



Essential Skills: Reading and Interpreting Maps and Plans

Prepared for:
NYS Tug Hill Commission
Local Government Conference
March 31, 2016

Prepared by:
Peter G. Vars, P.E.
BME ASSOCIATES



Stages of Plan Review

- Concept / Sketch Plan
- Preliminary Plan
- Final Plan



Concept Plan

- **First Stage of Plan Development**
- **Shows a Landowner's Intent for Proposed Use of the Property**
- **Provides Very Basic Information**
 - Parcel boundary and acreage
 - Adjoining streets and properties
 - Proposed use / development
- **Comparison to Zoning Ordinance**
 - Lots meet zoning criteria
 - Optimum or Maximum allowed density (site yield)
 - Calculation worksheet

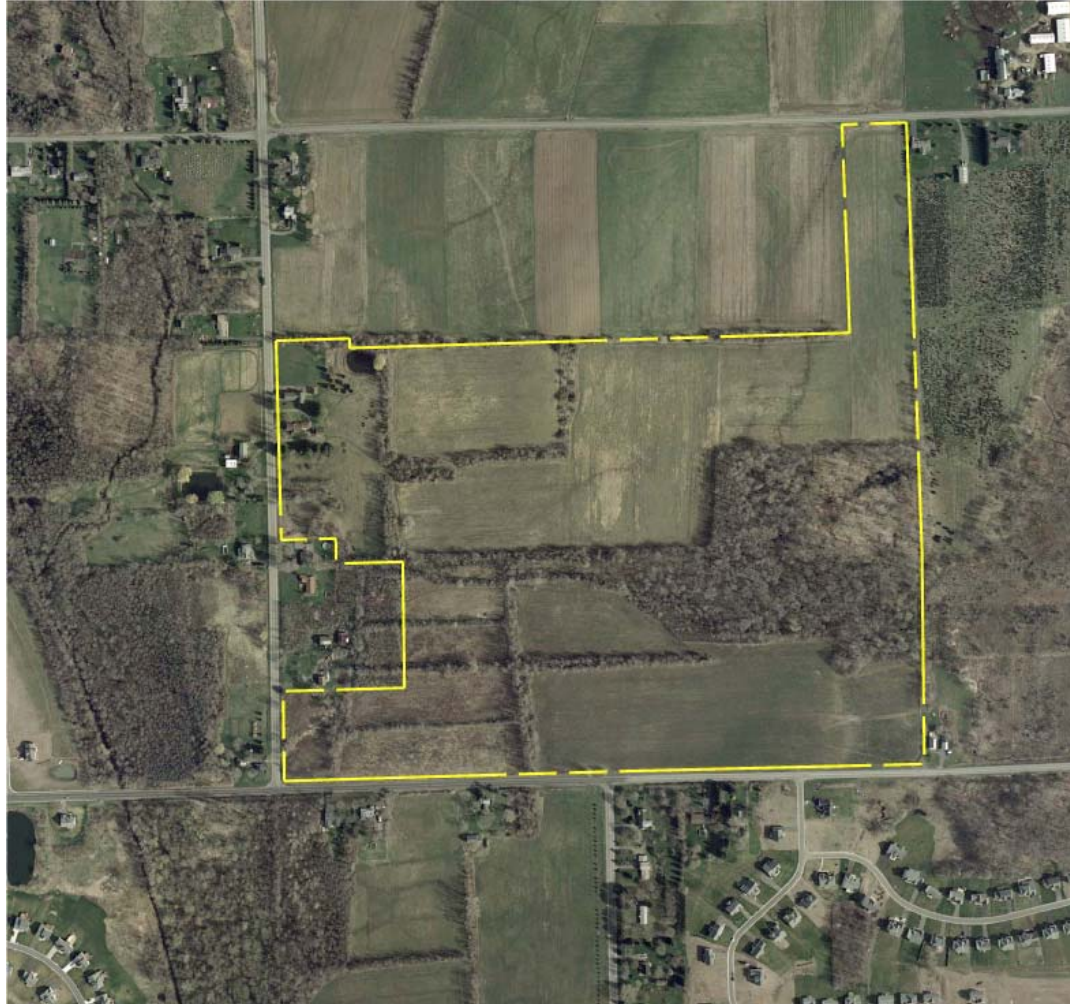
[illegible]



Concept Plan

- **Identify Any Unique Natural Features**
 - Wetlands
 - Steep slopes
 - Woodlots
 - Drainage ways
- **Prepared for Discussion Purposes with Community and Municipality**
 - Identify any site specific concerns
- **Get to know the property and its development constraints**

Property Aerial Photo



Concept Plan Checklist (See Appendix)

INFORMATION REQUIRED FOR SKETCH PLAN REVIEW

The information listed below is required by the Town of Victor Planning Board prior to an application being deemed "complete."

A completed application must be received by the Secretary to the Planning Board FIVE (5) WEEKS prior to a scheduled Planning Board meeting. This checklist is provided for informational purposes only, and is not to be "used" or "removed" and all items listed must be on the plan at the time of submittal.

1. _____ Twelve (12) copies & One 11x17 (unless additional are requested) copy of plan.
 2. _____ Plan not more than 34" x 44".
 3. _____ Name or title of proposed project.
 4. _____ Scale not less than 1" = 100'.
 5. _____ Name and address of subdivider or developer.
 6. _____ Name, address, seal and signature of Professional Engineer or Licensed Surveyor who prepared the plan.
 7. _____ Names of owners of adjacent lands and names of adjacent subdivisions.
 8. _____ Written and clear statement of subdivider's intent.
 9. _____ North arrow.
 10. _____ Location map.
 11. _____ Graphic scale.
 12. _____ Tax map with proposed subdivision outlined.
 13. _____ Date plan was prepared.
 14. _____ Existing buildings.
 15. _____ Lots numbered.
 16. _____ Aerial photograph with proposed subdivision outlined (Scale 1" = 1,000' or larger).
 17. _____ Ground contours for the parcel and parcels adjacent to the tract to be subdivided, at intervals not more than ten (10) feet of elevation.
 18. _____ Pertinent topographic features within the site and on adjoining tracts including existing buildings, water bodies, water courses, wooded areas, swamps, and recreational or open space. Features to be retained and to be removed shall also be indicated. U.S. Geological Survey Map may be used IF ENLARGED.
 19. _____ If the subdivider intends to develop the tract in stages, the entire tract shall be shown, with anticipated stages and time scheduled indicated. All other lands contiguous to the proposal owned by the subdivider shall be shown on the map with approximate area.
 20. _____ Zoning district within the tract and any other legal restrictions of use.
 21. _____ Method of sewage disposal. _____ Public _____ Septic System
 22. _____ Schematic plan of sanitary sewer system.
-



Preliminary Design Plans

■ Preliminary Design Plans

- Preliminary plan clearly defines the intent of the owner
- An extension of concept plan, which normally includes input from concept plan hearing
- Contains basic design information such as:
 - lot sizes and basic dimensions (widths, setbacks)
 - utility layout (water, sanitary, storm)
 - existing and proposed topography
 - stormwater management plan
 - limits of disturbance / features to be preserved



Preliminary Design Plans

■ Preliminary Design Plans (cont.)

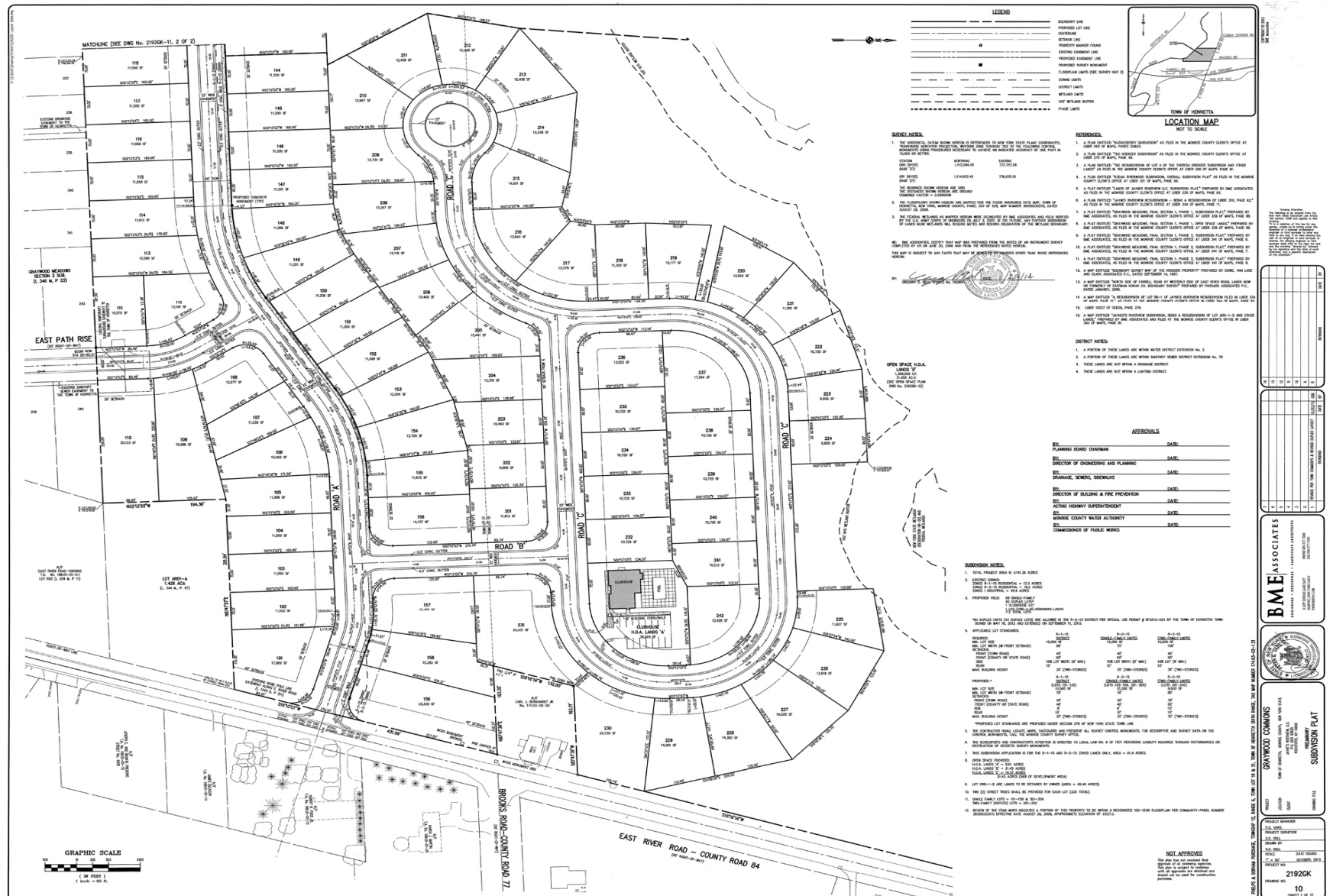
- Contains all information necessary to indicate conformance with the zoning ordinance
- Indicates proposed phasing (if necessary)
- Includes utility layout and grading information
- Accompanied by design reports:
 - stormwater management plan (SWPPP)
 - traffic analysis
 - any other studies identified during concept plan review or EAF review (geotechnical, wetlands delineation, cultural resource survey)



Preliminary Design Plans

- **Preliminary Design Plans (cont.)**
 - Identify if any special districts required (drainage, sewer, water, etc.)
 - Identify any open space including ownership, use, and/or restrictions
 - Indicates if any variances are required

Preliminary Plan



Preliminary Plan Checklist (See Appendix)

INFORMATION REQUIRED FOR PRELIMINARY SUBDIVISION PLAN REVIEW

The information listed below is required by the Town of Victor Planning Board prior to an application being deemed "complete" and prior to a public hearing being scheduled.

A complete application must be received by the Secretary to the Planning Board **FIVE (5) WEEKS** prior to a scheduled Planning Board meeting. This checklist is provided for informational purposes only, and is not to be "used" or "removed" and all items listed must be on the plan at the time of submittal.

Preliminary subdivision plan must show the following information:

1. ____ Twelve (12) copies of plan; Plan not more than 34" x 44".
2. ____ Scale not less than 1" = 100'.
3. ____ If more than one sheet is required to show entire project, an index map should be provided.
4. ____ Date. 5. ____ North Arrow. 6. ____ Location Map (3" x 3")
7. ____ The approximate lines of proposed lots, the acreage contained in each lot and lot numbering.
8. ____ Owners of adjacent lands. 9. ____ Field survey of boundary lines of proposed lots.
10. ____ The approximate lines and purposes of proposed easements.
11. ____ The approximate location and dimensions of areas proposed for parks, playgrounds, or other pertinent open space.
12. ____ Subdivision name. 13. ____ Engineer's seal and signature.
14. ____ Owner's name, address and signature.
15. ____ Name, address and signature of designer. 16. ____ Deed descriptions.
17. ____ Property boundaries including bearings and distances.
18. ____ Location of property lines. 19. ____ Existing buildings.
20. ____ Existing site features including bodies of water, water courses, swamps, creeks, springs, and woods.



Final Design Plan

- Advances the Preliminary Plan to Preparation for Construction
- Contains all Construction and Design Details
- Addresses any Conditions or Concerns of Preliminary Plan Review
- Implements Findings of Design Studies and Municipal SEQRA Review
- Contains all Technical Information Necessary for the Property to be Developed to Municipal Standards and Maps to be Recorded / Filed

Final Plan Checklist

(See Appendix)

INFORMATION REQUIRED FOR FINAL SUBDIVISION PLAN REVIEW

The information listed below is required by the Town of Victor Planning Board prior to an application being deemed "complete."

A complete application must be received by the Secretary to the Planning Board **FIVE (5) WEEKS** prior to a scheduled Planning Board meeting. This checklist is provided for informational purposes only, and is not to be "used" or "removed" and all items listed must be on the plan at the time of submittal.

Submission requirements for Final Plans for **Major Subdivisions**:

The final subdivision plans shall include the following separate sheets:

1. _____ Subdivision plat record plan.
2. _____ Grading and Drainage Plan.
3. _____ Utility Plan.
4. _____ Landscaping Plan.
5. _____ Street Lighting Plan.

In addition to the requirements for Sketch Plan and the Preliminary Plan, the following information shall be provided on the Final Plans:

6. GENERAL

_____ Twelve (12) sets of full size plans not more than 34" x 44" and One (1) 11x17 (unless additional are requested)

_____ If more than one sheet, provide an index map.

_____ Date and North Arrow.

_____ Subdivision name.

_____ Name, address and signature of owner of record.

_____ Owners of adjacent lands.

_____ Name, address and signature of Engineer or Surveyor.

_____ Engineer's seal and signature.

_____ Field survey of boundary lines of proposed lots.

_____ Covenants, easements, or deed restrictions affecting the proposed subdivision.





Final Subdivision Plan

- Plan is Considered a Legal Instrument
- Parcel Divisions with Dimensional Information
 - Distances and lengths
 - Compass (angular) directions of lines
- Street Right-of-Ways and Easements
- Zoning Information, including Bulk Area Requirements and Setbacks
- Lot Numbers and Lot Areas
- Any Special Conditions of Subdivision to be Filed with the Plan
- Subdivision Notes (lot area requirements, conditions of approval) See Appendix

Typical Subdivision Notes (See Appendix)

1. SECTION 4 AREA IS 19.64 ACRES± CONTAINING 16 LOTS AND 11.03± ACRES OF CONSERVATION EASEMENT AND HOMEOWNERS ASSOCIATION (HOA) LANDS.
2. EXISTING ZONING: R-2
THIS PROPOSAL IS TO BE DEVELOPED UNDER SECTION 278 OF TOWN LAW AND SECTION 184 (SUBDIVISION OF LAND), ARTICLE V, OF THE TOWN OF VICTOR CODE.
3. PROPOSED USE: RESIDENTIAL SINGLE FAMILY DWELLING
4. TOTAL HOA/CONSERVATION EASEMENT AREA PROVIDED IN SECTION 4 IS 11.03± ACRES.

5. LOT STANDARDS:

	REQUIRED	PROVIDED
		R-2
MINIMUM LOT SIZE	25,000 SF	16,200 SF*
MINIMUM LOT WIDTH (@ SETBACK)	100'	90'*
MINIMUM LOT WIDTH ON CUL-DE-SAC	50'	50'
MINIMUM LOT DEPTH	175'	160'*
SETBACKS:		
FRONT	40'	40' (LOTS 26-29) 25' (LOTS 14-22)
SIDE	15'	10'*
REAR	40'	10'*
DRIVEWAY SIDE SETBACK	10'	2'*

* THE ABOVE LOT STANDARDS ARE PROPOSED UNDER SECTION 278 OF TOWN LAW AND THE CLUSTERING PROVISIONS (ARTICLE V) OF THE TOWN OF VICTOR CODE.

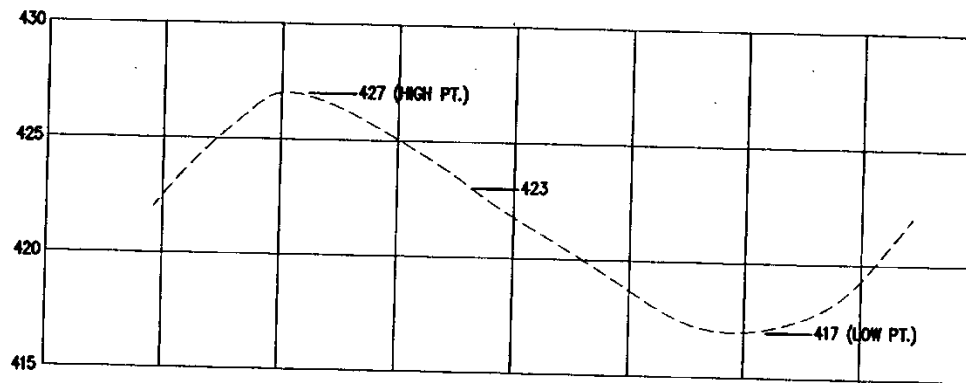
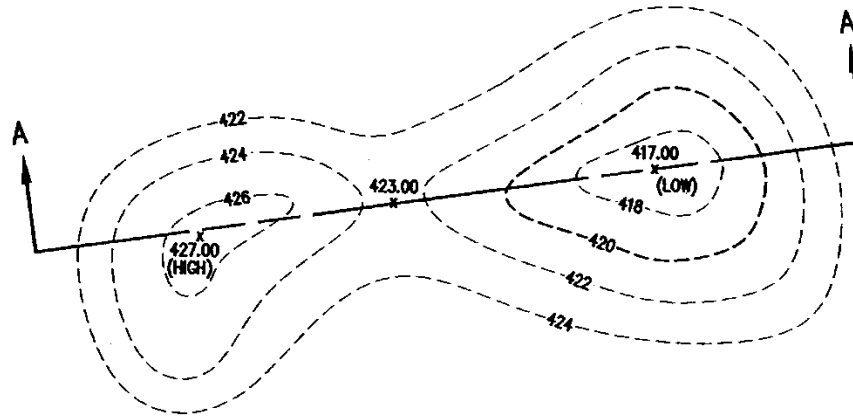
6. ALL IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE MOST RECENT STANDARDS AND SPECIFICATIONS OF THE TOWN OF VICTOR AND THE APPROPRIATE WATER/SEWER AGENCIES, UNLESS OTHERWISE NOTED.
7. REVIEW OF FEMA MAPS DOES NOT INDICATE THIS PROPERTY TO BE WITHIN A RECOGNIZED 100-YEAR FLOODPLAIN.
8. ALL STREET AND TRAFFIC CONTROL SIGNS REQUIRED BY THE TOWN OF VICTOR DESIGN AND CONSTRUCTION STANDARDS WILL BE INSTALLED PRIOR TO STREET DEDICATION.
9. THE CONTRACTOR SHALL LOCATE, MARK, SAFEGUARD, AND PRESERVE ALL SURVEY CONTROL MONUMENTS AND RIGHT-OF-WAY MONUMENTS IN THE AREAS OF CONSTRUCTION.
10. THIS PROPERTY MAY BORDER A FARM, AS DEFINED IN LOCAL LAW NO. 4-1992. RESIDENTS SHOULD BE AWARE THAT FARMERS HAVE THE RIGHT TO UNDERTAKE FARM PRACTICES WHICH MAY GENERATE DUST, ODOR, SMOKE, NOISE AND VIBRATION.
11. IN LIEU OF STREET LIGHTING, EACH HOUSE WILL BE PROVIDED A LAMP POST AT THE EDGE OF THE DRIVEWAY IN THE FRONT YARD OF EACH LOT. INDIVIDUAL LAMP POSTS SHALL HAVE A UNIFORM LOCATION OF 20 FEET FROM THE RIGHT-OF-WAY, USE UNIFORM LIGHT FIXTURES, AND BE LOCATED TO PREVENT INTERFERENCE WITH WATER, STORM, AND SANITARY LATERALS.
12. ALL PRIVATE LOTS WILL BE MARKED WITH CAPPED REBAR AT ALL LOT CORNERS AFTER HOUSE CONSTRUCTION AND PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.



Grading Plan

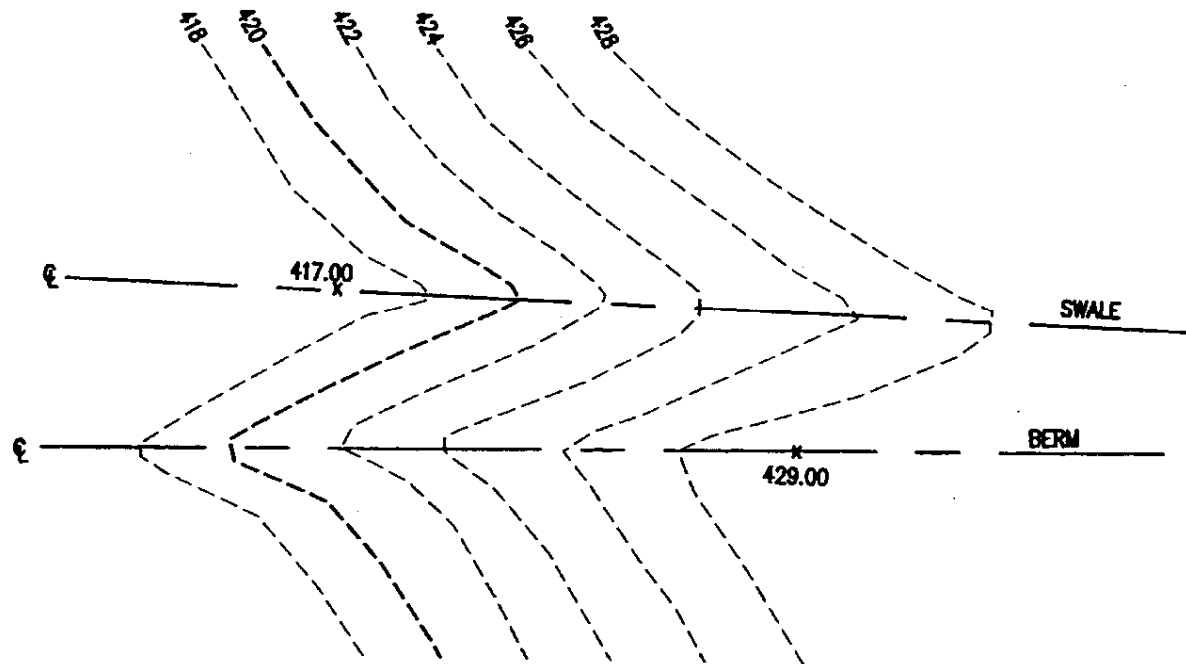
- Existing and Proposed Ground Elevations (Contours)
- Contours: Lines that Connect Points of Equal Elevation
- Contour Intervals (1', 2' & 5')

Contour Examples



SECTION A-A

Contour Examples





Grading Plan

- Slope: A measurement of steepness. The vertical rise for 100' of horizontal distance (% slope). Closer the contour lines, the steeper the slope.
- Cuts / Fills: The difference between existing and proposed contour elevations



Grading Plan

- Illustrates Proposed Cuts and Fills of Topography
- Shows Existing and Proposed Vegetation Limits (Clearing Limits)
- Identify Existing and Proposed Drainage Patterns (Stormwater Flows Perpendicular to Contour Lines)
- Identify Locations for Storm Inlets and Other Drainage Features
- Proposed Building Elevations

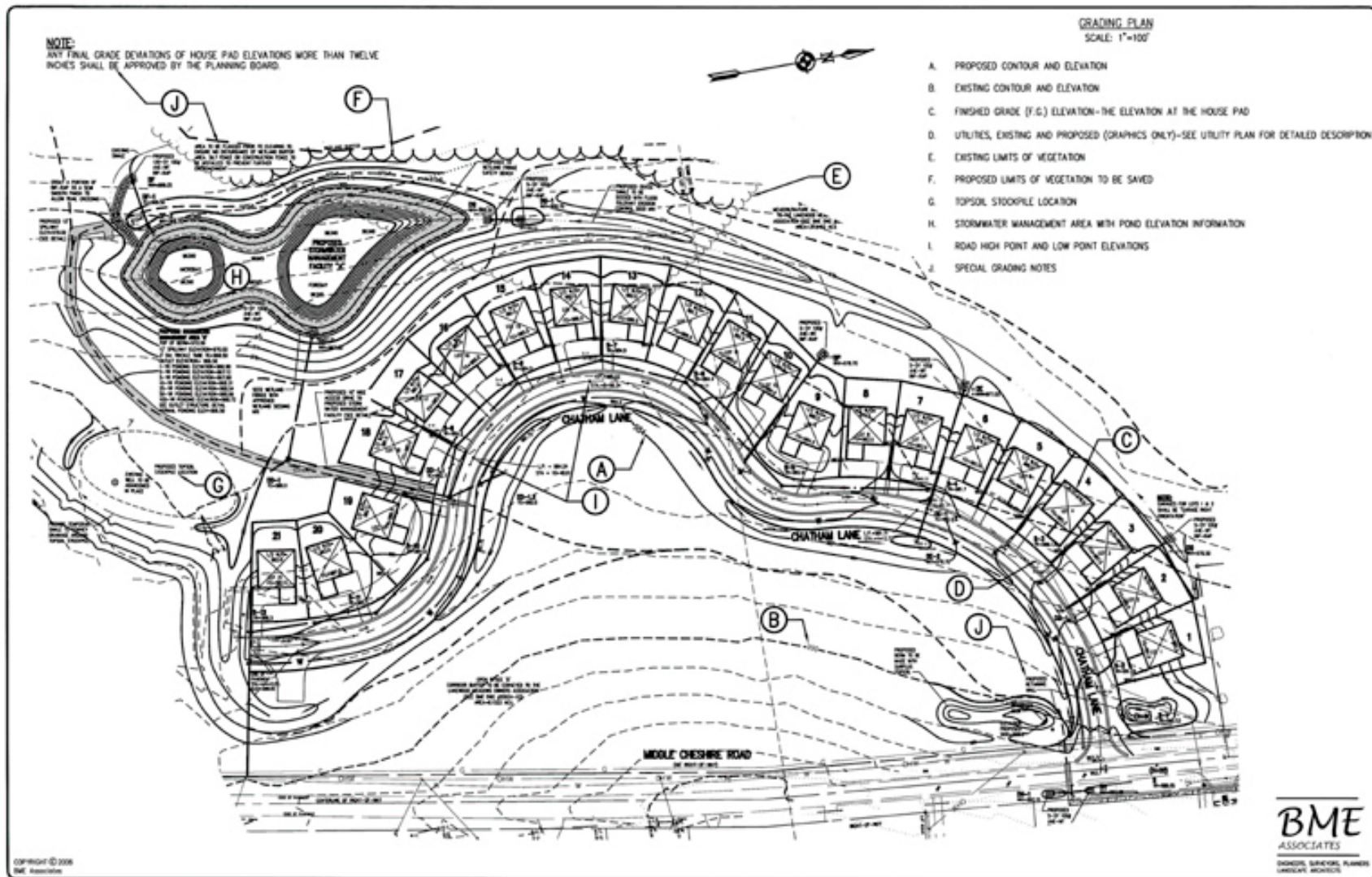
(Cont.)



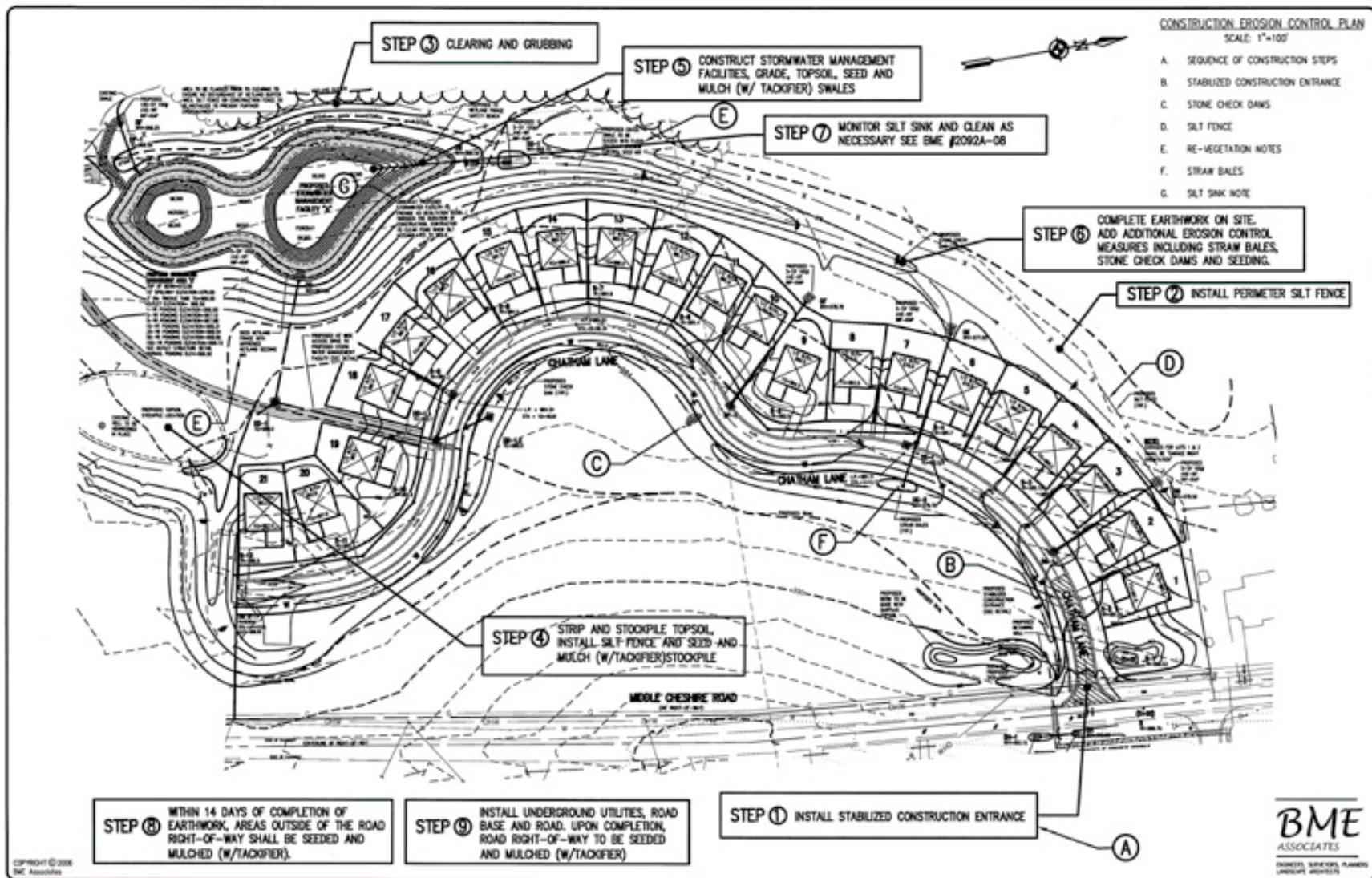
Grading Plan

- Proposed Stormwater Management Area Locations
- Grading Notes
 - Topsoil reclamation
 - Compaction requirements
 - Slope stabilization
- Sequence of Construction
- Erosion Control Measures

Grading Plan



Construction Erosion Control Plan





Utility Plan

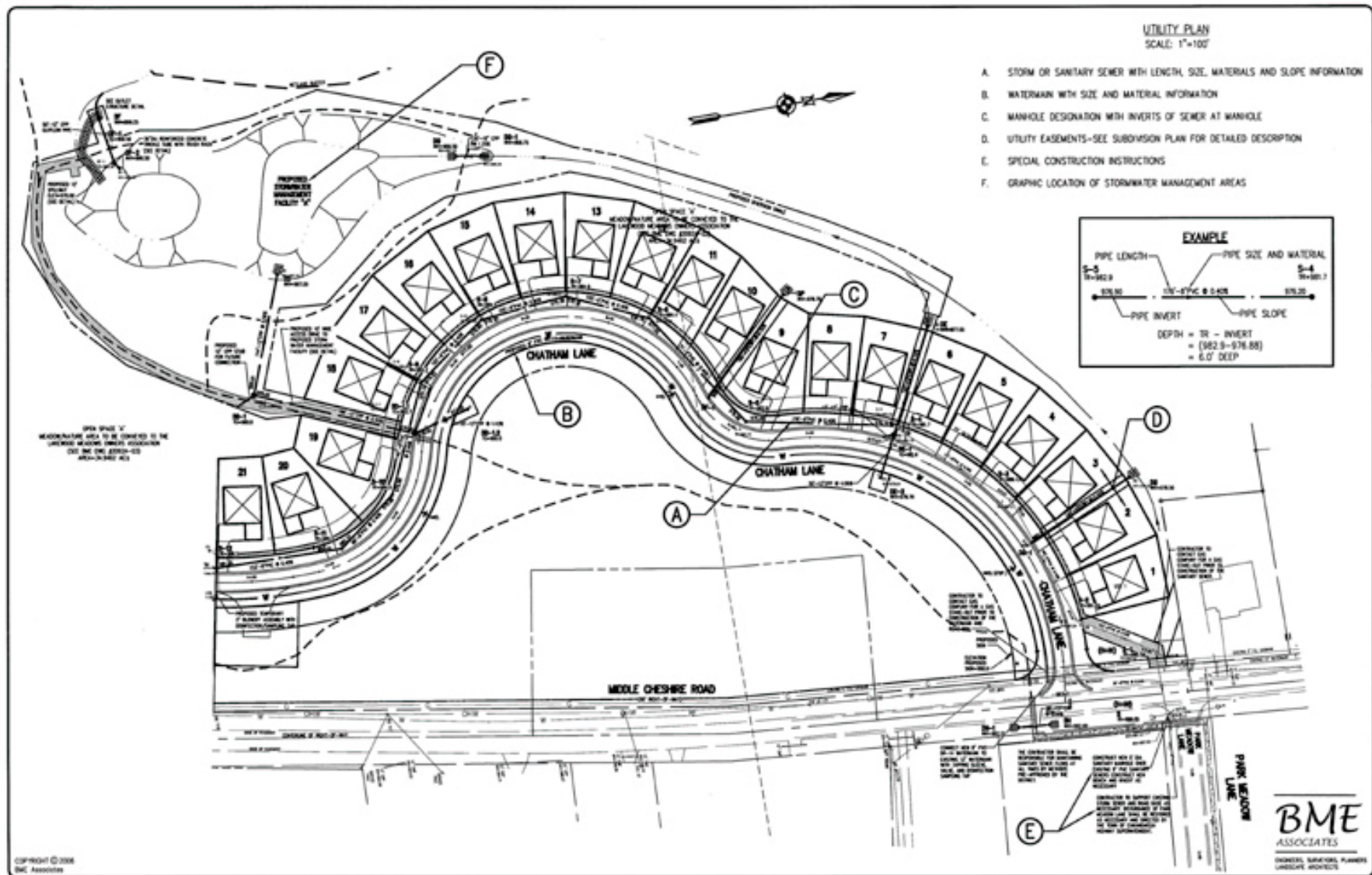
- **Identifies Existing and Proposed Utility Systems to Serve Development**
 - Water supply (watermains)
 - Sanitary and storm sewers
 - Septic systems / wells (if required)
 - Private utility systems (gas, electric, telephone)
- **Contains Design Information for Systems**
 - Pipe size and material
 - Invert or depth below ground
 - Pipe slope (direction of flow)



Utility Plan

- **Location of Appurtenances**
 - Hydrants and water line valves
 - Manholes and inlets
- **Additional Easements for Utility Lines (Outside of Road Right-of-Way)**
 - Minimum 20' easement width
 - Width equals double the depth
- **Contains Construction and Testing Notes of Regulatory Agencies (Water Authority and Health Department)**

Utility Plan

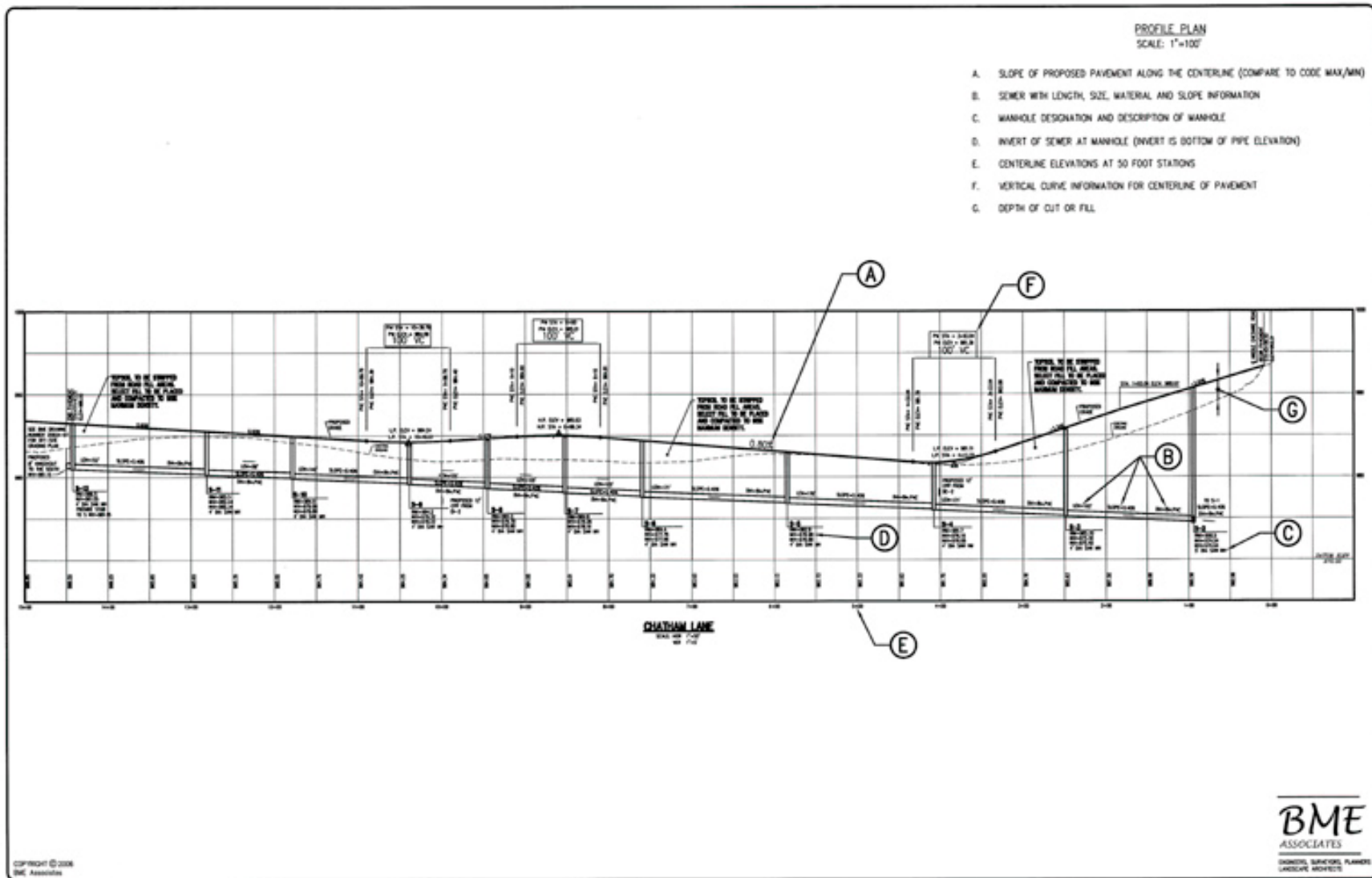




Profile Sheet

- **Provides Side View of Proposed Roads and Utilities**
 - x. axis = centerline road station
 - y. axis = elevation
- **Plan Illustrates how Roads and Sewers Change in Elevation over their Length**
 - Road slope (0.50% min. / 8.0% maximum)
 - Pipe slope and depth
 - Potential pipe conflicts
- **Very Effective in Identifying Utility Depths and Proposed Change to Existing Topography (Cut or Fill)**

Profile Sheet





Final Site Plan

■ Typical Checklist Items

- Zoning information
 - Setbacks
 - Lot coverage
 - Parking requirements
 - Building height
- Traffic flow patterns
 - Point of access
 - Ingress / egress
 - Delivery areas
 - Shared access

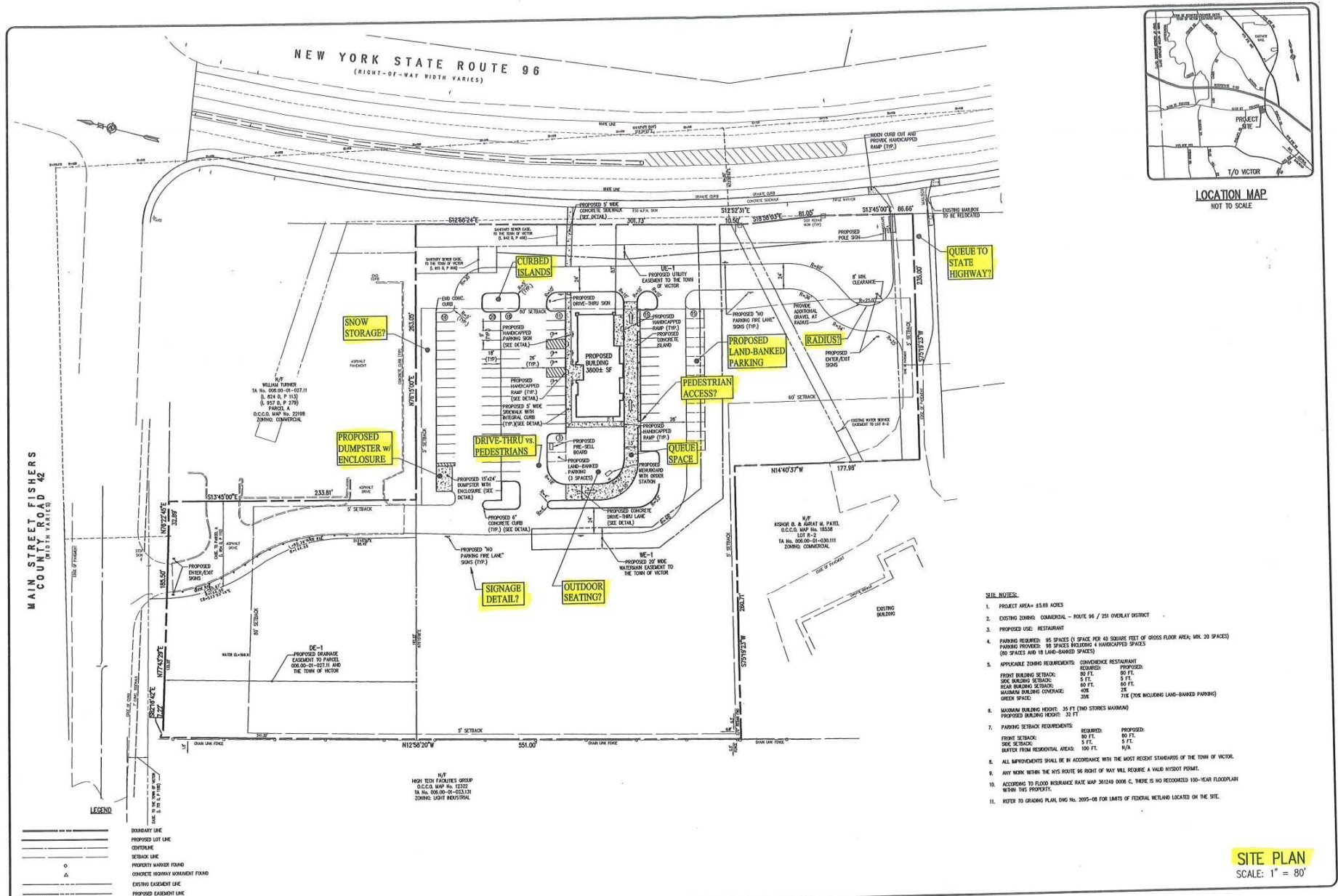


Final Site Plan

■ **Typical Checklist Items** (cont.)

- Traffic flow patterns
 - Drive-thru circulation and queues
 - Parking spaces (incl. handicap and ramps)
 - Pedestrian access, including crosswalks
- Dumpster locations / enclosures
- Snow storage
- Land bank parking areas
- Greenspace calculation
- Location of proposed fencing

Site Plan





Landscape and Lighting Plan

■ Landscaping

- Proposed plant materials
- SWMA plantings
- Building foundation plantings
- Seeding plan

■ Lighting

- Types of lights
 - MH = metal halide
 - HPS = high pressure sodium



Landscape and Lighting Plan

- **Lighting** (cont.)
 - Pole height
 - # of fixtures
 - Lighting contours / foot candles
 - Building mounted lighting

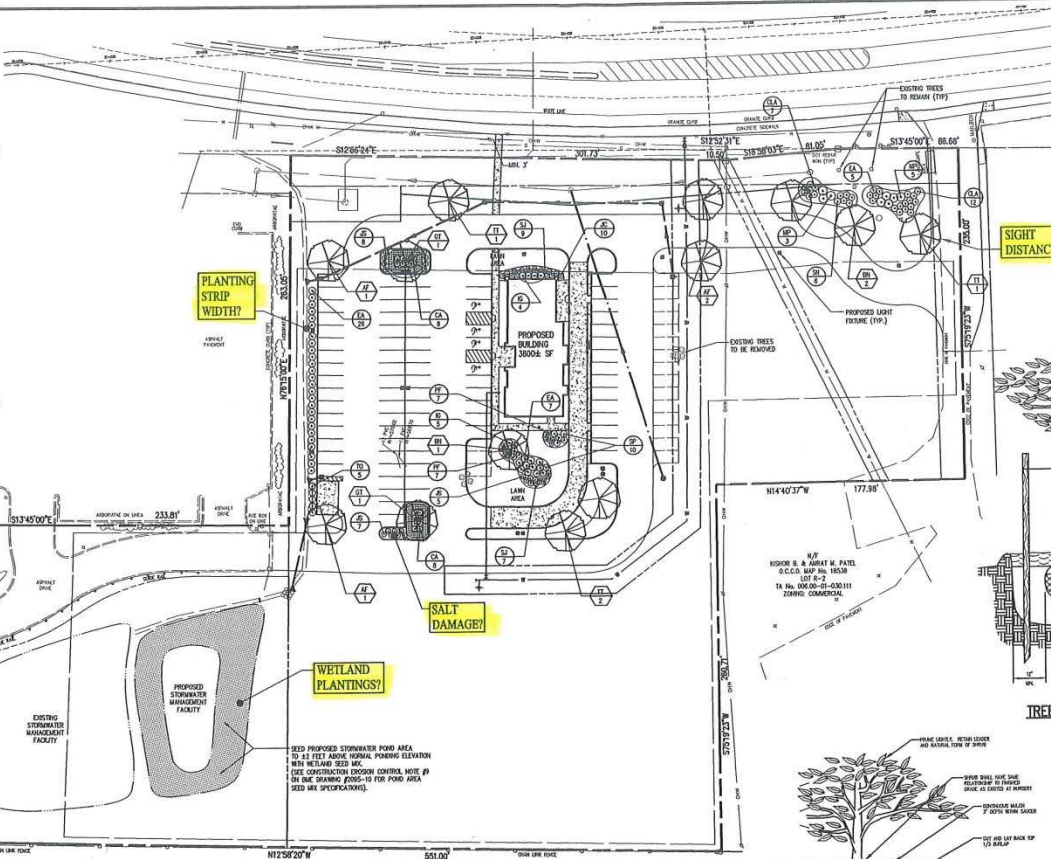
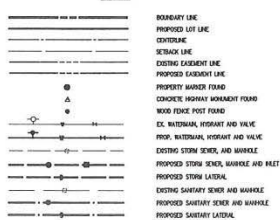
Landscape Plan

LANDSCAPE NOTES

- ALL PLANTS SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS AS NOTED IN THE LAST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN, AND 2601.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN QUANTITY TAKEOFFS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- ALL TREES SHALL BE LOCATED A MINIMUM DISTANCE OF FIVE FEET (5') FROM UNDERGROUND UTILITIES TO THE PLANT BALL.
- ALL TREES SHALL BE LOCATED A MINIMUM DISTANCE OF TEN FEET (10') FROM OVERHEAD UTILITIES TO THE PLANT BALL.
- PLANTING SOIL MIXTURE SHALL HAVE A RATIO BY VOLUME OF FOUR PARTS TOPSOIL TO ONE PART PEAT SOIL. AMENDMENTS TO BE MADE FOR INDIVIDUAL PLANT MATERIAL REQUIREMENTS.
- STAKE TREES IMMEDIATELY AFTER PLANTING (REFER TO DETAIL).
- PROVIDE ALL PLANTING BEDS WITH A CONTRASTING 2" LAYER OF MULCH. MULCH SHALL BE PROVIDED AS FOLLOWS: 100 & SHEDDED HARDWOOD MULCH, NO GREATER THAN 2" IN SIZE, UNIFORMLY MIXED AND FREE FROM DELETERIOUS MATERIALS.
- SEED ALL AREAS NOT PAVED, PLANTED OR SPECIFIED OTHERWISE WITH LAWN SEED.
 - LAWN SEED MIXTURE SHALL BE PROVIDED AS FOLLOWS:
 "PERENNIAL" & "WINTERING" START
 PERENNIAL FINE GRASS 40 85 85
 PERENNIAL FINE GRASS 20 87 80
 WINTERING & WINTERING
 WINTERING BLUEGRASS 40 85 80
 - SEEDING RATE: 8.0 LBS PER 1,000 SF.
 MULCH: STRAW AT TWO TONS PER ACRE, OR 1000 FEET MULCH
 USED WITH A HYDROSEEDING APPLICATION METHOD, WITH FERTILIZER
 STARTING FERTILIZER: 5:10:10 AT 20 LBS PER 1,000 SF.
 - REFER TO CONSTRUCTION EROSION CONTROL NOTE #1 ON SHEET DRWG-10 FOR EROSION CONTROL MEASURES.
- PROPOSED PLANT MATERIALS SHALL BE FIELD LOCATED, AND THE CONTRACTOR SHALL PERFORM A ROUGH STANDOUT OF PLANTINGS FOR REVIEW BY THE OWNER, PROJECT ENGINEER OR LANDSCAPE ARCHITECT PRIOR TO PLANTING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARE AND MAINTENANCE OF PLANT MATERIALS AND SEEDING AREAS UNTIL FINAL ACCEPTANCE.
- A MINIMUM ONE YEAR GUARANTEE SHALL BE PROVIDED ON ALL PLANT MATERIALS FROM THE DATE OF FINAL ACCEPTANCE.

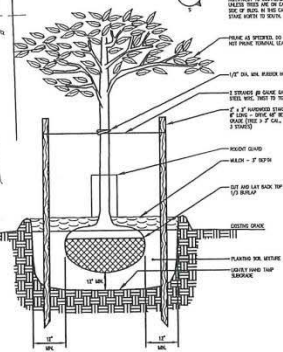
MAIN STREET
COUNTY ROAD

LEGEND

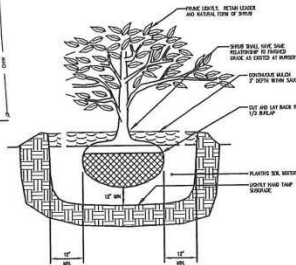


LOCATION MAP
NOT TO SCALE

SIGHT
DISTANCE



TREE PLANTING DETAIL
N.T.S.



SHRUB PLANTING DETAIL
N.T.S.

PLANT MATERIALS LIST

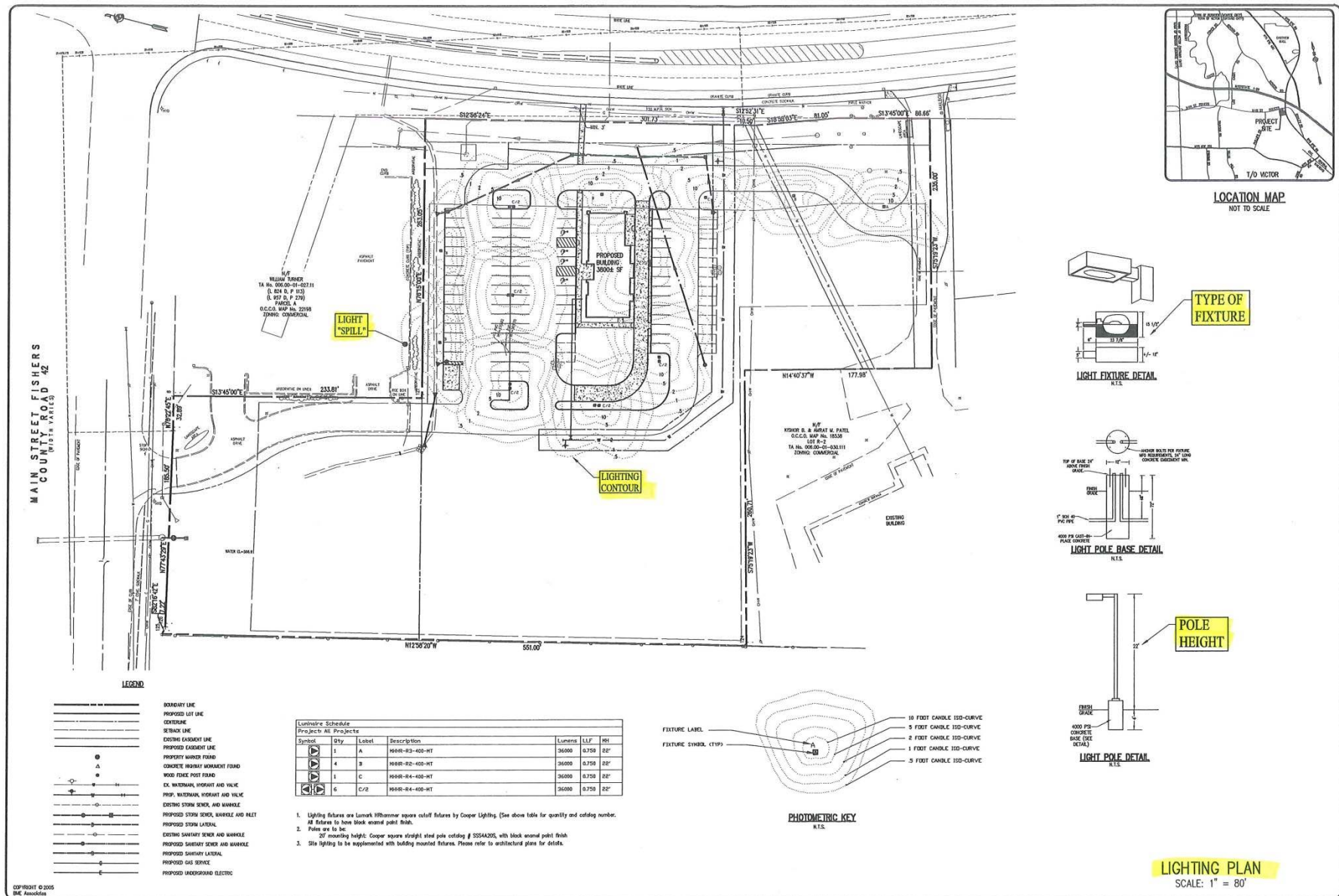
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
X	TREES					
	4	AF	Acer x freemanii 'Autumn Blaze'	Autumn Blaze Maple	2" col	BAB
	8	BN	Betula nigra Hartweg	Hartweg River Birch	6-8" H	BAB
	4	TT	Taxodium 1 var. kennel 'Skyline'	Skyline Horned Hornsop	2" col	Multi-Stem
X	SHRUBS					
	16	CA	Comar alba 'Sibirica'	Red Twig Dogwood	24"	CONT. or BAB
	16	CJA	Cornus alba	Sourwood Dogwood	24"	B.S. or CONT.
	16	EA	Cornus alba Composita	Compost Burning Bush	24"	CONT. or BAB

ORNAMENTAL GRASS GROUNDCOVER
 Pennisetum alopecuroides 'Hameli' (Hameli Dwarf Fountain Grass)
 Plant on 24\"/>

LANDSCAPE PLAN

SCALE: 1\"/>

Lighting Plan





Appendix Materials

- Sample Notes
- Plan Checklists
- Sample Plans



Contact Information

Peter Vars, PE
BME Associates
pvars@bmepec.com
(585) 377-7360
www.bmepec.com