due to the steep terrain and limited right-of-way of key streets accessing the site, the possibility of increased unforeseen costs should also be considered. These can stem from excessive cut-and-fill during road construction, the need for soil stabilization, and tree removal and clearing. Table 8 below details the improvability constraints associated with the site. Figure 7 shows the improvability of the roads discussed in this report.

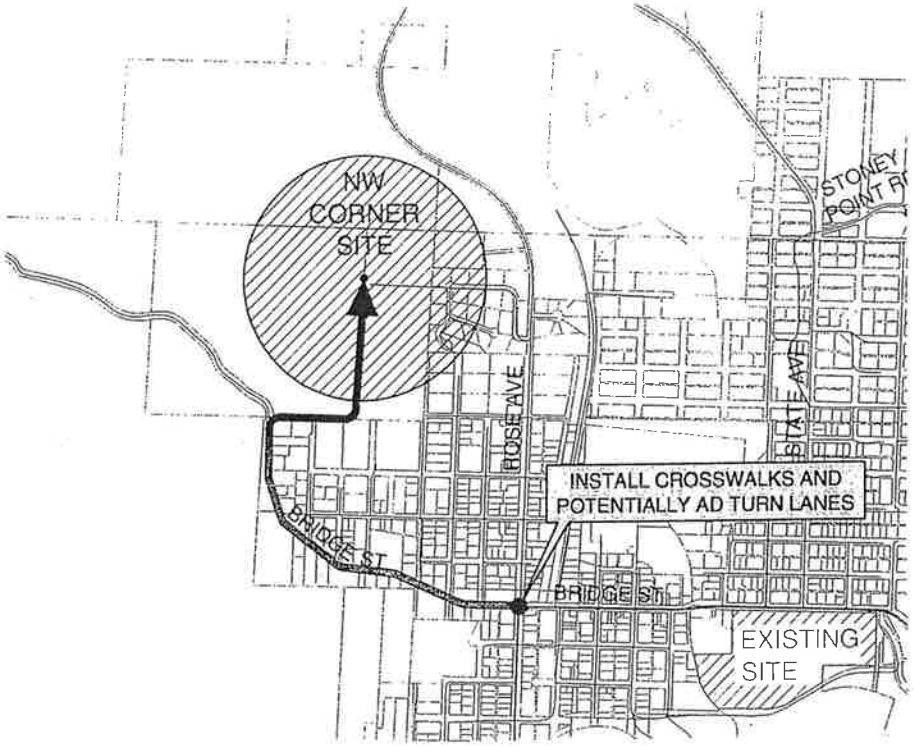
Table 8 Northwest Corner Site Improvability Measures

	Potential Cut and Fill[1]	Steep Grade	Possible Need of Soil Stabilization	Available Right of Way	Adjacency of Houses to Road	Ability to be Improved
Bridge Street Widening Option	No	Yes	Yes	Limited[2]	Very Close	Very Difficult to Improve
Rose Avenue Extension Option	Partial	Partial	Yes	Available	Close	Difficult to Improve

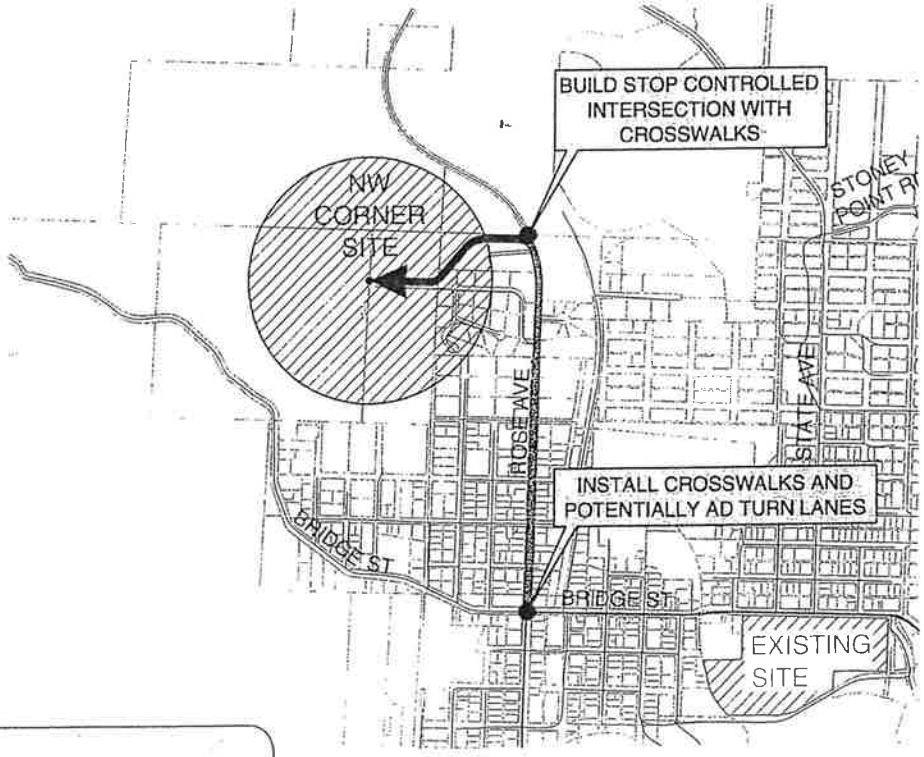
1. Cut-and-fill refers to the excavation and grading of the land to build a road with acceptable grade.
2. Portions of Bridge Street west of Rose Avenue are not easily expandable on both sides due to topography; additional right-of-way would likely be needed from only one side of the existing street.

BRIDGE STREET WIDENING OPTION

(NO SCALE)



ROSE AVENUE EXTENSION OPTION



LEGEND

- WIDEN ROAD
- NEW ROAD CONSTRUCTION

IMPROVEMENTS NEEDED FOR ACCESS OPTIONS TO NW CORNER SITE
VERNONIA, OREGON

FIGURE 6

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING

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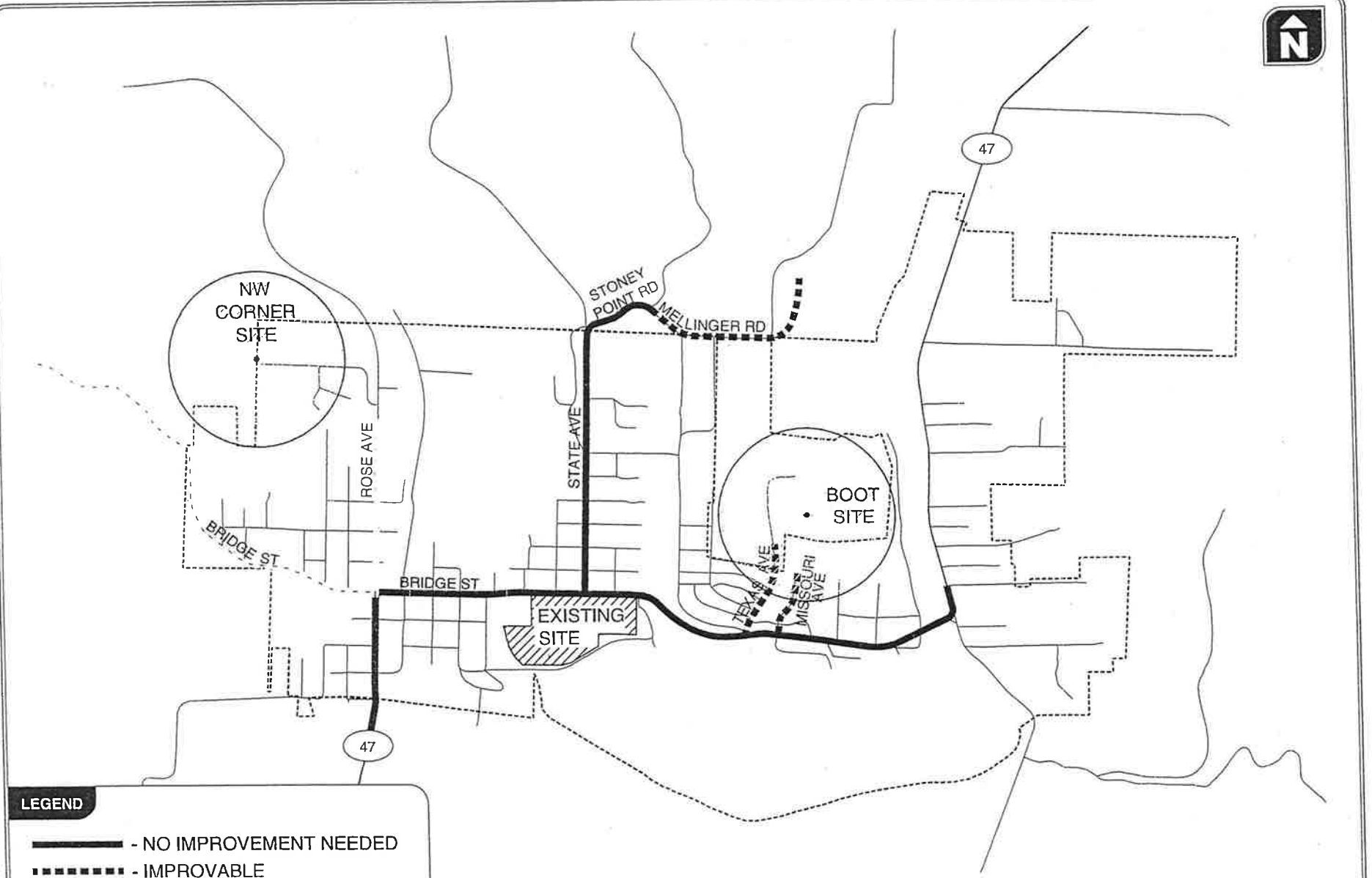

STREET IMPROVABILITY
VERNONIA, OREGON

FIGURE 7

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING

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A rating was given to each option assessing its overall improvability, based on the factors outlined in the table. The *Bridge Street Widening Option* was rated *very difficult* to improve based on the close proximity of houses to the existing road, the inability to expand on both sides, and possible need of soil stabilization. The *Rose Avenue Extension Option* is rated as *difficult* to improve due to the nature of Rose Avenue being bordered by a large number of residential land parcels and the possibility for unforeseen construction and excavation work being required to construct a new road up the hill west of Rose Avenue.

The location and remoteness will also deter people from using non-vehicular forms of transportation to access the site. In addition to the greater distance from the city's center, the steep grades will deter students and faculty from walking and biking to the site.

The remoteness of the Northwest Corner Site will also affect the usability of the site when school is not in session. The existing site offers a number of recreation facilities and/or meeting space to students and the greater community even when school is not occurring. Because of the Northwest Corner Site's remote location, it can be expected that the number of recreational users will be fewer in the summer and on weekends, as the number of students able to reach the site conveniently without using a vehicle is lower.

COST ESTIMATE SUMMARY

The overall cost estimate was developed based on planning level estimates for street construction costs and right-of-way acquisition. A summary of transportation costs for the proposed Northwest Corner Site is included in Table 8.

Table 9 Northwest Corner Site Transportation Cost Summary

Option	Right-of-Way		Construction Costs		Overall Costs	
	Urban Collector	Min. Retrofit Urban local	Urban Collector	Min. Retrofit Urban Local	Urban Collector	Min. Retrofit Urban Local
Bridge Street Widening Option	$95,600	$16,875	$3,742,200	$1,752,300	$3,837,800	$1,769,200
Rose Avenue Extension Option	$1,042,000	$195,050	$4,490,600	$2,102,800	$5,532,600	$2,297,900

In conjunction with providing urban collector street access to the schools, the *Bridge Street Widening* option has an estimated construction cost of $3.7 million, while the *Rose Avenue Extension Option* would cost about $4.5 million to construct. The higher cost of right-of-way further separates the overall costs of the two options, resulting in the *Rose Avenue Extension Option* costing approximately $5.6 million versus $3.8 million for the *Bridge Avenue Widening Option.* Even if access is provided to the schools with a lesser *minimum urban local retrofit* standard, the total cost of the *Rose Avenue Extension Option* is substantially higher at $2.3 million versus $1.8 million for the *Bridge Avenue Widening Option.*

The *Bridge Street Widening Option* appears to be the lower cost option primarily due to the reduced amount of road that would need to be built to access the site. However, this option has a rating of *very difficult* to improve. At this planning-level stage, it is difficult to determine precise construction costs, and a more detailed cost estimate should be conducted if this option is considered further. The *Rose Avenue Extension Option* requires more road to be constructed, a significantly higher right-of-way acquisition cost, and has a higher expected construction cost than the *Bridge Street Widening Option*, but it has more favorable land to build on which could reduce the construction costs below the conservative estimates prepared for this analysis. The *Rose Avenue Extension Option* would also serve the City's greater needs by improving Rose Avenue, as is prescribed in the TSP.

This estimate does not include estimated costs for a secondary access. Due to the nature of the campus, it is reasonable to expect that a secondary access will be required for emergency purposes. This access could be built to local street standards or even potentially have a gravel surface, in which case cost could be minimized. Depending on the option chosen and the specific location of the campus, a secondary access could be defined.

After reviewing the slope for the access into the Northwest Corner site, it was determined to be within a 6-10 percent grade. Provided the grade is a constant one (as is the case), construction on grades of this magnitude typically do not require significant cost increases (as compared to level grades), such as geo-stabilization or excessive cut-and-fills. Due to the limited topographical data available, it was not determined if there was a significant cross-slope for the proposed route. It should be feasible to alter the route to avoid difficult-to-build-on slopes due to the vacant nature of the land.

This estimate also does not include estimated costs of improvements at the Bridge Street/Rose Avenue intersection, that would be needed due to increased school traffic. It is recommended that a detailed turn lane evaluation be conducted for this intersection if this option is selected.

SITE SUMMARY

Table 10 below shows a summary of the above comparative analysis. The two options have been compared side-by-side.

Table 10 Northwest Corner Site Summary

	Bridge Street Widening Option	Rose Avenue Extension Option
Roadway Improvements		
Existing street conditions	Deficient	Deficient
Improvability to design standards	Very Difficult	Difficult
Construction cost of improvements to urban collector design standard	$3,742,200	$4,490,600
Cost of Right-of-way acquisition	$95,600	$1,042,000
Total Estimated Transportation Cost	$3,837,800	$5,532,600
Currently planned for road improvement in Vernonia TSP?	No	Partial
Access (if improvements constructed)		
Vehicular access	Good	Good
Pedestrian/Bike access	Limited	Limited
Busing access	Good	Good
Parking		
Availability of Space on Site	Yes	Yes
Availability of Space Adjacent to Site to Handle Overflow of Special Events	No Parking on Bridge Street due to inadequate width	New streets can accommodate on-street parking if built to Urban Collector standard

Note: Does not include cost of turn lanes that may be required at the Bridge/Rose intersection.

The cost to build transportation infrastructure for either of the Northwest Corner Site's two access options will be high due to: the difficulty to retrofit existing streets and build new streets to access the site, remoteness of the site, and the large amount of right-of-way needed. The new site in both options will result in the same modal split amongst users of the campus, with greater reliance on motorized modes as compared to the existing site.

Boot Site

SITE DESCRIPTION

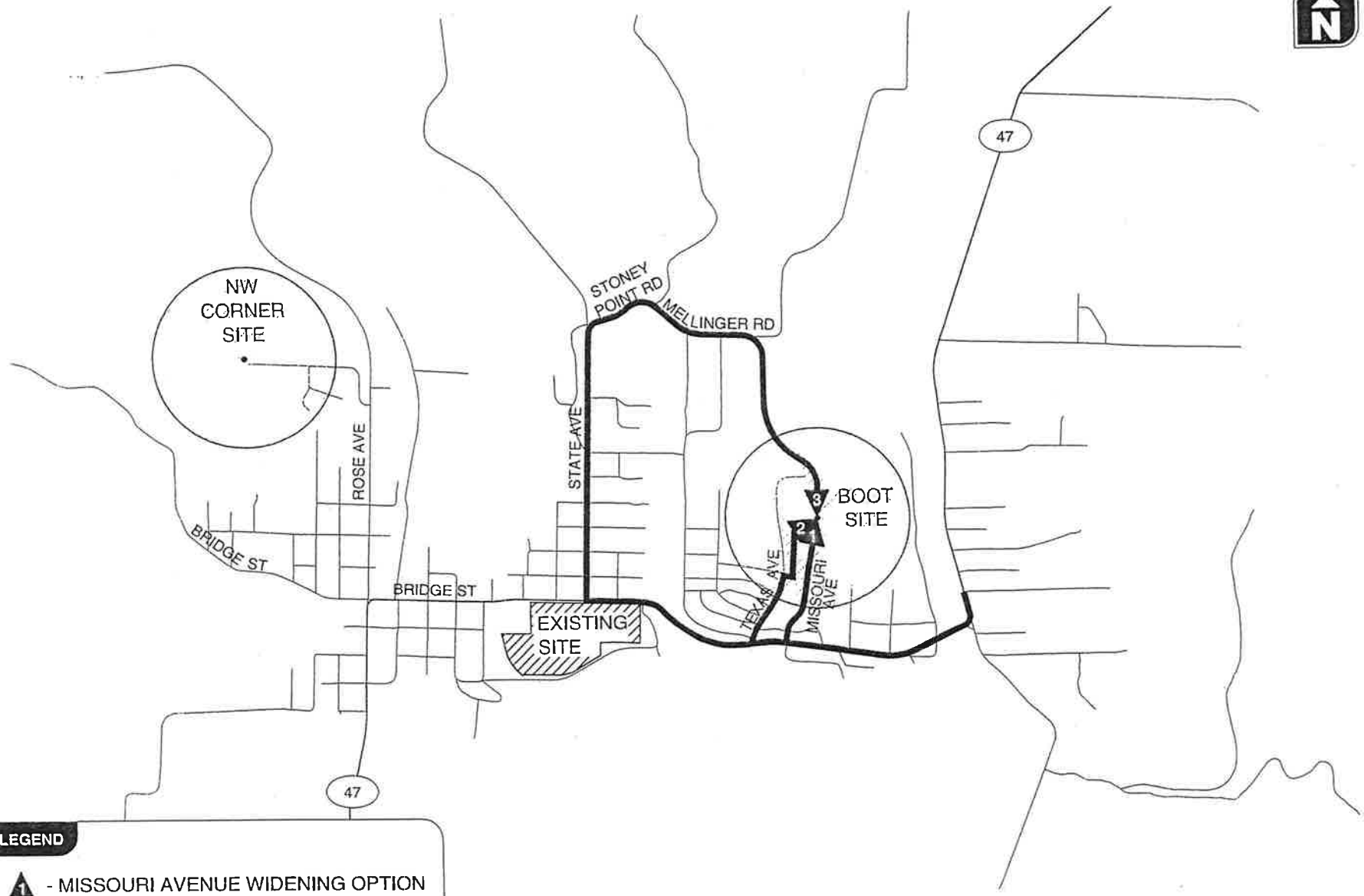
The Boot Site, which sits in the unincorporated section of town between Louisiana Avenue and the Nehalem River, is currently outside of the Vernonia urban growth boundary. Adjacent to this site and inside the city's urban growth boundary is Spencer Park, single family housing, and the Nehalem River. The site sits on a relatively flat expanse of land which is currently connected to the City of Vernonia by the local streets of Missouri and Texas Avenue. The site's terrain is flat and moderately rolling, with a mix of cleared grassland and forested areas.

SITE ACCESS

Three site access options have been considered for providing multi-modal access to this site for students, faculty, and staff. Option 1: *Missouri Avenue Widening* utilizes Missouri Avenue from Bridge Street to provide primary access to the site. Option 2: *Texas Avenue Widening* uses Texas Avenue from Bridge Street to provide primary access. Option 3: *North Boot Site Access* routes trips north from Bridge Street via State Avenue, along Stoney Point Road north of Vernonia and then to Mellinger Road, and then south along a newly constructed road into the school site. These options have been evaluated with respect to how they accommodate each transportation mode. An existing street inventory for this site is provided in Table 11 below. Figure 3 shows the functional classifications of the roads in Vernonia related to this study. Figure 8 shows the access options this report considered for the proposed Boot Site.

Table 11 Boot Site Existing Street Inventory

Road	Functional Classification	Observed Width (ft.)	Parking	Planter Strip	Bike lane	Sidewalk
Bridge Street	Arterial	40	Y	Y	N	Y
State Avenue	Collector	36	Y	Y	N	Y
Stoney Point Road	Rural Collector	24	N	N	N	Y
Mellinger Road	Local Unimproved Gravel	20	N	N	N	N
Texas Avenue	Local/ Unimproved	20	N	N	N	N
Missouri Avenue	Local	20	N	N	N	N



ACCESS OPTIONS TO BOOT SITE
VERNONIA, OREGON

FIGURE 8

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING

Vehicular Access

The *Missouri Avenue Widening* option will use Missouri Avenue to provide primary vehicular access from Bridge Street. Currently this street is classified in the Vernonia Transportation System Plan (TSP) as a *local* street. This designation is inappropriate to facilitate primary school access, and as a primary school access Missouri Avenue should be reclassified to an *urban collector* designation. The field measured width of the street is between 18-20 feet. Currently there are no shoulders, bike lanes, or sidewalks along this stretch of road. The intersection of Missouri Avenue and Bridge Street was not studied in the 1999 Vernonia Transportation System Plan, but based on the development along this road – single family housing, public green space and a church – the average daily volume of traffic is low (200-300 vehicles per day). In order to accommodate a school site with Missouri Avenue as its primary vehicular access, this street would need to be improved to *urban collector* street standards. From the end of Missouri Avenue, a new street will need to be constructed either through or around Spencer Park, based on the final location of the school site.

The *Texas Avenue Widening* option will use Texas Avenue to provide primary vehicular access from Bridge Street. Currently this street is classified in the Vernonia TSP as a *local* street. This designation is inappropriate to facilitate primary school access, and as a primary school access Texas Avenue should be reclassified to an *urban collector* designation. The field measured width of the street is between 18-20 feet. Texas Avenue, outside of Vernonia's urban growth boundary, is currently unimproved. Currently there are no shoulders, bike lanes, or sidewalks along this stretch of road. According to the 1999 Vernonia TSP, Texas Avenue carries approximately 50-60 p.m. peak hour trips, equating to average daily two-way volume of 500-600 vehicles. In order to accommodate a school site with primary access via Texas Avenue, this street should be improved to *urban collector* standards. From the end of Texas Avenue, a new road should be constructed to *urban collector* standards, based on the final location of the school site.

The *North Boot Site Access* option will route school related trips north along State Avenue and then east along Stoney Point – Mellinger Roads, then south on a newly constructed road into the site. Within the Vernonia city limits, State Avenue north of Bridge Street has on-street parking, a planter strip and a sidewalk. Stoney Point – Mellinger Roads have unpaved shoulders and currently do not have bike lanes or sidewalks. State Avenue is currently classified as a *collector* by the City of Vernonia. Stoney Point – Mellinger Roads are Columbia County roads outside of Vernonia's boundaries to the north. Stoney Point – Mellinger Roads are currently inappropriate to facilitate primary school access, and as a primary multi-modal school access these roads should be reclassified to an *urban collector* standard[2]. State Avenue currently serves as a collector for both local and city traffic. Stoney Point and Mellinger Roads provide county access to land further to the north and east of Vernonia. A new road south from Mellinger Road should be constructed to provide primary access into the site. This option provides access to the northern border of the proposed Boot Site using existing city and county roadways.

[2] As discussed later, these streets could be constructed to a lesser standard that does not include bike lanes or sidewalks if separate bike and pedestrian facilities are provided in another location.

The State Avenue/Stoney Road-Keasey Road intersection is located on a section of State Avenue-Keasey Road that has a relatively sharp curve, thereby limiting intersection sight distance. For southbound vehicles on Keasey Road approaching Stoney Road, there is less than the required stopping sight distance to see westbound vehicles on the Stoney Road approach. If the North Boot Access Option is selected, mitigation would require, at a minimum, trimming of roadside brush on the west side of State Avenue, and may require relatively minor regrading of roadside slopes.

Under the *North Boot Site Access Option*, ODOT staff has indicated that there may be a need to widen the eastbound approach at the Bridge Street/State Street intersection, thereby providing an exclusive left turn lane. If the Boot Site is selected, detailed turn lane warrant analysis would need to be conducted to confirm this need. In any case, it appears that this need could be likely satisfied by eliminating parking in the influence area of the intersection. If Bridge Street needs to be widened, then the curbs would need to be relocated, and the improvement would cost would likely be in the range of about $100,000-$200,000. Thus, due to the uncertainty of need for this improvement and its relatively low cost (compared to the overall transportation costs), its cost has not been included in the cost summary for this alternative.

Under the *Texas Avenue Widening* option, the stop-controlled intersection of Texas Avenue/Bridge Street will experience higher traffic volumes. Based on an evaluation of this intersection in the 1999 Vernonia TSP, with typical sustained growth (which, in retrospect, Vernonia has not experienced), this intersection is forecasted to operate at a future Level of Service 'C' by 2018 with volume-to-capacity of for the minor street approach of 0.05. With the addition of school-related trips, this analysis concludes that this intersection will operate within acceptable ODOT minimum mobility standards after opening of the school, without the aid of a traffic signal. Future operations at this intersection should be monitored to determine the need and warrants for a traffic signal.

The Bridge Street/Texas Avenue intersection has marginally acceptable sight distance for those westbound Bridge Street motorists to see southbound Texas Avenue motorists entering the intersection. Bridge Street has a horizontal and vertical curve in the section immediately west of Texas Avenue, thereby limiting sight distance. Given designated speeds of 35 miles per hour, sight distance requirement is about 350 feet. Available sight distance only slightly exceeds 350 feet.

Under the *Texas Avenue Widening Option*, ODOT staff has indicated that there may be a need to widen the westbound approach at the Bridge Street/Texas Avenue intersection, thereby providing an exclusive left turn lane. If the Boot Site is selected, detailed turn lane warrant analysis would need to be conducted to confirm this need. Due to topographical constraints, widening Bridge Street in this section could be difficult, and would likely be expensive. If Bridge Street needs to be widened, this cost could be in the range of $500,000 to $1 million. This cost could potentially render the Texas Avenue Widening option as being infeasible. Further analysis would be needed. In any case, the cost of Bridge Street widening has not been included in the cost summary for this alternative.

Currently, Louisiana Avenue intersects with Texas Avenue within 50 feet of Bridge Street. This close proximity of intersections is problematic due to turning maneuver conflicts, potential queue spillbacks, and driver uncertainty. This close proximity of intersections would need to be mitigated in the event that Texas Avenue is used as primary access to the Boot Site. In order to mitigate this deficiency, Louisiana Avenue would need to be disconnected from its intersection with Texas Street, thereby impacting access to the neighborhood west of Texas Street. The physical cost of terminating Louisiana Avenue is relatively inexpensive (estimated to be about $8,000), but the impact on neighborhood access and increased volumes on alternative local streets would be significant.

Under the *Missouri Avenue Widening* option, the stop-controlled intersection of Missouri Avenue and Bridge Street will experience higher traffic volumes. Based on a preliminary estimate performed for this analysis, it is projected that a traffic signal would not be needed based on ODOT mobility standards, nor would traffic signal warrants be met.

Pedestrian / Bicycle Access

The Boot Site currently is well located and has a number of access routes for pedestrians. From Bridge Street, which is equipped with planter strips and sidewalks, pedestrians can access the site by taking either Missouri Avenue or Texas Avenue. Walking to Spencer Park currently occurs along the roadside of either of these local streets, due to the absence of sidewalks. If either Missouri or Texas Avenues are used for primary access, sidewalks would be provided in conjunction with improvements to these streets to *urban collector* standards. Under the *North Boot Site Access* option, sidewalks would be provided on new streets constructed to the site, although the rural sections of State Avenue and Stoney Point-Mellinger Roads would require expensive retrofitting. As an alternative to providing sidewalks on these streets under the *North Boot Site Access* option, it may be more cost-effective to extend a pedestrian-bicycle access from Bridge Street to the school site via either Missouri or Texas Avenues.

Due to the site being less central to the student population than the existing school site, it is expected that even with proper facilities to promote pedestrian and bicycle modes, trips via these alternative modes will decline slightly. Thus, slightly increased trips will come to the site via vehicle, either from increased parent drop-off, students driving, or increased bus service. Based on results of the Travel Mode Survey (*see Appendix 'B'*), the existing site has 150 students (26%) that walk to the campus. At a planned enrollment of 1,000 students, the number of walkers to the existing site would increase to about 230. A decrease in pedestrian trips to the Boot Site can be minimized by providing a good system of sidewalks and bike lanes.

SITE ACCESSIBILITY

Due to the less central location of the Boot Site (as compared to the existing school site), it can be expected that the transportation requirements will shift to favoring more busing, students driving, and parent drop-off. This is due to the site being within reasonable walking distance[3] of fewer students than the existing site. Table 12 below details the number of students that will be displaced and what mode they can be expected to use.

Table 12 Boot Site Walking Volumes

Site	Students Living With 1 Mile	Students That Currently Walk to The Site	Percentage of Students Within 1 Mile Currently Walking	Expected Number of Walkers	Displaced Students New Mode		
					Total	Car	Bus
Existing	189	156	83%				
Boot Site	138			115[1]	41[2]	31[3]	10[3]

1 No. of Expected Walkers = % Students within 1 mi. that currently walk times Students within one mile of Boot Site
2 Displaced Students New Mode = Students that Currently Walk to Current Site minus Expected No. of Walkers
3 Displaced students by mode was determined based on the current mode split (percentage) multiplied by the number of displaced students

Table 12 shows the displaced students, and Table 13 below shows the projected number of students visiting the site by mode based on data collected from the travel mode survey.

Table 13 Boot Site Travel Volumes, By Mode[1]

Location	Number of Students	Transportation Mode			
		Bus	Car	Walk	Bike
Current Enrollment					
Boot Site	660[2]	199	255	115	12
Existing	*660[3]*	*189*	*224*	*156*	*12*
Planned Enrollment					
Boot Site[4]	***1000***	***300***	***390***	***175***	***20***

1. Reported as two-way person trips, in which a typical student arrives in the a.m. and leaves in the p.m.
2. Current number of students traveling to the Boot Site campus by mode
3. Current number of students traveling to the existing site
4. Number of students expected to travel to the Boot Site campus by mode with projected 1,000 students

[3] A reasonable walking distance to the site has been defined as part of this analysis as being approximately one mile. Beyond this distance, the travel mode survey results indicate that virtually all students use a transportation mode to school other than walking.

As Table 13 shows, the Boot Site will have an increased number of students arriving by bus and car versus the existing site. This table also shows that the Boot Site will have more walkers than the Northwest Corner Site, due to its more central location to the population center.

Busing Requirements

Based on the analysis shown in Table 13, the Boot Site would have an estimated ten more bussed students per day than the existing site. It is reasonable to conclude that the cost of busing students may be higher at the Boot Site than at the existing site. However, at the relatively conceptual level that this analysis is being conducted, these differences are not significant.

TRANSPORTATION IMPROVEMENTS

Roads

In order to accommodate traffic generated by the new school site, street improvements will be required for the *Missouri Avenue Widening*, *Texas Avenue Widening*, and the *North Boot Site Access* options. Table 14 shows the two options for street standards to the proposed campus site, based on the Vernonia TSP. Figure 5 shows the cross-sections of the design standards.

Table 14 Vernonia Street Design Standards

Street Type	Travel Lanes	Parking	Bikeways	Total Pavement	Planting Strips	Sidewalks	Right Of Way
Urban Collector	2-10'	8' one side	5' both sides	38'	5' both sides	6' both sides	62'
Urban Local Minimum Retrofit	18	No	No	18'	No	5' one side	25'

The *urban collector* is the most appropriate street designation for primary multi-modal access to the Boot Site. An alternate street standard may be a *local street minimum retrofit*, which is the option with the least amount of connectivity for both pedestrians and cyclists. This option would not adequately accommodate non-vehicular travel modes, and will result in safety hazards. It is recommended that an *urban collector* be used. In the case of the *North Boot Site Access* option, a preferred option may be to construct the primary auto-access streets (State Avenue, Stoney Point Road, Mellinger Road, and the new north-south street) to an *Urban Local Minimum Retrofit* standard in conjunction with providing a separated bicycle-pedestrian path as extensions to added bicycle lanes and sidewalks on either Missouri or Texas Streets. In this way, the primary auto access streets will have minimal pedestrian facilities (sidewalk on one side only) with no separate bike lanes, but the more direct routes to the Boot Site will be equipped with bicycle and pedestrian facilities.

Missouri Avenue Widening Option

The *Missouri Avenue Widening Option* will require the existing Missouri Avenue to be improved and extended into the school site. This option assumes that approximately 0.25 miles of new street will be needed.

Texas Avenue Widening Option

The *Texas Avenue Widening Option* will require Texas Avenue to be improved and then a new road be built into the school site. This option assumes that approximately 0.33 miles of new street will be needed.

North Boot Site Access

The *North Boot Site Access Option* will require Stoney Point and Mellinger Roads to be improved and then a new road be built into the school site. This option assumes that approximately 0.95 miles of road will have to be provided. No improvements were assumed for State Avenue. In contrast to the *Missouri* and *Texas Avenue Widening* options, it would likely be most cost effective to construct the primary vehicular access for the *North Boot Site Access Option* without bike lanes and minimal pedestrian facilities (hence, construct to an Urban Local Minimum Retrofit standard), in conjunction with providing a pedestrian-bicycle path via either Missouri or Texas Avenues. Table 15 provides a cost estimate for either fully improving the *North Boot Site Access Option* access roads (Stoney Point and Mellinger) to *urban collector* standards or improving them to *minimum urban local retrofit* standards in conjunction with pedestrian and bicycle improvements to Missouri Avenue. In either case, the *North Boot Site Access Option* is substantially more expensive to construct than the other more direct access options.

Table 15 Boot Site Street Improvement Cost

Option	Road Needed (ft)	Construction Cost[1]	
		Urban Collector	Minimum Urban Local Retrofit
Missouri Avenue Widening Option	1,320	$1,247,400	$584,200
Texas Avenue Widening Option	1,750	$1,646,600	$771,000
North Boot Site Access Option	5,000	$4,725,000	$2,910,600[2]

1 Construction cost does not include cost of right-of-way.
2 Cost estimate includes cost of widening Missouri Avenue to provide bike lanes and sidewalks from Bridge Street to Spencer Park (0.25 miles); cost of Missouri improvements are $807,800 in addition to the construction cost of Stoney Point-Mellinger improvements at $2,102,800.

Costs are calculated based on the square footage of pavement and sidewalk required. A planning level value of $15.00 per square foot of pavement and $5.00 per square foot of sidewalk was used. Another $7.50 per square foot of pavement and $2.50 per square foot of sidewalk was used to account for removal of existing roadway, clearing, excavation, grading, and site preparation.

These costs assume that there will not be excessive cut-and-fill or geo-stabilization. The cost of removal of existing roads and re-grading is included. Right-of-way acquisition is covered in a further section of this memo.

Traffic Signals and Turn Lanes

The intersection of Texas Avenue and Bridge Street was studied in the 1999 Vernonia TSP and is projected to operate at Level of Service 'C' in the year 2018. At the time of the 1999 TSP, the intersection operated at a Level of Service 'A' with an average stopped delay of 3.7 seconds and a volume-to-capacity ratio of the minor street approach of 0.03, indicating acceptable performance based on ODOT mobility standards, without intersection improvements. These future 2018 operations were based on relatively high growth assumptions included in the TSP. Since 1999, Vernonia has experienced a decrease in population, and therefore, in retrospect the assumptions used in the TSP were overestimated.

If the school is relocated to the Boot Site, a large amount of traffic would be routed through the Texas Avenue/Bridge Street intersection. Based on a preliminary estimate performed for this analysis, it is projected that a traffic signal would not be needed based on ODOT mobility standards, nor would traffic signal warrants be met. The school's specific traffic impact on the intersection and whether it meets warrants will need to be evaluated. The estimated cost of signalizing the intersection is approximately $250,000, although based on this analysis this cost should not be borne solely by the school district and this cost has not been included in the transportation cost estimates.

The Bridge Street/Missouri Avenue was not evaluated in the 1999 TSP, but the school's specific impact on the intersection and whether it meets warrants will need to be evaluated. Based on a preliminary estimate performed for this analysis, it is projected that a traffic signal would not be needed based on ODOT mobility standards, nor would traffic signal warrants be met. Similar to the Texas/Bridge Street intersection, the estimated cost of signalizing the intersection is approximately $250,000, although based on this analysis this cost should not be borne solely by the school district and this cost has not been included in the transportation cost estimates.

As indicated by ODOT staff, westbound left turn lanes would likely be needed on Bridge Street at either State Street (under the *North Boot Site Access Option*), Texas Avenue (under the *Texas Avenue Widening Option*), or Missouri Avenue (under the *Missouri Avenue Widening Option*). As discussed previously, at State Street this could be likely accomplished at little cost by removing on-street parking. At Missouri Avenue, a westbound left turn lane could be added within the available right-of-way at a relatively low cost (likely less than $50,000). However, at Texas Avenue, a westbound left turn lane would be relatively expensive ($500,000-$1 million) due to difficult topography and a curve on Bridge Street (limiting sight distance) immediately to the west.

Planned Transportation Improvement

The Vernonia Transportation System Plan reviewed three different 2018 Future Conditions alternatives that include certain improvements to transportation facilities within the City. The recommended alternative was the *OR 47 Alternative*. This alternative recommends making improvements at two locations in the vicinity of the Boot Site:

- **SF5. Traffic Flow problem and lack of proper connection at intersection of Bridge Street and Louisiana/Texas**—Connect Louisiana Avenue Bridge Street, and connect Texas to Louisiana immediately north of Bridge Street. Texas Avenue would be served under this re-alignment by intersecting with Louisiana Avenue north of the new Louisiana Avenue/Bridge Street-OR 47 intersections. *Estimated cost in the Vernonia 1999 TSP: $26,000.*

- **C4. A North-South Connector from Bridge Street to the north edge of the UGB**—In order to additional connectivity from Bridge Street to the city's northern border four alternatives have been identified in the Vernonia 1999 TSP to provide a connection from Bridge Street to the northern boundary of Vernonia. Two of these routes were recommended by the TSP.

  The *Louisiana Avenue* route and the *Oregon Avenue* route both recommend adding an extension to either road that will travel north to form an intersection with Mellinger Road. These alternatives were recommended based on the availability of the public right–of-way, existing use of the link by off road vehicles and favorable grades and terrain. *Estimated cost in the Vernonia 1999 TSP: $300,000.*

These improvements correspond with the needs of a school campus at the proposed Boot Site.

ADDITIONAL LAND REQUIRED

The amount of right-of-way required under each option is depicted in Table 16. Also included is the number of parcels that the street improvement project will impact. The proposed Boot Site, being in a residential area, impacts a significant number of residential parcels. Moreover, the *Missouri Avenue Widening* option also impacts a church property. The calculation of acreage required is based on the need to purchase land in excess of current available right-of-way.

Table 16 Boot Site additional Right-of-Way Required

Option	#of Adjacent Parcels	# of Acres of ROW Required	
		Urban Collector	Minimum Urban Local Retrofit
Missouri Avenue Widening Option	10	0.22 acres	0.0 acres
Texas Avenue Widening Option	18	0.28 acres	0.0 acres
North Boot Site Access Option	14	3.34 acres	1.48 acres

Missouri Avenue currently has a 50-foot right-of-way. This will allow the *minimum urban local retrofit* standard to be built with no additional right-of-way needed. The *urban collector* standard will require roughly 0.22 acres of right-of-way as it needs a 62-foot right-of-way. The *Missouri Avenue Widening Option* will impact about ten homes and the St. Mary's Catholic Church. The church property affected includes the church's parking lot and green space. The right-of-way may need to be shifted to the west slightly in order to avoid the existing church parking area. This parking area may be too close to the existing centerline of the right-of-way to facilitate the necessary urban collector standard. This will need to be further investigated to determine the overall impact on right-of-way acquisition. This option includes a route through or around Spencer Park; the park was not included as an impacted parcel.

In recognition that the street curb-to-curb section for the Urban Collector is 38 feet, it is possible to provide six-foot sidewalks on either side within a 50-foot right-of-way. The additional 12 feet of right-of-way allows for 5-foot landscaping and one-foot utility easements on both sides. Thus, on Missouri Avenue the City of Vernonia could grant a variance to its street standards, thereby allowing the curb-to-curb section and sidewalks to be constructed within the available 50-foot right-of-way. This would eliminate the cost and disruption involved in widening the right-of-way. For purposes of cost-estimating, this analysis has taken the conservative assumption of assuming that the right-of-way would be required.

Texas Avenue currently has a 50-foot right-of-way within Vernonia's urban growth boundary. Outside the urban growth boundary, Texas Avenue has a 60-foot right-of-way. This will allow the *minimum urban local retrofit* standard to be built with no additional right-of-way needed. The *urban collector* standard will require roughly 0.28 acres of right-of-way as it needs a 62-foot right-of-way. This option will impact approximately 18 properties.

Similar to Missouri Avenue as described above, it could be assumed that the City could grant a street standard variance on Texas Avenue to accomplish needed street improvements. This would potentially eliminate the need to acquire additional right-of-way on Texas Avenue. For purposes of cost-estimating, this analysis has taken the conservative assumption of assuming that the right-of-way would be required.

Stoney Point Road currently has a 50-foot right-of-way, and Mellinger Road has a 60-foot right-of-way. This will allow the *minimum urban local retrofit* standard to be built with no additional right-of-way needed. The *urban collector* standard will require roughly 0.49 acres of right-of-way as it needs a 62-foot right-of-way. The *North Boot Site Access Option* impacts significantly fewer homes due to the relatively undeveloped nature of the land through which it travels. Moreover, due to the undeveloped nature of the land, the cost of right-of-way for this option will be substantially lower. The Extension of new road into the site will require 3.13 acres of new right-of-way be purchased for the urban collector standard and 1.26 acres for the minimum urban local retrofit.

Cost of Right-of-Way

The right-of-way cost required under each option is depicted in Table 17.

Table 17 Boot Site Cost of Right-of-Way

Option 1	Cost of Land Required	
	Urban Collector	Minimum Urban Local Retrofit
Missouri Avenue Widening Option	$144,700	$0
Texas Avenue Widening Option	$188,500	$0
North Boot Site Access Option	$123,800	$41,200

The right-of-way costs are relatively similar, in recognition that the amount needed for the *Missouri Avenue Widening Option* and *Texas Avenue Widening Option* is relatively similar, with all options being less than $200,000. The amount of right-of-way needed for the *North Boot Site Access Option*, while greater, is slightly lower cost land than the two more Bridge Street access options. In addition, the estimated construction cost of the *Missouri Avenue Widening Option* and *Texas Avenue Widening Option* are relatively similar ($1.3 million and $1.7 million, respectively), while the *North Boot Site Access Option* is substantially more ($4.8 million). Thus, it is reasonable to conclude that from a cost perspective the two southern access options are preferable.

Figure 9 shows the improvements needed for each of the access options considered. These improvements include installation of crosswalks as needed, in addition to street construction as described above.

TRANSPORTATION OBSERVATIONS

The Boot Site is centrally located in Vernonia and well served by local access streets that connect to Bridge Street. This local connectivity is most beneficial with the *Missouri Avenue Widening Option* and the *Texas Avenue Widening Options*, as only relatively short sections of existing streets would need upgrading. The northern portion of the site is readily accessible for vehicular traffic from the county roads adjacent to the city's northern boundary, although the *North Boot Site Access Option* is indirect and requires significant out-of-direction travel.

The Boot Site, with its relatively flat terrain, has numerous feasible access options. Figure 7 shows the improvability of the roads discussed in this report. Table 18 shows the improvability measures that have been considered in this analysis, and the relative rating of each access option considered.

Table 18 Boot Site Improvability Measures

	Potential Cut-and-Fill[1]	Steep Grade	Possible Need of Soil Stabilization	Available Right-of-Way	Adjacency of Houses to Road	Ability to be Improved
Missouri Avenue Widening Option	Low	No	No	Available	Close	Improvable
Texas Avenue Widening Option	Low	No	No	Available	Close	Improvable
North Boot Site Access Option	Low	No	No	Available	Distant	Improvable

1. Cut-and-fill refers to the excavation and grading required to construct a road to meet street standards for grade and cross-section.

A rating was given to each option assessing its overall improvability, based on the factors outlined in the table. The *Missouri Avenue Widening Option* and the *Texas Avenue Widening Options* was are both rated "improvable" based on available space to sufficiently widen these streets on both sides without encroaching on the houses adjacent to the existing road. *The North Boot Site Access* is also rated as "improvable" based on available right-of-way to expand on both sides, and favorable terrain and grade.

The Boot Site most closely keeps in line with the central location of the existing site. Due to its relative central location, it provides all primary modes of transportation with easy access into the site.

Due to its central location it will be accessible for students and users of the campus for recreation even when vehicle transport is not available. This includes weekends and summertime as well as after-school activities.

COST ESTIMATE SUMMARY

The overall cost estimate was developed based on the planning level estimates for street construction costs and right-of-way acquisition. A summary of costs for the proposed Boot Site is included in Table 19.

Table 19 Boot Site Transportation Cost Summary

Option	Right-of-Way		Construction Costs		Overall Costs	
	Urban Collector	Min. Retrofit Urban local	Urban Collector	Min. Retrofit Urban Local	Urban Collector	Min. Retrofit Urban Local
Missouri Avenue Widening Option	$144,700	$0	$1,247,400	$584,200	$1,392,100	$584,200
Texas Avenue Widening Option	$188,500	$0	$1,646,600	$771,000	$1,835,100	$771,000
North Boot Access Option	$123,800	$41,200	$4,725,000	$2,910,600	$4,848,800	$2,951,800[1]

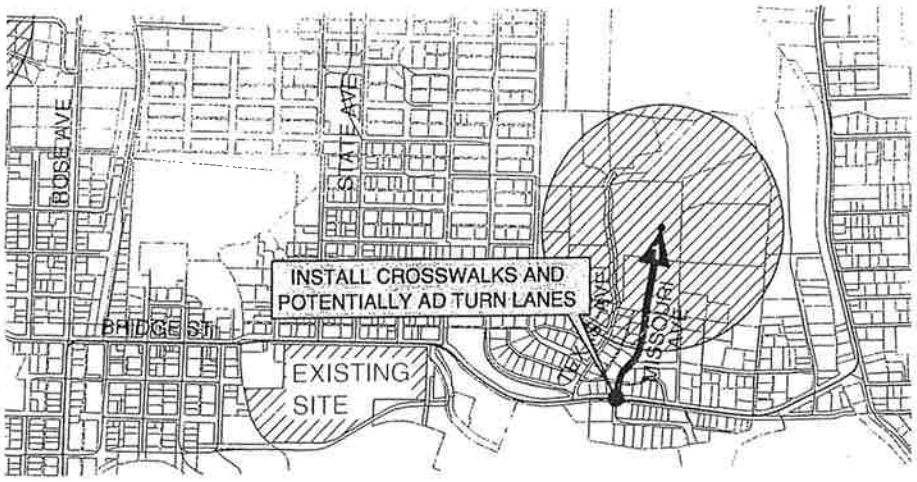
Note: For the North Boot Site Access Option, the preferred strategy is to build the primary vehicular access roads to the Boot Site to Minimum Urban Local Retrofit standards, and to provide bike lanes and sidewalks on Missouri Avenue. The costs for all alternatives does not include the costs of turn lanes on Bridge Street.

The *Missouri Avenue Widening Option* will be the lower cost option primarily due to the reduced amount of new street that would need to be built to access the site. The *Texas Avenue Widening Option* is slightly more expensive than the *Missouri Avenue Widening Option*. The *North Boot Site Access Option's* cost is the most expensive of the three options, but this has the added benefit of accessing the site via roads with less impact to neighboring residential properties.

This estimate does not include costs for a secondary access. Due to the nature of the campus, it is reasonable to expect that a secondary access will be required for emergency purposes. This access could be built to local street standards or even potentially unimproved with gravel surface, in which case cost could be minimized.

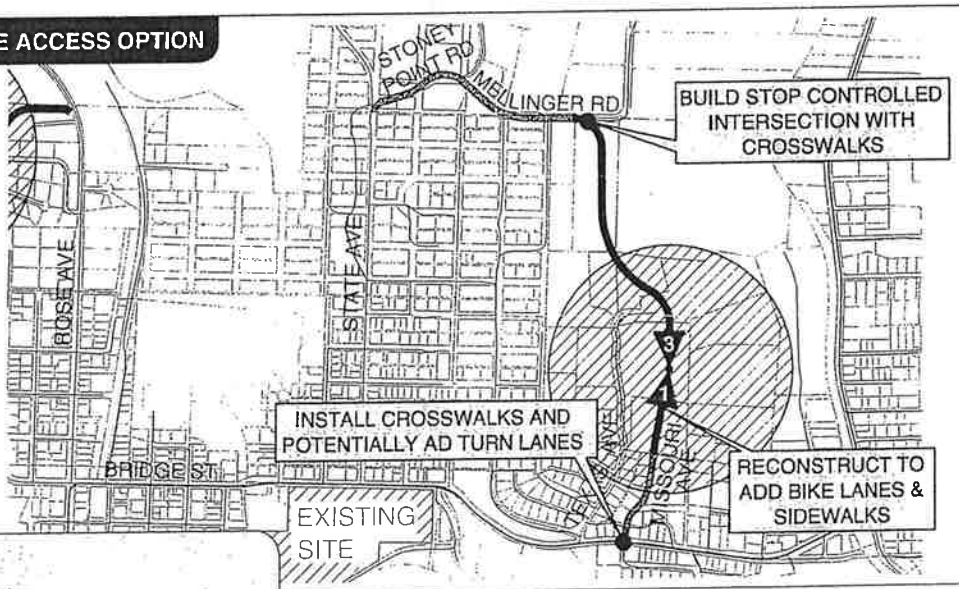
MISSOURI AVENUE WIDENING OPTION

(NO SCALE)



TEXAS AVENUE WIDENING OPTION

NORTH BOOT SITE ACCESS OPTION



LEGEND

- WIDEN ROAD
- NEW ROAD CONSTRUCTION

IMPROVEMENTS NEEDED FOR ACCESS OPTIONS TO BOOT SITE
VERNONIA, OREGON

FIGURE 9

SITE SUMMARY

Table 20 below shows a summary of the above comparative analysis. The three options have been compared side by side.

Table 20 Boot Site Summary

	Missouri Avenue Widening Option	Texas Avenue Widening Option	North Boot Site Access Option[1]
Roadway Improvements			
Existing street conditions	Deficient	Deficient	Deficient
Improvability to design standards	Improvable	Improvable	Improvable
Construction cost of improvements to urban collector design standard	$1,247,400	$1,646,600	$2,910,600
Cost of Right of Way acquisition	$144,700	$188,500	$41,200[1]
Total Estimated Transportation Cost	$1,392,100	$1,835,100	$2,951,800[1]
Currently planned for road improvement in Vernonia TSP?	No	Yes	No
Access			
Vehicular access	Good	Good	Good
Pedestrian/Bike access	Good	Good	Limited[1]
Busing access	Good	Good	Good
Parking			
Availability of Space on Site	Yes	Yes	Yes
Availability of Space Adjacent to Site to Handle Overflow of Special Events	At Spencer Park and Church and on Missouri Ave.	At Spencer Park and Church and on Texas Ave.	No

1. The preferred improvements for the North Boot Site Access Option are to build the primary vehicular access roads on Stoney Point and Mellinger to the Boot Site to Minimum Urban Local Retrofit standards and to provide bike lanes and sidewalks on Missouri Avenue. The costs included in this table assume these preferred improvements.

Based on the Boot Site's three access options, the cost to build the transportation infrastructure will be low-to-moderate for the two southern access options due to: the small amount of road upgrades needed, and the moderate amount of road improvements needed. The *North Boot Site Access Option* has construction costs substantially higher, and when combined with its circuitous route, may be less preferable. Thus, from a cost perspective, the two southern options – *Missouri Avenue Widening Option* and *Texas Avenue Widening Option* – are preferred.

Existing School Site

SITE DESCRIPTION

The existing school site is located centrally in the City of Vernonia. It is situated at the intersection of State Avenue and OR 47-Bridge Street, two of the city's major transportation links. Currently, the site hosts two schools – Washington Elementary School and Vernonia Middle School. Vernonia High School currently shares classrooms with the middle school. The site also has a number of modular temporary classrooms which replace the classrooms damaged in the 2007 floods. The district office is located adjacent to the campus.

SITE ACCESS

The current school campus is accessed by the streets of OR 47-Bridge Street, and State Avenue. These two streets serve as two of Vernonia's major transportation routes for both local and regional traffic. Site access occurs off of Bridge Street via unsignalized intersections with the campus. Table 21 below shows the physical and functional characteristics of streets accessing this site. Figure 3 shows the functional classifications of the streets in Vernonia related to this study.

Table 21 Existing Site Street Inventory

Road	Functional Classification	Observed Width (ft.)	Parking	Planter Strip	Bike lanes	Sidewalk
Bridge Street (OR 47)	Arterial	40	Y	Y	N	Y
State Avenue	Collector	36	Y	Y	N	Y

Vehicular Access

Current access to the site for passenger cars and school buses is very good to the site, as it is centrally located and well served by arterial and collector streets. It has been assumed for this analysis that primary access to the site would be provided on Bridge Street directly opposite State Avenue, resulting in a new fourth leg to this intersection. This relocation of the main school driveway would be needed in order to satisfy ODOT's access management standards.

No improvements or alternative site access plans are necessary for the existing site, in recognition that the existing site has been planned and operated with proper vehicular connectivity.

Based on input from ODOT staff, a westbound left turn lane would likely be required at the Bridge Street/State Street intersection. As described in a previous section, this could likely be accomplished through the elimination of on-street parking on Bridge Street, and could be accomplished at very low cost.

Pedestrian / Bicycle Access

This site is connected to the city via sidewalks on both Bridge Street and State Avenue. Bridge Street's sidewalks extend from the Nehalem River to Rose Avenue.

No improvements to the existing site's pedestrian/bicycle facilities are necessary.

SITE ACCESSIBILITY

From a travel mode survey conducted in September 2008, Table 22 shows travel modes of students visiting the site on a typical weekday.

Table 22 Existing Site Travel Volumes, By Mode

Location	Number of Students	Transportation Mode			
		Bus	Car	Walk	Bike
Existing Site	660[1]	189	224	150	12
Existing Site	1,000	290	340	230	20

1. The number of students that travel to campus on a given day is less than the total enrollment, due to absentees and special needs students that travel to sites other than Vernonia campuses. Thus, on a typical day the Travel Mode Survey indicates that 575 of the 660 total students attend the campus (87% of total enrollment).

TRANSPORTATION IMPROVEMENTS

Roads

Bridge Street was recently re-constructed to meet ODOT standards for a *district highway*, with two travel lanes, parking and sidewalks. With the recent improvements conducted on Bridge Street, no road improvements will be needed for this site.

Signals and Turn Lanes

The intersection of Bridge Street/State Avenue was identified in the 1999 Vernonia TSP as failing in a future 2018 condition. At the time of the 1999 TSP, the intersection operated at a Level of Service 'B', and a volume-to-capacity ratio of 0.09 for the minor street approach, indicating acceptable performance based on ODOT mobility standards. The failing future 2018 condition was based on relatively high growth assumptions included in the TSP. Since 1999, Vernonia has experienced a decrease in population, and therefore, in retrospect the assumptions used in the TSP were likely overestimated.

No improvements are needed on Bridge Street in the vicinity of the site. The intersection of Bridge Street/State Avenue will not need a traffic signal in conjunction with the school campus being located at the Existing Site.

As described previously, ODOT staff indicated that there may be the need for a westbound left turn lane at the Bridge Street/State Street intersection. This could likely be accomplished through the elimination of on-street parking on Bridge Street, and could be accomplished at very low cost.

Planned Transportation Improvement

The Vernonia TSP reviewed three different 2018 Future Conditions alternatives that include certain improvements to City facilities. The recommended alternative was the OR 47 Alternative. This alternative included four different improvements near the Existing Site.

- **SF9. Re-grade slope at intersection of California and Bridge to increase visibility**—re-grade the area just east of the intersection to increase visibility. *Estimated cost in the Vernonia 1999 TSP: $1,000.*

- **LS1. Provide a left turn lane at State Street and install a fully actuated traffic signal**—construct left turn lane and fully actuated traffic signal at State Avenue and Bridge Street when warranted. *Estimated cost in the Vernonia 1999 TSP: $226,000.*

- **BP7. Extend Bikeway from new bridge via schools to California**—Pave approximately 1,200 feet over an existing gravel base on this most direct route to expand bicycle/pedestrian facilities to schools from the southwest part of the City. *Estimated cost in the Vernonia 1999 TSP: $101,000.*

- **BP4. Improve the access to the OR 47 Bridge Street bridge over Rock Creek for bike and pedestrian traffic by modifying sidewalk**—improve bicycle/pedestrian access over Rock Creek. The bridge has sidewalks on both sides. It works well for pedestrians and with a proper wheel-chair ramp approach, bicycles will be able to use this short section jointly with pedestrians. ODOT has no present or future plans to replace this bridge. *Estimated cost in the Vernonia 1999 TSP: $10,000.*

These improvements will improve multi-modal access to the existing school campus. Based on observations of existing traffic, a traffic signal is not needed or warranted at the Bridge Street/State Avenue intersection.

ADDITIONAL LAND REQUIRED

It has been assumed that this option will require no additional land, because additional turn lanes that may be required on Bridge Street could be provided by eliminating on-street parking, within the currently available curb-to-curb section.

TRANSPORTATION OBSERVATIONS

This site currently is served by two of Vernonia's major local and regional connectors. This provides robust capacity for the school site. Based on the history of the school district's existing campus, its accessibility for all modes is very good, and capacity and safety of the transportation system is more than adequate.

SITE SUMMARY

The Existing Site benefits from being on the major transportation links in Vernonia and, as a result has a favorable site summary as shown below in Table 23.

Table 23 Existing Site Summary

	Existing Site
Roadway Improvements	
Existing street conditions	Good
Improvability to design standards	Currently Improved
Construction cost of improvements to urban collector design standard	None
Cost of Right of Way acquisition	None
Total Estimated Transportation Cost	None
Currently planned for road improvement in Vernonia TSP?	Yes
Access	
Vehicular access	Good
Pedestrian/Bike access	Good
Busing access	Good
Parking	
Availability of Space on Site	Needs to be augmented for special events
Availability of Space Adjacent to Site to Handle Overflow of Special Events	On adjacent streets

Conclusion

Three sites have been examined in regards to the school siting effort. The *Northwest Corner Site* has been analyzed using two options to access the site northwest of the City's urban growth boundary. The *Boot Site* has been analyzed using three options to access the site located in the central region of Vernonia, in the portion immediately outside of the urban growth boundary west of the Nehalem River. The transportation infrastructure of the *Existing Site* was analyzed to provide a base for comparison.

Table 24 below shows a summary comparing all three sites.

Table 24 Summary of Proposed and Existing Site Options

	Northwest Corner Site		Boot Site			Existing Site
Access Option	**Bridge Street Widening Option**	**Rose Avenue Extension Option**	**Missouri Avenue Widening Option**	**Texas Avenue Widening Option**	**North Boot Site Access Option**	
Roadway Improvements						
Existing street conditions	Deficient	Deficient	Deficient	Deficient	Deficient	Good
Improvability to design standards	Very Difficult	Difficult	Improvable	Improvable	Improvable	Currently Improved
Construction cost of improvements to urban collector design standard	$3,742,200	$4,490,600	$1,247,400	$1,646,600	$2,910,600	None
Cost of Right-of -way acquisition	$95,600	$1,042,000	$144,700	$188,500	$41,200	None
Total Estimated Transportation Cost	$3,837,800	$5,532,600	$1,392,100	$1,835,100	$2,951,800	None
Currently planned for road improvement in Vernonia TSP?	No	Yes	No	Yes	No	Yes
Access						
Vehicular access	Good	Good	Good	Good	Good	Good
Pedestrian/Bike access	Limited	Limited	Good	Good	Limited[1]	Good
Busing access	Good	Good	Good	Good	Good	Good
Parking						
Availability of Space on Site	Yes	Yes	Yes	Yes	Yes	Needs to be augmented for special events
Availability of Space Adjacent to Site to Handle Overflow of Special Events	No Parking on Bridge Street due to inadequate width	New streets can accommodate on-street parking if built to Urban Collector standard	At Spencer Park and Church and on Missouri Ave.	At Spencer Park and Church and on Texas Ave.	No	On adjacent streets

Appendix A

Site-Assigned Trip Methodology and Traffic Operations Analysis Worksheets

Trip Generation

Trip generation was based on ITE Trip Generation Manual, 7th Edition.

The existing condition was analyzed using the existing enrollment at the school of 660 students. This was broken down in to, Average daily trips, AM volumes in and out of the site and PM volumes in and out of the site.

ITE Code	School	Students	ADT	AM IN	AM OUT	AM TOTAL	PM IN	PM OUT	PM TOTAL
520	Elem	240	310	55	45	100	15	15	30
522	Mid	170	275	50	40	90	15	10	25
530	High	250	430	70	30	100	15	20	35
	Total	***660***	***1015***	***175***	***115***	***290***	***45***	***45***	***90***

The future condition was analyzed using the school's planned enrollment capacity of 1,000 students. This was broken down in to, Average daily trips, AM volumes in and out of the site, and PM volumes in and out of the site.

ITE Code	School	Students	ADT	AM IN	AM OUT	AM TOTAL	PM IN	PM OUT	PM TOTAL
520	Elem	360	465	85	70	155	25	25	50
522	Mid	250	405	75	60	135	20	20	40
530	High	390	665	110	50	160	25	30	55
	Total	***1000***	***1535***	***270***	***180***	***450***	***70***	***75***	***145***

The values reported by these rates were compared against values reported in a travel mode survey that was conducted by the school district in November 2008.

	Students	AM IN	AM OUT	AM
Survey	575	199	74	273
Factored to 660	660	228	85	313
Factored to 1000	1000	346	129	475

These AM trip generation calculations from the travel mode survey assume that 50 high school students will drive and the remainder of the non driving high school students will ride with a driving high school student or take the bus. The Middle and Elementary school students will be driven by guardians and on average each vehicle trip will drop off two students. 75 faculty/staff AM trips were assumed. 10 bus drops offs would occur in the morning. All of the AM trips generated occur in the peak hour.

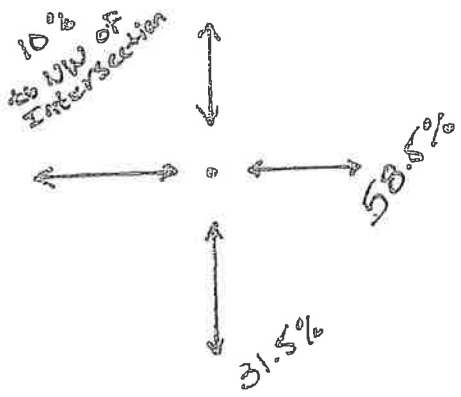
Based on these finding the ITE Rates will be used as they are based on actual count data and it is likely that the trips assumed to come in the peak hour by the travel mode survey calculations will arrive before or after the peak time period.

Trip Distribution

The major Intersection for each option was analyzed for its trip distribution based on available student location data.

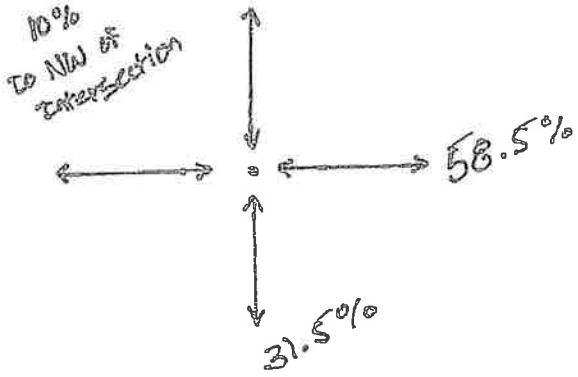
Northwest Corner Site

Rose Avenue Extension Option



Trip Distribution at Rose/Bridge Intersection

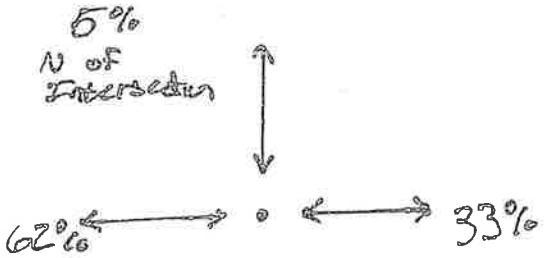
Bridge Street Widening Option



Trip Distribution at Rose/Bridge Intersection

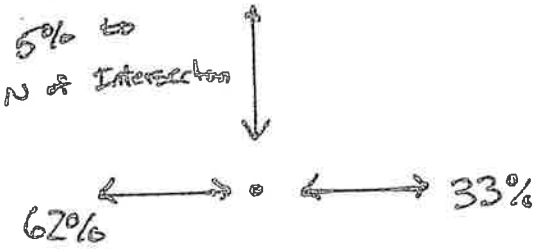
Boot Site

Missouri Avenue Widening Option



Trip Distribution at Texas/Bridge Intersection

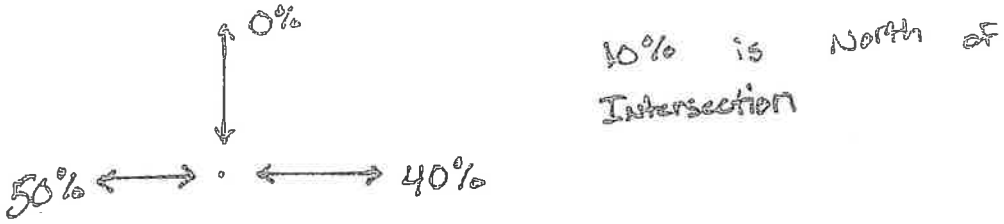
Texas Avenue Widening Option



Trip Distribution at Missouri/Bridge Intersection

Boot Site (Cont.)

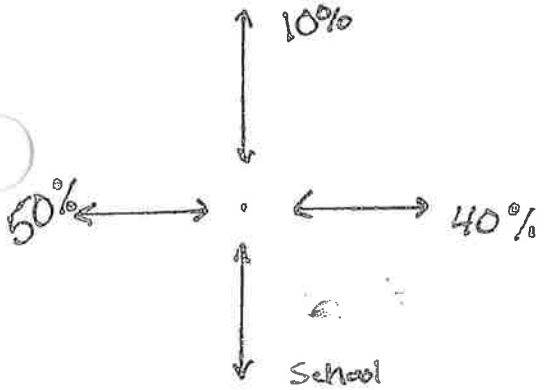
North Boot Site Access Option



Trip Distribution at State/Bridge Intersection

Existing Site

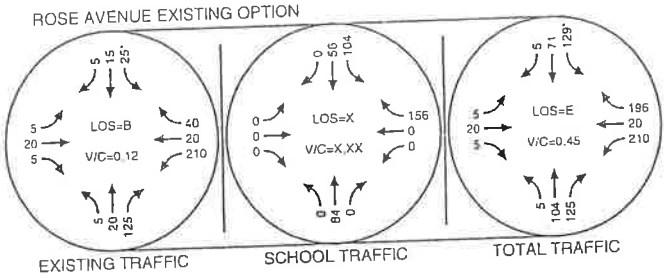
With 4-way intersection analysis of State Avenue/Bridge Street



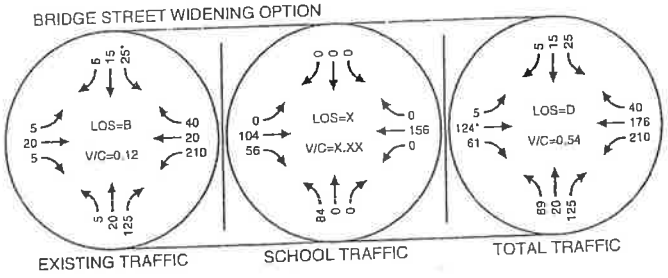
Trip Distribution at State/Bridge Intersection

NORTHWEST CORNER SITE

ROSE AVENUE EXISTING OPTION

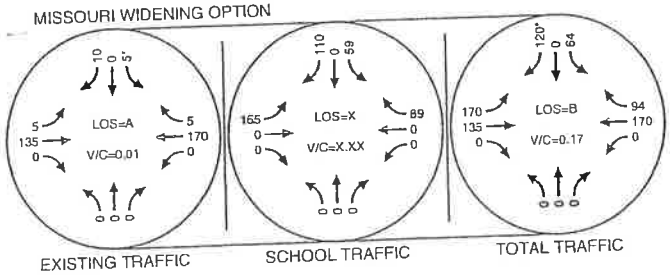


BRIDGE STREET WIDENING OPTION

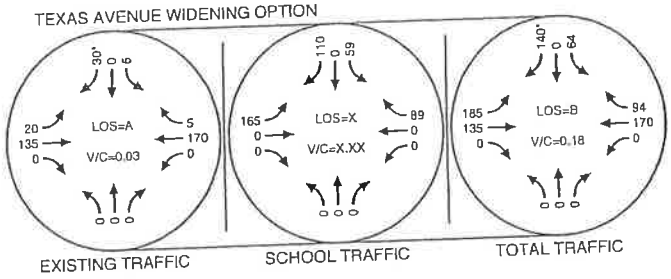


BOOT SITE

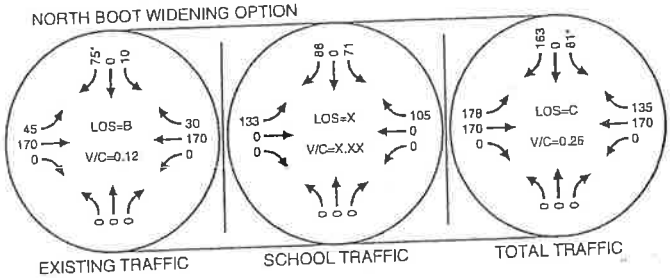
MISSOURI WIDENING OPTION



TEXAS AVENUE WIDENING OPTION

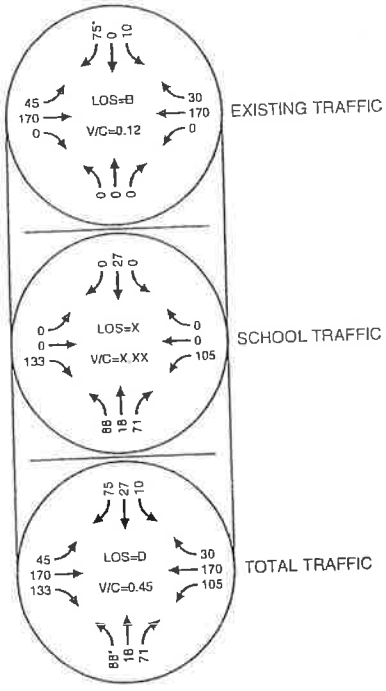


NORTH BOOT WIDENING OPTION



EXISTING SITE

WITH 4-WAY INTERESECTION ANALYSIS OF STATE AVENUE/ BRIDGE STREET (SCHOOL TRIPS ROUTED THROUGH THE NEW FORTH LEG)



LEGEND

* = CRITICAL MINOR STREET MOVEMENT
LOS = CRITICAL MOVEMENT LEVEL OF SERVICE
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

INTERSECTION ANALYSIS
VERNONIA, OREGON

FIGURE B-1

Rose Ave Ext Base

Base condition at Rose and Bridge

Rose Avenue extension Report

Scenario:	Rose
Command:	Default Command
Volume:	Rose
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Base condition at Rose and Bridge

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: B(13.1)

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0	0 0	1 0	0	0 1!	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	25	145	0	0	210	20	20	40	5	5	60	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	145	0	0	210	20	20	40	5	5	60	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	145	0	0	210	20	20	40	5	5	60	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	25	145	0	0	210	20	20	40	5	5	60	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	230	xxxx	xxxxx	xxxx	xxxx	xxxxx	448	415	220	438	425	145
Potent Cap.:	1326	xxxx	xxxxx	xxxx	xxxx	xxxxx	518	525	815	526	518	897
Move Cap.:	1326	xxxx	xxxxx	xxxx	xxxx	xxxxx	462	515	815	485	508	897
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	0.08	0.01	0.01	0.12	0.01
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	511	xxxxx	xxxx	523	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	0.5	xxxxx
Shrd ConDel:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.1	xxxxx	xxxxx	13.0	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			13.1			13.0		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

Rose Ave Ext Future

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Rose — Wed Dec 10, 2008 16:14:58 — Page 3-1

Base condition at Rose and Bridge

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1

Average Delay (sec/veh): 12.9 Worst Case Level Of Service: E[43.4]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0	0 0	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	25	145	0	0	210	20	20	40	5	5	60	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	145	0	0	210	20	20	40	5	5	60	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	84	0	0	0	0	156	104	56	0	0	0	0
Initial Fut:	109	145	0	0	210	176	124	96	5	5	60	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	145	0	0	210	176	124	96	5	5	60	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	109	145	0	0	210	176	124	96	5	5	60	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	386	xxxx	xxxxx	xxxx	xxxx	xxxxx	694	661	298	712	749	145
Potent Cap.:	1162	xxxx	xxxxx	xxxx	xxxx	xxxxx	355	380	737	345	338	897
Move Cap.:	1162	xxxx	xxxxx	xxxx	xxxx	xxxxx	277	342	737	249	304	897
Volume/Cap:	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	0.45	0.28	0.01	0.02	0.20	0.01
Level Of Service Module:												
2Way95thQ:	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	306	xxxxx	xxxx	314	xxxxx
SharedQueue:	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	5.4	xxxxx	xxxxx	0.3	xxxxx
Shrd ConDel:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	43.4	xxxxx	xxxxx	19.7	xxxxx
Shared LOS:	A	*	*	*	*	*	*	E	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			43.4			19.7		
ApproachLOS:	*			*			E			C		

Note: Queue reported is the number of cars per lane.

Base condition at Rose and Bridge

Bridge Street Widening Report

Scenario: Bridge

Command: Default Command
Volume: Bridge
Geometry: Default Geometry
Impact Fee: Default Impact Fee
Trip Generation: Default Trip Generation
Trip Distribution: Default Trip Distribution
Paths: Default Path
Routes: Default Route
Configuration: Default Configuration

Base
Bride Street widening

Base condition at Rose and Bridge

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: B[13.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0	0	0	0 1	0	0	1! 0	0	0	1! 0
Volume Module:												
Base Vol:	25	145	0	0	210	20	20	40	5	5	60	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	145	0	0	210	20	20	40	5	5	60	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	145	0	0	210	20	20	40	5	5	60	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	25	145	0	0	210	20	20	40	5	5	60	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxx	xxxx	xxxx	xxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxx	xxxx	xxxx	xxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	230	xxxx	xxxx	xxxx	xxxx	xxxx	448	415	320	438	425	145
Potent Cap.:	1326	xxxx	xxxx	xxxx	xxxx	xxxx	518	525	815	526	518	897
Move Cap.:	1326	xxxx	xxxx	xxxx	xxxx	xxxx	462	515	815	485	509	897
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	0.08	0.01	0.01	0.12	0.01
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	511	xxxxx	xxxx	523	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	0.5	xxxxx
Shrd ConDel:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.1	xxxxx	xxxxx	13.0	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			13.1			13.0		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

Bridge Street Widening Future

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Base condition at Rose and Bridge

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1

Average Delay (sec/veh): 10.2 Worst Case Level Of Service: D(29.8)

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0	0	0 0	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	25	145	0	0	210	20	20	40	5	5	60	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	145	0	0	210	20	20	40	5	5	60	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	84	0	0	0	156	0	0	0	0	0	104	56
Initial Fut:	109	145	0	0	366	20	20	40	5	5	164	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	145	0	0	366	20	20	40	5	5	164	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	109	145	0	0	366	20	20	40	5	5	164	61
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	386	xxxx	xxxxx	xxxx	xxxx	xxxxx	852	739	376	762	749	145
Potent Cap.:	1162	xxxx	xxxxx	xxxx	xxxx	xxxxx	278	343	666	319	339	897
Move Cap.:	1162	xxxx	xxxxx	xxxx	xxxx	xxxxx	138	308	666	264	304	897
Volume/Cap:	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	0.14	0.13	0.01	0.02	0.54	0.07
Level Of Service Module:												
2Way95thQ:	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	231	xxxxx	xxxx	368	xxxxx
SharedQueue:	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.1	xxxxx	xxxxx	4.1	xxxxx
Shrd ConDel:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	26.6	xxxxx	xxxxx	29.8	xxxxx
Shared LOS:	A	*	*	*	*	*	*	D	*	*	D	*
ApprnachDel:	xxxxxx			xxxxxx				26.6			29.8	
ApproachLOS:	*			*				D			D	

Note: Queue reported is the number of cars per lane.

Existing Site w/4-way intersection at bridge and state Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Existing Site w/ 4-way Base

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1

Average Delay (sec/veh): 2.3 Worst Case Level Of Service: B[10.2]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	0	0	10	0	75	45	170	0	0	200	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	75	45	170	0	0	200	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	10	0	75	45	170	0	0	200	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	10	0	75	45	170	0	0	200	30
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	513	490	170	475	475	215	230	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	475	482	879	552	491	830	1350	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	421	465	879	538	475	830	1350	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	0.02	0.00	0.09	0.03	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	0	xxxxx	xxxx	780	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	10.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			10.2			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

Existing Site w/ 4way Future

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1

Average Delay (sec/veh): 7.9 Worst Case Level Of Service: D[31.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	0	0	10	0	75	45	170	0	0	200	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	75	45	170	0	0	200	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	88	18	71	0	27	0	0	0	133	105	0	105
Initial Fut:	88	18	71	10	27	75	45	170	133	105	200	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	18	71	10	27	75	45	170	133	105	200	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	88	18	71	10	27	75	45	170	133	105	200	135
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	855	872	237	849	871	268	335	xxxx	xxxxx	303	xxxx	xxxxx
Potent Cap.:	281	291	807	283	292	776	1236	xxxx	xxxxx	1269	xxxx	xxxxx
Move Cap.:	212	256	807	222	256	776	1236	xxxx	xxxxx	1269	xxxx	xxxxx
Volume/Cap:	0.42	0.07	0.09	0.05	0.11	0.10	0.04	xxxx	xxxx	0.08	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	0.3	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.0	xxxx	xxxxx	8.1	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	308	xxxxx	xxxx	453	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	3.4	xxxxx	xxxxx	1.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	31.3	xxxxx	xxxxx	15.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	C	*	*	*	*	*	*	*
ApproachDel:		31.3			15.5			xxxxx			xxxxx	
ApproachLOS:		D			C			*			*	

Note: Queue reported is the number of cars per lane.

North boot Site Access Base

North Boot Site Access Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1

Average Delay (sec/veh): 2.3 Worst Case Level Of Service: B[10.2]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign Include			Stop Sign Include			Uncontrolled Include			Uncontrolled Include		
Rights:												
Lanes:	0 0	0	0 0	0	0	1! 0	0	1	0 0 0	0	0	0 1 0
Volume Module:												
Base Vol:	0	0	0	10	0	75	45	170	0	0	200	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	75	45	170	0	0	200	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	10	0	75	45	170	0	0	200	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	10	0	75	45	170	0	0	200	30
Critical Gap Module:												
Critical Gp:	xxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	475	475	215	230	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	552	491	830	1350	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	538	475	830	1350	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.02	0.00	0.09	0.03	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	780	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	10.2	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			10.2			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

North Boot Site Access Future

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Default Scenario Wed Dec 10, 2008 16:27:08 Page 3-1

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1

Average Delay (sec/veh): 6.3 Worst Case Level Of Service: C(17.8)

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0		0 0	1! 0	0	0 1	0 0	0	0 0	0 1	0
Volume Module:												
Base Vol:	0	0	0	10	0	75	45	170	0	0	200	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	75	45	170	0	0	200	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	105
PasserByVol:	0	0	0	71	0	88	133	0	0	0	200	135
Initial Fut:	0	0	0	81	0	163	178	170	0	0	200	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	81	0	163	178	170	0	0	200	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	81	0	163	178	170	0	0	200	135
Critical Gap Module:												
Critical Gp:	xxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	794	794	268	335	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	360	323	776	1236	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	316	272	776	1236	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.26	0.00	0.21	0.14	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	523	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	2.5	xxxxx	0.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	17.8	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	A	*	*	*	*	*
ApproachDel:	xxxxxx				17.8		xxxxxx			xxxxxx		
ApproachLOS:	*				C		*			*		

Note: Queue reported is the number of cars per lane.

Texas Ave Future

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Default Scenario Wed Dec 10, 2008 16:22:24 Page 3-1

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1

Average Delay (sec/veh): 5.7 Worst Case Level Of Service: B[14.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	0 0	0 0	1! 0	0	0 1	0	0 0	0 0	0 1	0
Volume Module:												
Base Vol:	0	0	0	5	0	30	20	135	0	0	170	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	30	20	135	0	0	170	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	89
PasserByVol:	0	0	0	59	0	110	165	0	0	0	0	89
Initial Fut:	0	0	0	64	0	140	185	135	0	0	170	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	64	0	140	185	135	0	0	170	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	64	0	140	185	135	0	0	170	94
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	722	722	217	264	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	397	355	828	1312	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	349	300	828	1312	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.18	0.00	0.17	0.14	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	579	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.6	xxxxx	0.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	14.6	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx				14.6		xxxxx			xxxxxx		
ApproachLOS:	*				B		*			*		

Note: Queue reported is the number of cars per lane.

Texas Ave Base

Texas Avenue Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: A(9.5)

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign Include			Stop Sign Include			Uncontrolled Include			Uncontrolled Include		
Rights:												
Lanes:	0 0	0	0 0	0	0	1! 0	0	1	0 0 0	0	0	0 1 0
Volume Module:												
Base Vol:	0	0	0	5	0	30	20	135	0	0	170	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	30	20	135	0	0	170	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	5	0	30	20	135	0	0	170	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	5	0	30	20	135	0	0	170	5
Critical Gap Module:												
Critical Gp:	xxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
FollowUpTim:	xxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	348	348	173	175	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	653	579	876	1414	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	646	571	876	1414	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.03	0.01	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	834	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.5	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	A	*	*	*	*	*
ApproachDel:	xxxxxx				9.5		xxxxxx			xxxxxx		
ApproachLOS:	*				A		*			*		

Note: Queue reported is the number of cars per lane.

Missouri Avenue Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Missouri Base

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A(9.6)

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0	0	0 0	1! 0	0	0 1	0 0	0	0 0	0 1	0
Volume Module:												
Base Vol:	0	0	0	5	0	10	5	135	0	0	170	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	10	5	135	0	0	170	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	5	0	10	5	135	0	0	170	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	5	0	10	5	135	0	0	170	5
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	318	318	173	175	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	680	602	876	1414	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	678	600	876	1414	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.01	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	798	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.6	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	A	*	*	*	*	*
ApproachDel:	xxxxxx				9.6		xxxxxx			xxxxxx		
ApproachLOS:	*				A		*			*		

Note: Queue reported is the number of cars per lane.

Missouri future

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1

Average Delay (sec/veh): 5.3 Worst Case Level Of Service: B[14.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	0 0	0 0	1!	0 0	0 1	0	0 0	0 0	0	1 0
Volume Module:												
Base Vol:	0	0	0	5	0	10	5	135	0	0	170	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	10	5	135	0	0	170	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	59	0	110	165	0	0	0	0	89
Initial Fut:	0	0	0	64	0	120	170	135	0	0	170	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	64	0	120	170	135	0	0	170	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	64	0	120	170	135	0	0	170	94
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	692	692	217	264	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	413	370	828	1312	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	368	317	828	1312	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.17	0.00	0.14	0.13	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	577	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.4	xxxxx	0.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	14.1	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			14.1			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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Appendix B

Travel Mode Survey

CLASSROOM TRAVEL SURVEY

PREPARED BY KITTELSON & ASSOCIATES

TEACHER/STAFF DATA

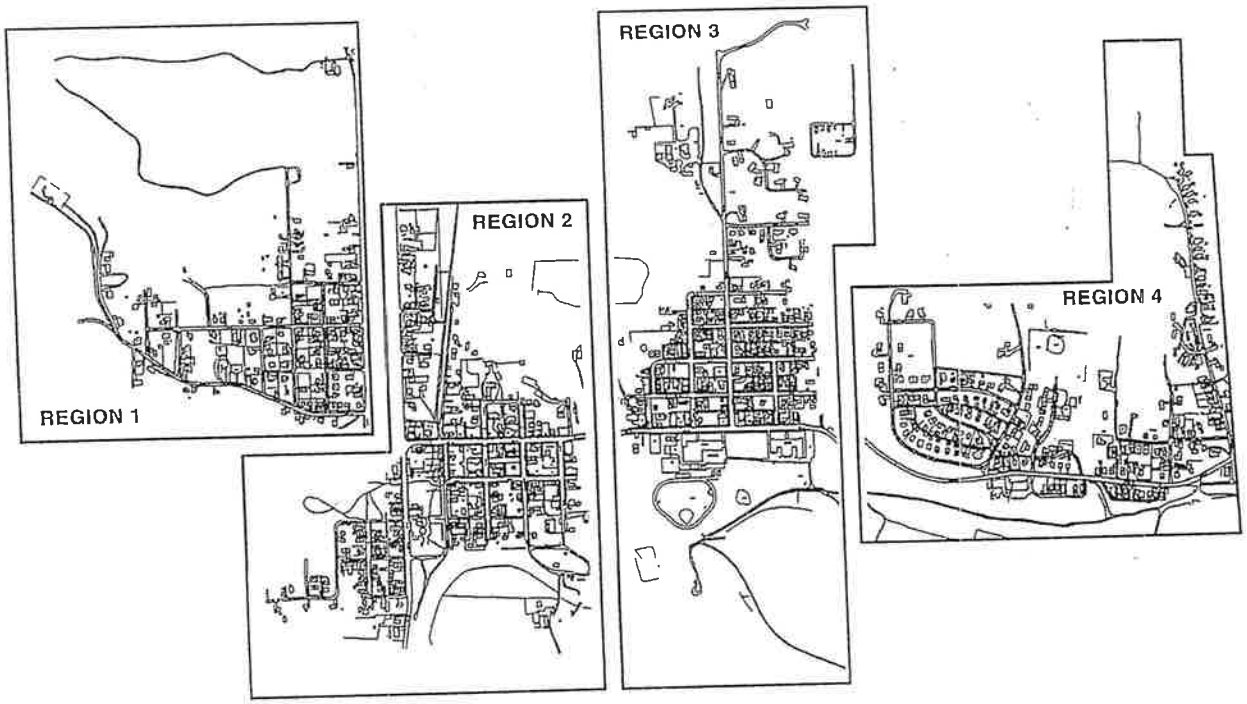
Teacher/Staff Member Name: _____ Contact email: _____ Number of students in class _____

What travel mode did you use to travel to school? *(Circle one)* **Car *(by self)*** **Carpool** **Bus** **Bike** **Walk**

How far do you live from school? ____ Miles

STUDENT DATA

School *(Please Circle)*: Elementary (K 1 2 3 4 5) Middle (6 7 8) High (9 10 11 12) Mist (K 1 2 3 4 5)



REGION 1: # of students _____
Number that typically arrive to school by

Bus_____ Car_____ Walk_____ Bike_____

REGION 2: # of students _____
Number that typically arrive to school by

Bus_____ Car_____ Walk_____ Bike_____

REGION 3: # of students _____
Number that typically arrive to school by

Bus_____ Car_____ Walk_____ Bike_____

REGION 4: # of students _____
Number that typically arrive to school by

Bus_____ Car_____ Walk_____ Bike_____

OUTSIDE OF VERNONIA

Number of students _____
Number that typically arrive to school by

Bus_____ Car_____ Walk_____ Bike_____

Please only count the residence students travel to school from most often, and the mode they use most often.

Instructions for Travel Survey

The attached survey will collect basic travel data about students, faculty and staff that come to Vernonia schools. In order for the data to be effectively collected and tallied, it is asked that this form be completed by a classroom official, who will solicit responses from students and record them on this sheet. This survey has three main goals:

Determine student, faculty and staff travel mode volumes (Bus, Car, Bike, and Walk).
(How many people use a ____ to get to school/work)
Determine what region of the community students, faculty and staff live in.
(How many people live in Region ____)
Determine what lengths of commute students, faculty and staff have.
(How many people travel ____ miles to get to school/work)

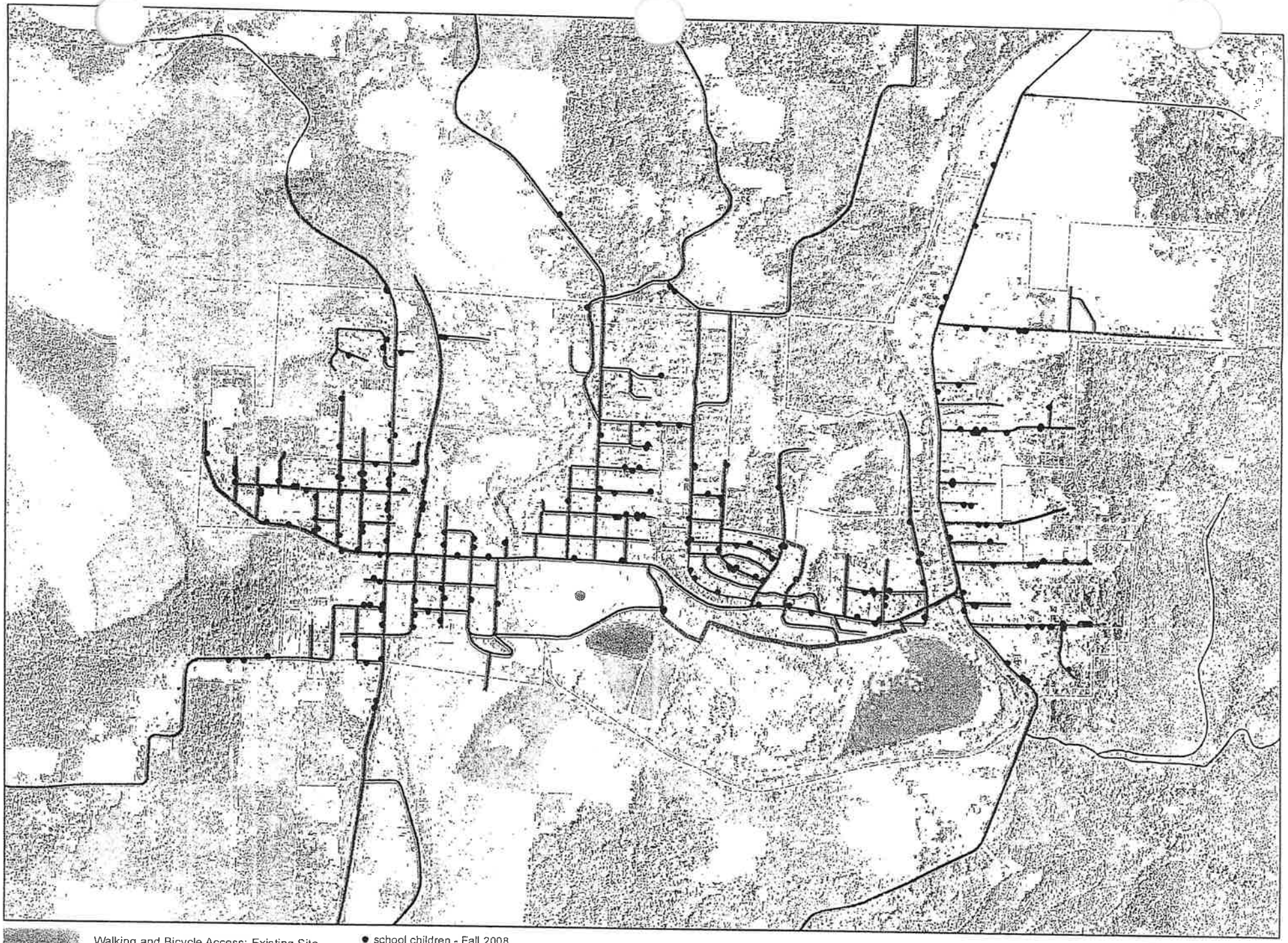
For Staff not associated with a class of students, please fill out only top portion of survey form for yourself.

INFORMATION REGARDING REGIONS
For the purpose of the travel analysis the district has been broken into five regions.

Region 1: Hilly section of town west of Rose Ave and north of Nehalem Highway.
Region 2: Part of town west of Rock Creek not including Region 1.
Region 3: Part of town adjacent to the schools and to the north along State Avenue.
Region 4: Part of town east of the school and west of the Nehalem River. (Homes on the east side of the Nehalem River are considered outside of Vernonia for this survey.)
Outside Vernonia (city limits) and not in any one of the above four regions

Appendix C

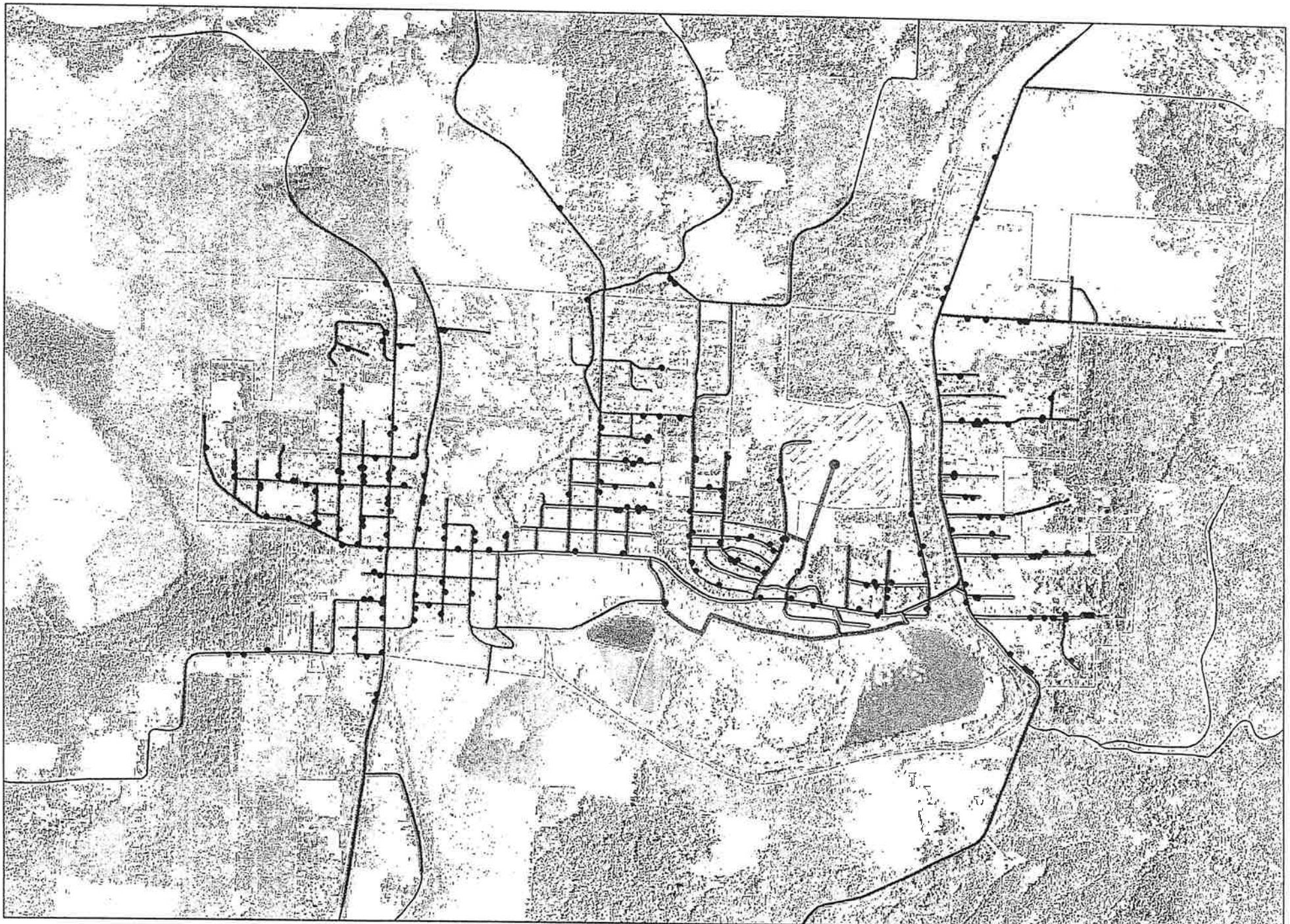
Walking and Bicycle Access Maps from Alternate School Sites

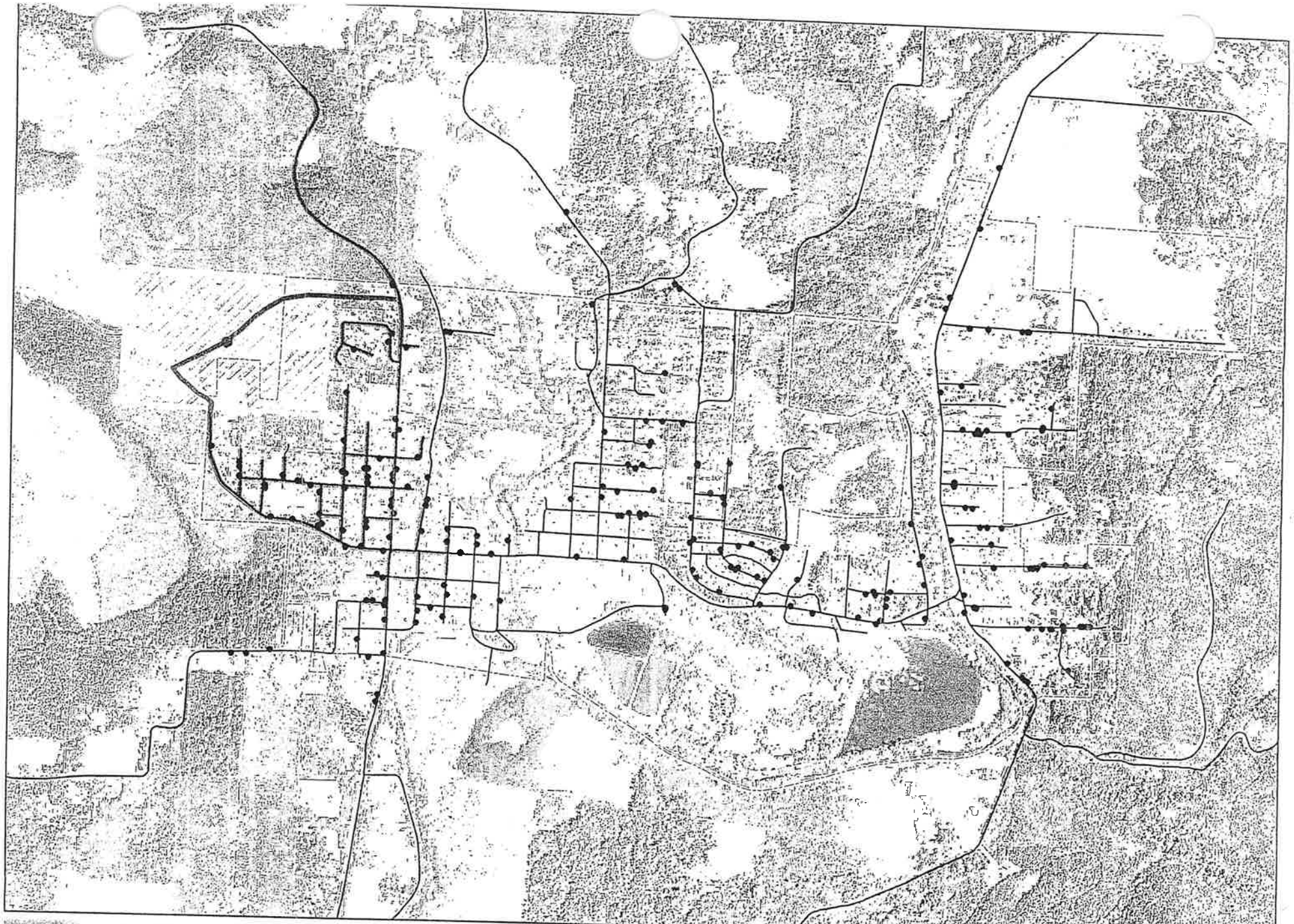


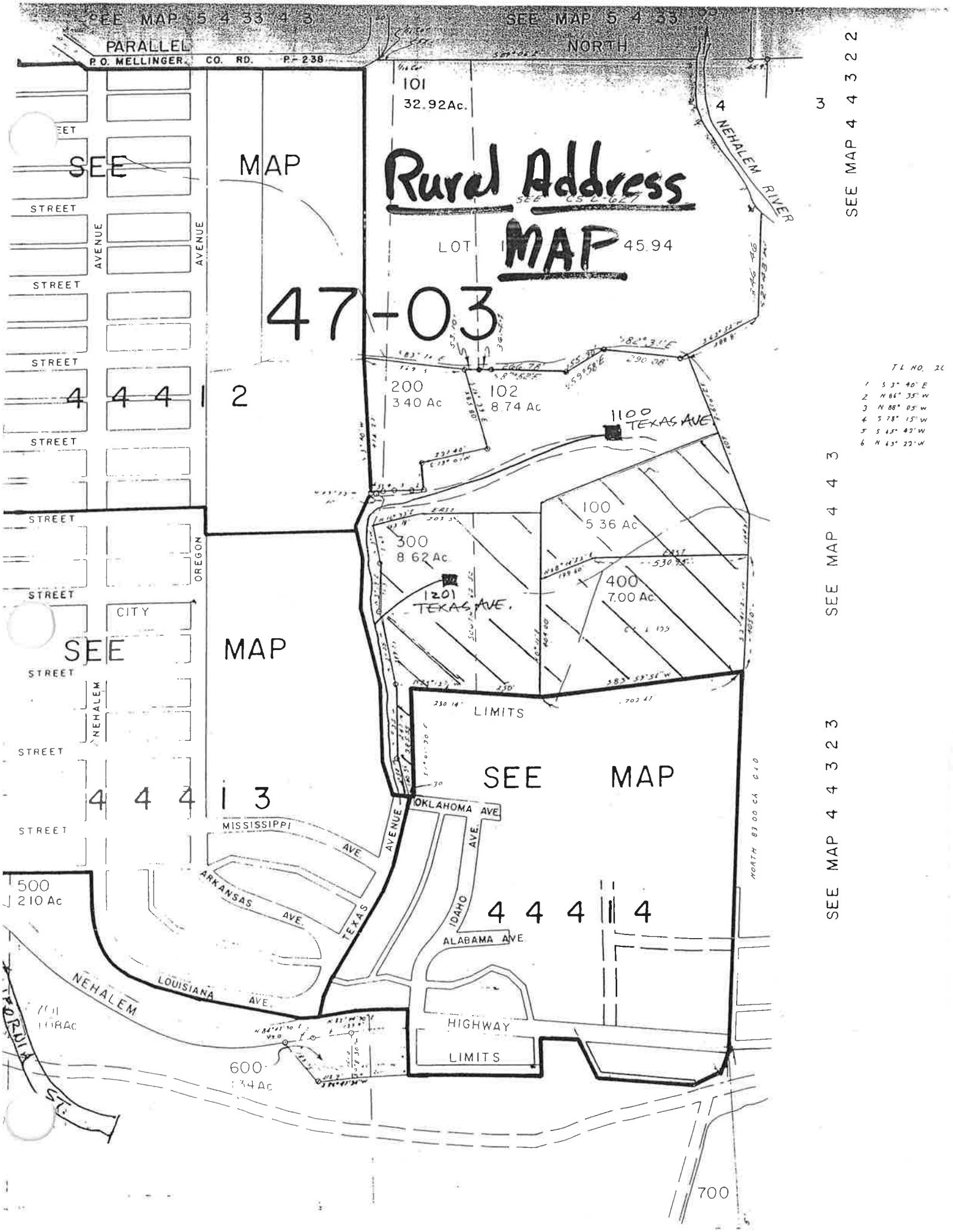
Walking and Bicycle Access: Existing Site
TGM Vernonia School Siting Study
DE C 2006

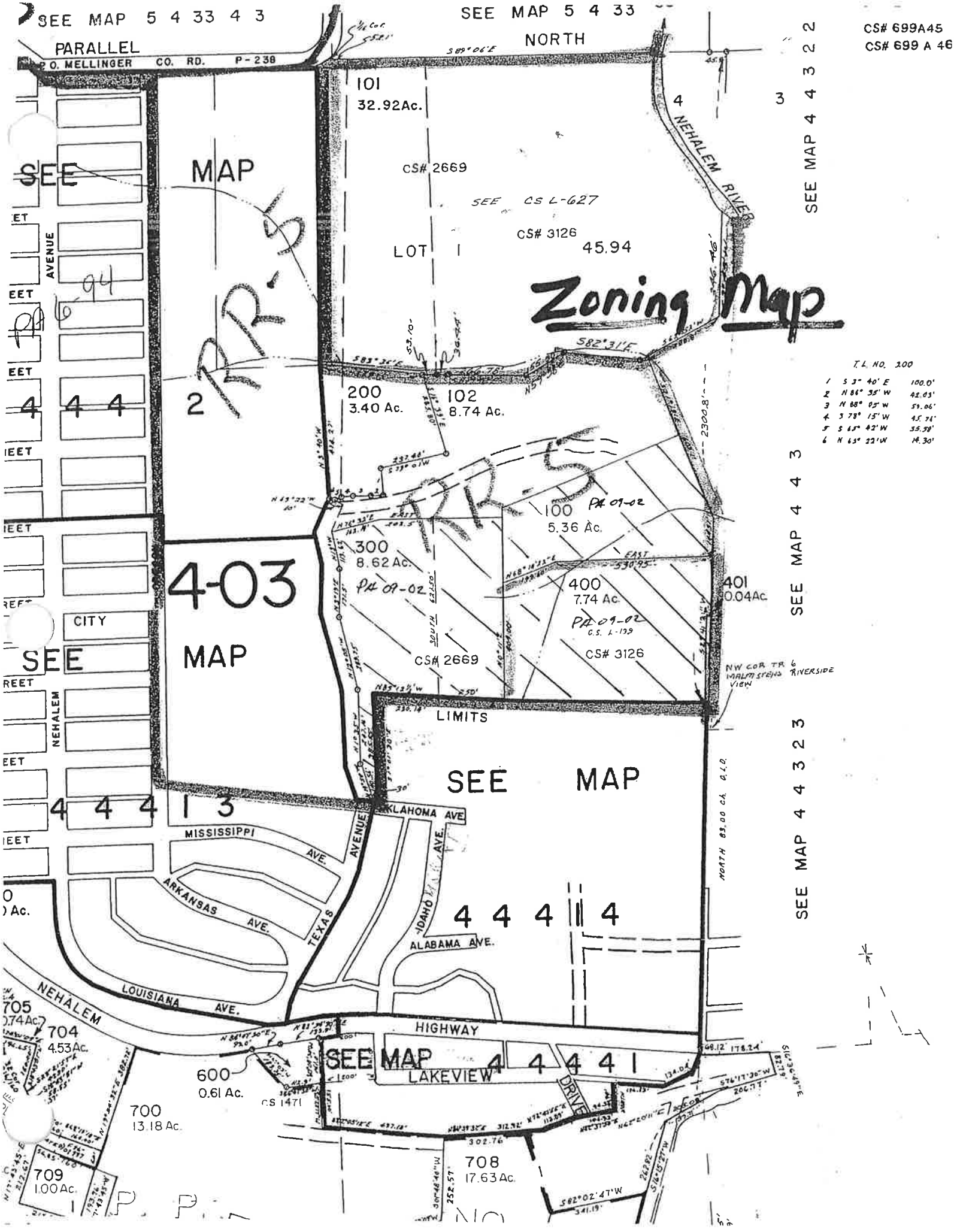
- school children - Fall 2008
- 1-mile walking route
- 2 - mile bicycling route

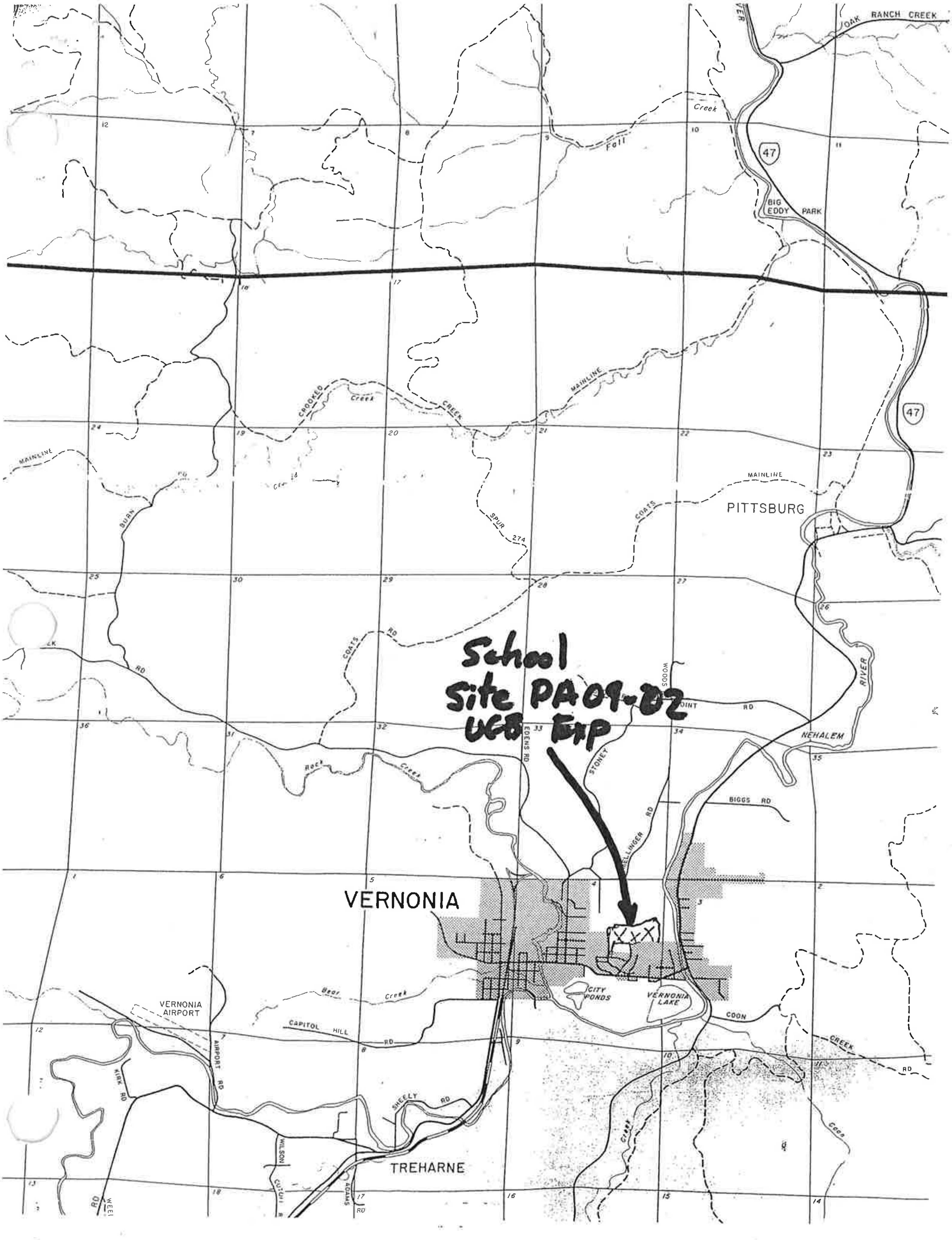
0 250 500 1,000 Feet


SERA
Walking and Bicycle Access: Boot Site
TGM Vernonia School Siting Study
DE 2008
school children - Fall 2008
1-mile walking route
2-mile bicycle route
0 250 500 1,000 Feet


SERA
Walking and Bicycle Access: NW Corner
TGM Vernonia School Siting Study
DE C 2008
school children - Fall 2008
half-mile walking route
1-mile bicycling route
0 250 500 1,000 Feet


SEE MAP 5 4 33 4 3
SEE MAP 5 4 33 20
PARALLEL
P.O. MELLINGER CO. RD. P-238
NORTH
101
32.92Ac.
4
NEHALEM RIVER
SEE MAP 4 4 3 2 2
3
SEE MAP
Rural Address MAP
LOT 1
45.94
47-03
STREET
AVENUE
4 4 4 1 2
200
3.40 Ac
102
8.74 Ac
1100 TEXAS AVE
TL NO. 2C
1 S 3° 40' E
2 N 86° 35' W
3 N 88° 05' W
4 S 78° 15' W
5 S 45° 42' W
6 N 63° 22' W
100
5.36 Ac
300
8.62 Ac
400
7.00 Ac
1201 TEXAS AVE.
OREGON
CITY
SEE MAP
NEHALEM
LIMITS
SEE MAP 4 4 3
4 4 4 1 3
SEE MAP
MISSISSIPPI AVE
OKLAHOMA AVE
IDAHO AVE
ARKANSAS AVE
TEXAS AVENUE
500
2.10 Ac
4 4 4 1 4
ALABAMA AVE
LOUISIANA AVE
NEHALEM
HIGHWAY
LIMITS
600
1.34 Ac
700
SEE MAP 4 4 3 2 3
NORTH 89 00 CA C.L.O.


SEE MAP 5 4 33 4 3
SEE MAP 5 4 33
NORTH
PARALLEL
P.O. MELLINGER CO. RD. P-238
CS# 699A45
CS# 699 A 46
101
32.92Ac.
4
3
SEE MAP 4 4 3 2 2
NEHALEM RIVER
SEE MAP
CS# 2669
SEE CS L-627
CS# 3126
LOT 1
45.94
Zoning Map
582°31'E
200
3.40 Ac.
102
8.74 Ac.
2
RR-5
T.L. NO. 200
1 S 3° 40' E 100.0'
2 N 86° 35' W 42.03'
3 N 88° 05' W 59.06'
4 S 78° 15' W 45.74'
5 S 65° 42' W 35.39'
6 N 65° 22' W 14.30'
2300.8'
SEE MAP 4 4 3
100 PA 09-02
5.36 Ac.
300
8.62 Ac.
PA 09-02
400
7.74 Ac.
PA 09-02
C.S. L-139
CS# 3126
CS# 2669
401
0.04Ac.
SEE MAP 4 4 3 2 3
4-03
MAP
CITY
SEE
MAP
NW COR. TR 6
MALM STEINS
RIVERSIDE
VIEW
LIMITS
SEE MAP
4 4 4 1 3
MISSISSIPPI AVE.
OKLAHOMA AVE
AVENUE
IDAHO AVE.
ARKANSAS AVE.
TEXAS
4 4 4 1 4
ALABAMA AVE.
NORTH 83.00 C.A. L.O.
NEHALEM
LOUISIANA AVE.
HIGHWAY
705
0.74Ac.
704
4.53Ac.
600
0.61 Ac.
CS 1471
SEE MAP 4 4 4 4 1
LAKEVIEW
DRIVE
700
13.18 Ac.
708
17.63Ac.
709
1.00Ac.


School
Site PA09-02
UGB Exp
VERNONIA
PITTSBURG
TREHARNE
VERNONIA AIRPORT
CITY PONDS
VERNONIA LAKE
BIG EDDY PARK
OAK RANCH CREEK
NEHALEM
RIVER
47
CROOKED Creek
MAINLINE
COATS RD
SPUR 274
Rock Creek
Bear Creek
CAPITOL HILL RD
COON CREEK RD
BIGGS RD
STONEY POINT RD
WOODS
EDENS RD
KELLINGER RD
AIRPORT RD
KIRK RD
SHEELY RD
WILSON
ADAMS RD
Fall Creek