MEAD STREET STORMWATER RETROFIT



FOR

TOWN OF LEWISBORO TOWN OF LEWISBORO, WESTCHESTER COUNTY, NEW YORK

DATE: AUGUST 18, 2014

PROJECT AREA



ENGINEERING, LANDSCAPE ARCHITECTURE & PLANNING, P.C. 500 Main Street • Armonk, N.Y. 10504 T: (914) 273-2323 F: (914) 273-2329



SITE DATA

OWNER/APPLICANT:

TOWN OF LEWISBORO TOWN HOUSE 11 MAIN STREET, P.O. BOX 500 SOUTH SALEM, NEW YORK 10590

PROPERTY ADDRESS:

MEAD STREET WACCABUC, NEW YORK 10597

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UNAUTHORIZED ADDITIONS, MODIFICATIONS AND / OR ALTERATIONS TO THESE PLANS IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW

GENERAL NOTES:

- 1. Survey information and partial topography based upon a map entitled "Drainage Study Prepared for Town of Lewisboro Situate in the Town of Lewisboro Westchester County, New York" prepared by Thomas C. Merritts Land Surveyors, P.C. dated (last revised) May 8, 2013.
- 2. Partial topographic information provided through Westchester County GIS Environmental Mapping.
- 3. Construction activities shall take place between the hours of 7:00 AM and 7:00 PM Monday thru Friday. No construction activities shall take place on Saturdays, Sundays or Holidays without prior written authorization from the owner.
- 4. The Contractor shall be responsible for providing one (1) copy of as-built drawings signed and sealed by a Licensed and Registered New York State Professional Engineer to the Town of Lewisboro at the completion of the construction.
- 5. This project is weather sensitive. no claims for delay will be permitted by the Contractor for weather related delays unless specifically agreed to by the Town.
- 6. The Contractor shall be responsible for the safety and security of his employees, subcontractors and/or agents, equipment and materials during the work of this project. No claims for damages may be made against the Town, the Engineer or its Agents.
- 7. The Contractor shall employ dewatering techniques to provide dry work conditions necessary for the work. Pumped water shall be discharged to stilling basins for sediment removal before continuing to flow downstream.
- 8. The Contractor shall be provided one (1) primary means of construction access through an existing boulder wall located on Mead Street. The Contractor shall be required to coordinate any temporary construction access, contractor staging and associated activities with Town personnel.
- 9. The Contractor shall be responsible for the complete restoration of all disturbances as a result of the temporary construction access road and staging area to existing conditions or better as determined by the Engineer. Any damaged stone walls not scheduled to be removed shall be reconstructed to match existing. All lawn areas shall be topsoiled and seeded with appropriate seed mix as indicated on the Landscape Plan.
- 10. The Contractor shall be responsible to provide 24-hour protection of his materials and equipment throughout construction and to maintain safe and adequate access through the work areas as required for pedestrians and vehicles.
- 11. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the work under the contract.
- 12. The Contractor shall be responsible to the Owner for the acts and omissions of his employees, subcontractors, and their agents and employees, and any other persons performing any of the work under a contract with the contractor.
- 13. The Design Engineer disclaims any liability for damage or loss incurred during or after construction.
- 14. The Engineer shall not be held responsible or held accountable for the integrity of any structures constructed or under construction prior to the approval of the plans.
- 15. The Contractor shall be responsible for the restoration of the existing features disturbed by the construction of this contract to existing condition or better, as determined by the Engineer.
- 16. It is the Contractor's responsibility to call in a "code 53" at least 2 days but no more than 10 days prior to construction for underground utility locations.
- 17. The Contractor shall notify the Town Engineer's office 48 hours before commencing site construction.
- 18. All work is to be completed in accordance with the Town's Code of Practice and Specifications.
- 19. All conditions, locations, and dimensions shall be field verified and the Engineer shall be immediately notified of any discrepancies.
- 20. All changes made to the plans shall be approved by the Engineer and any such changes shall be filed as amendments to the original permit.
- 21. All written dimensions on the drawings shall take precedence over any scaled dimensions.
- 22. Substructures and their encroachments below grade, if any, are not shown.
- 23. Contractor to verify all substructures encountered during construction.
- 24. Blasting shall not be permitted for the work of this contract.

GENERAL STORM SEWER NOTES:

- 1. The Design Engineer shall be notified forty eight (48) hours before construction is started.
- 2. All work shall be in accordance with the Town of Lewisboro's Standards and Specifications.
- 3. All Storm Sewers shown on these plans shall be HDPE N-12 Pipe.
- 4. The contractor shall submit shop drawings of all precast concrete structures to the Design Engineer for review and acceptance.
- Manhole frames & covers to be manufactured by Campbell Foundary. Pattern numbers as indicated on the plans. Manhole covers to be heavy duty, grates marked "DUMP NO WASTE. DRAINS TO WATERWAYS".
- 6. Concrete base slabs shall be air entrained concrete with a minimum design strength of 4,000 psi.
- 7. Precast manholes shall have minimum reinforcement of 0.12 sq. in. per l.f. for 48 in. barrel & be designed in accordance with A.S.T.M. C-478, and withstand an H-20 design loading. 8. Precast base sections to have the required number of gaskets and openings as shown and specified.
- 9. Precast manhole sections shall employ a watertight gasket arrangement between each section approved by the Design Engineer
- 10. Openings for pipes shall be precast or machine cored. Pipe connections to manholes shall be parged and watertight and compatible with the type of pipe being used.
- 11. The length of pipes entering or leaving any manhole shall be greater than 2'-0".
- 12. Precast manholes under 6'-0" deep shall have a "flat top" slab roof.
- 13. Minimum cover for storm sewer lines shall be 2'-0", unless otherwise shown.

MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) NOTES:

- 1. Remove or completely cover construction signs where not applicable.
- 2. Adjust signs/devices as necessary to address traffic lanes/conditions.
- 3. Road work shall only take place on one side of the roadway at a time and with minimum MPT controls as required to maintain safe passage.
- 4. Signs shall be clean, reflective and displayed only while workers are in the work area or equipment is on or near the roadway.
- 5. Maintenance and Protection of Traffic shall be provided in accordance with Section 619- Maintenance and Protection of Traffic of the Standard Specifications and the New York State Manual of Uniform Traffic Control Devices (NYS MUTCD).
- 6. Private vehicles owned by the contractor or his workmen shall not be parked on the pavement or shoulders, beyond the limits of the designated contractor staging area, or at any other location considered by the Engineer to be a hazard.
- 7. The Engineer may order additional devices and/or methods for maintenance and protection of traffic to meet field conditions.
- 8. Drums, where used, shall be spaced 25 feet on center, maximum.
- 9. Construction equipment shall be removed from the clear roadside area during non-working hours. Provide a minimum 20 foot clear roadside area.

- the plans.
- authorized by the Engineer.

EROSION & SEDIMENT CONTROL NOTES:

All proposed soil erosion and sediment control practices have been designed in accordance with the following publications:

- 189)

The primary aim of the soil erosion and sediment control plan is to reduce soil erosion from areas stripped of vegetation during and after construction and to prevent silt from reaching the drainage structures, pond systems and downstream properties. As outlined in the construction sequencing notes below and on the Sediment & Erosion Control Plans, the Sediment & Erosion Control Plan is an integral component of the construction phasing and sequencing and will be implemented to control sediment and re-establish vegetation as soon as practicable. The plan will be implemented prior to the commencement of any earthmoving activities.

Each contractor/subcontractor(s) and trained contractor involved in the soil disturbance and/or stormwater management practices shall sign and date a copy of the contractor certification prior to undertaking any land development activity.

The stormwater retrofits will involve greater than 5,000 s.f. of disturbance, Coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, GP-0-10-001 will be required. As required by the General Permit, copies of the Notice of Intent (NOI), the NOI acknowledgment letter, the Stormwater Pollution Prevention Plan Report, the MS4 SWPPP Acceptance Form and any inspection reports prepared at the construction sites shall be maintained on site until all disturbed areas have achieved final stabilization and the Notice of Termination (NOT) has been filed with the NYSDEC. As required by the General Permit, the owner or operator shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the trained contractor. The contractor shall ensure that at least one trained contractor is on site on a daily basis when soil disturbance activities are being performed.

The proposed soil erosion and sediment control devices include the planned erosion control practices outlined below. Maintenance procedures for each erosion control practice are also provided herein. The owner or operator must ensure that all erosion and sediment control practices identified herein are maintained in effective operating condition at all times.

STABILIZED CONSTRUCTION ENTRANCE

A stabilized construction entrance shall be installed at the entrance locations indicated on the plans. The purpose of the stabilized construction entrance is to prevent vehicles leaving the site from tracking sediment, mud or any other construction-related materials from the site onto adjacent roadways.

Maintenance/Inspection

The Contractor shall maintain the construction entrance in a manner which prevents or significantly reduces the tracking of sediment/soil onto local roads. The Contractor shall inspect the construction entrance daily and after each rain event for displacement or loss of aggregate. The Contractor shall top-dress the construction entrance when displacement/loss of aggregate occurs, or if the aggregate becomes clogged or silted to the extent that the entrance can no longer perform its intended function. The Contractor shall inspect the vicinity of the construction entrance several times a day and immediately remove any sediment dropped or washed onto adjacent roadways.

SILT FENCE

Silt fence (geotextile filter cloth) shall be placed in locations depicted on the approved plans. The purpose of the silt fence is to reduce the velocity of sediment-laden stormwater from small drainage areas and to intercept the transported sediment load. In general, silt fence shall be used at the perimeter of disturbed areas, toe of slopes or intermediately within slopes where obvious channel concentration of stormwater is not present. Silt fence shall always be installed parallel to the contours in order to prevent concentrated flows from developing along the silt fence.

Maintenance/Inspection

Silt fencing shall be inspected at a minimum of every seven (7) days. Inspections shall include ensuring that the fence material is tightly secured to the wood posts. In addition, overlapping filter fabric shall be secure and the fabric shall be maintained a minimum of eight (8) inches below grade. In the event that any "bulges" develop in the fence, that section of fence shall be replaced immediately with a new fence section. Any visible sediment build-up against the fence shall be removed and deposited on-site a minimum of 100 feet from any pond.

• INLET PROTECTION

After any drain inlets have been installed and until the site is completely constructed and stabilized, these drain inlets will receive stormwater from the overland watersheds. This barrier will allow stormwater to be filtered prior to reaching the inlet grate.

Maintenance/Inspection

Inlet protection devices shall be inspected at a minimum of every seven (7) days. Care shall be taken to ensure that all inlet protection devices are properly located and secure and do not become displaced. Any accumulated sediments shall be removed from the device and deposited not less than 100 feet from a pond.

TREE PROTECTION

All significant trees to be preserved located within the limits of disturbance and on the perimeter of the disturbance limits shall be protected from harm by erecting a three (3) feet high (minimum) snow fence completely surrounding the tree. Snow fence should extend to the drip-line of the tree to be preserved. Trees designated to be protected/saved shall be identified during the staking of the limits of disturbance.

Maintenance/Inspection

The snow fence shall remain at the drip-line of the tree to be preserved. The snow fence shall be inspected at a minimum of every seven (7) days. Any damaged portions of the fence shall be repaired or replaced. Care shall also be taken to ensure that no construction equipment is driven or parked within the drip-line of the tree to be preserved.

SOIL/MATERIAL STOCKPILING

All soil/material stripped from the construction area during grubbing and grading shall be stockpiled in locations illustrated on the approved plans, or in practical locations on-site.

Maintenance/Inspection

All stockpiles shall be inspected (for signs of erosion or problems with seed establishment) at a minimum of once every seven (7) days. Soil stockpiles shall be protected from erosion by vegetating the stockpile with a rapidly-germinating grass seed and surrounded with either silt fence or staked weed-free haybales. In the non-growing season, the stockpiles shall be protected by a tarpaulin covering the entire stockpile.

RIP-RAP OUTLET PROTECTION

The outlets of all stormwater discharge areas will be protected from erosion by the placement of stone rip-rap at the culvert/swale outlet. The purpose of the stone outlet protection is to reduce the velocities of the discharged water such

10. No material is to be placed within the clear roadside area, except that which is to be placed that day.

11. Diamond shaped advance warning signs shall be used for all advanced warning signs that may be either diamond or rectangular shaped according to Part 238 of the NYS MUTCD. Signs shall be size "D", unless otherwise shown on

12. The contractor shall provide and maintain, at all times, safe and adequate access through the work area as well as ingress and egress to and from homes at existing or new access points, consistent with the work, unless otherwise

13. No work in the Right of Way shall be permitted prior to 9:00 AM nor after 3:00 PM.

• New York Standards and Specifications for Erosion and Sediment Control, latest edition

• New York State SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-10-001)

• Town of Lewisboro requirements for Stormwater Management and Erosion and Sediment Control (Chapter

that flows will not erode the receiving area.

Maintenance/Inspection

Maintenance of the outlet protection devices shall be inspected at a minimum of every seven (7) days to determine if any scouring beneath the rip-rap has occurred and/or if any rip-rap has been displaced. All displaced rip-rap shall be re-positioned or replaced with new rip-rap. In addition, all leaves, twigs and brush shall be removed in the vicinity of the culvert/swale outlet to ensure that stormwater is flowing unobstructed.

SURFACE STABILIZATION

All disturbed areas will be protected from erosion with the use of vegetative measures (e.g., grass seed mix, sod) hydromulch, weed-free hay or Curlex Excelsior Erosion Control Blankets.

Erosion control barriers consisting of silt fencing shall be placed around exposed areas during construction. Any areas stripped of vegetation during construction will be vegetated and/or mulched to prevent erosion of the exposed soils. In site areas where significant erosion potential exists (steep slopes/slopes exceeding 2:1) and/or where specifically directed, Curlex Excelsior Erosion Control Blankets (Manufactured by American Excelsior or approved equal) shall be installed. Mulch is also used alone for temporary stabilization in non-growing months.

Materials that may be used for mulching include weed-free straw/hay/salt hay, wood fiber, synthetic soil stabilizers, mulch netting, erosion control blankets or sod. A permanent vegetative cover will be established upon completion of construction of those areas which have been brought to finish grade and to remain undisturbed.

GENERAL LAND GRADING

The applicant/developer or their representatives shall be on-site at all times when construction or grading activity takes place and shall inspect and document the effectiveness of all sediment and erosion control practices.

The intent of the erosion controls is to control all disturbed areas, such that soils are protected from erosion by temporary methods and, ultimately, by permanent vegetation. All cut and fill slopes shall be kept to a maximum slope of 2:1. In the event that a slope must exceed a 2:1 slope, it shall be stabilized with stone rip-rap. On fill slopes, all material will be placed in layers not to exceed nine (9) inches in depth and adequately compacted. Where practicable, diversion swales shall be constructed on the top of all fill embankments to divert any overland flows away from the fill slope.

DUST CONTROI

Where vegetative or mulch cover is not practicable in disturbed areas of the site, dust shall be controlled by the use of water sprinkling. The surface shall be sprayed until wet. Dust control shall continue until such time as the entire site is adequately stabilized with permanent vegetative cover.

POLLUTION PREVENTION MEASURES FOR CONSTRUCTION RELATED ACTIVITIES

Pollution prevention practices for preventing litter, construction chemicals (if applicable) and construction debris from becoming a pollutant source in stormwater discharge includes daily pickup of construction debris, inspection, designated storage areas, and physical controls such as silt fencing and inlet protection. Inspections will also be conducted to ensure that dust control measures are utilized as necessary. During construction, maintenance, construction and waste materials will be stored within suitable areas/dumpsters, as appropriate, to minimize the exposure of the materials to stormwater and spill prevention. All maintenance and construction waste will be disposed of in a safe manner in accordance with all applicable regulations.

GENERAL CONSTRUCTION SEQUENCING NOTES:

Outlined below is a brief listing of the general construction sequencing applicable to the project site.

Prior to any site activity, the owner, contractor, owner's engineer, Town Engineer shall hold a pre-construction meeting.

The contractor/subcontractor(s) involved in the soil disturbance and/or stormwater management practices shall sign and date a copy of the contractor certification prior to undertaking any land development activity.

The trained contractor shall be on site at all times when construction or grading activity takes place and shall inspect and document the effectiveness of all erosion and sediment control practices. Inspection reports shall be completed by the owner or qualified representative every seven (7) days. The reports shall be delivered or transmitted to the Stormwater Management Officer and also copied to the site logbook.

Stormwater practices shall be offline until contributing drainage areas achieve final stabilization.

Stabilization shall be defined as "covering or maintaining an existing cover over soil. Cover can be vegetative (e.g., grass, trees, seed and mulch, shrubs or turf) or non-vegetative (e.g., geotextiles, rip-rap or gabions)."

To obtain inspections, the contractor shall notify the Town of Lewisboro engineer at least 48 hours before any of the following activities:

- Start of Construction
- Installation of Sediment and Erosion Control Measures
- Completion of Site Clearing
- Completion of Rough Grading • Installation of Stormwater Management Practices
- Completion of Final Grading and Stabilization of Disturbed Areas
- Closure of Construction
- Completion of Final Landscaping
- Successful Establishment of Landscaping in Public Areas
- Removal of all Temporary Erosion and Sedimentation Controls

PROJECT SPECIFIC SUGGESTED CONSTRUCTION SEQUENCING NOTES:

Outlined below are the site specific suggested construction sequences for the project site. Since the means and methods of construction are the sole responsibility of the Contractor. The suggested sequence shall serve as a general outline of improvements to be made to provide a complete and operational system as intended by the design. The sequence is not all inclusive. As such, items not specifically noted herein do not obviate the contractor's obligation to construct all improvements shown on the plan. The contractor may propose an alternative sequence for review by the Engineer prior to construction.

- Owner to obtain all necessary permits/approvals.
- All involved parties shall conduct a pre-construction meeting. • Contractor to stake the limits of disturbance for proposed improvements.
- Contractor to install perimeter erosion controls.
- Contractor to install stabilized construction entrance.
- Contractor to stockpile excavated soil in stockpile locations to reclaim for further use (i.e. landscap
- Contractor to provide dust control as necessary.
- Contractor to install inlet protection around installed drainage facilities. • Contractor shall install diversion piping system and Level Spreader as shown on plan to reroute wa
- Extended Detention Shallow Wetland during construction. • Contractor to construct Extended Detention Shallow Wetland, including all inlet and outlet convey
- (pipes, curbs, structures) as shown on plan. Catchment areas must be stabilized before the practice
- Contractor shall install all pipe and structures for the Extended Detention Shallow Wetland excep connection to the bypass manhole, DMH-1. This will prevent stormwater discharge to the Extended Shallow Wetland to allow plantings to establish.
- Contractor shall submit a partial As-Built Survey, prepared by a N.Y.S. Licensed Land Surveyor, or Extended Detention Shallow Wetland and all associated structures, pipes, spillways and appurtena As-Built survey shall be prepared upon completion of the rough grade earthwork and prior to place soil or installation of any permanent seed and/or plantings. Upon verification of construction of th Detention Shallow Wetland to the satisfaction of the Engineer the Contractor will be directed to p the final construction of the Extended Detention Shallow Wetland.

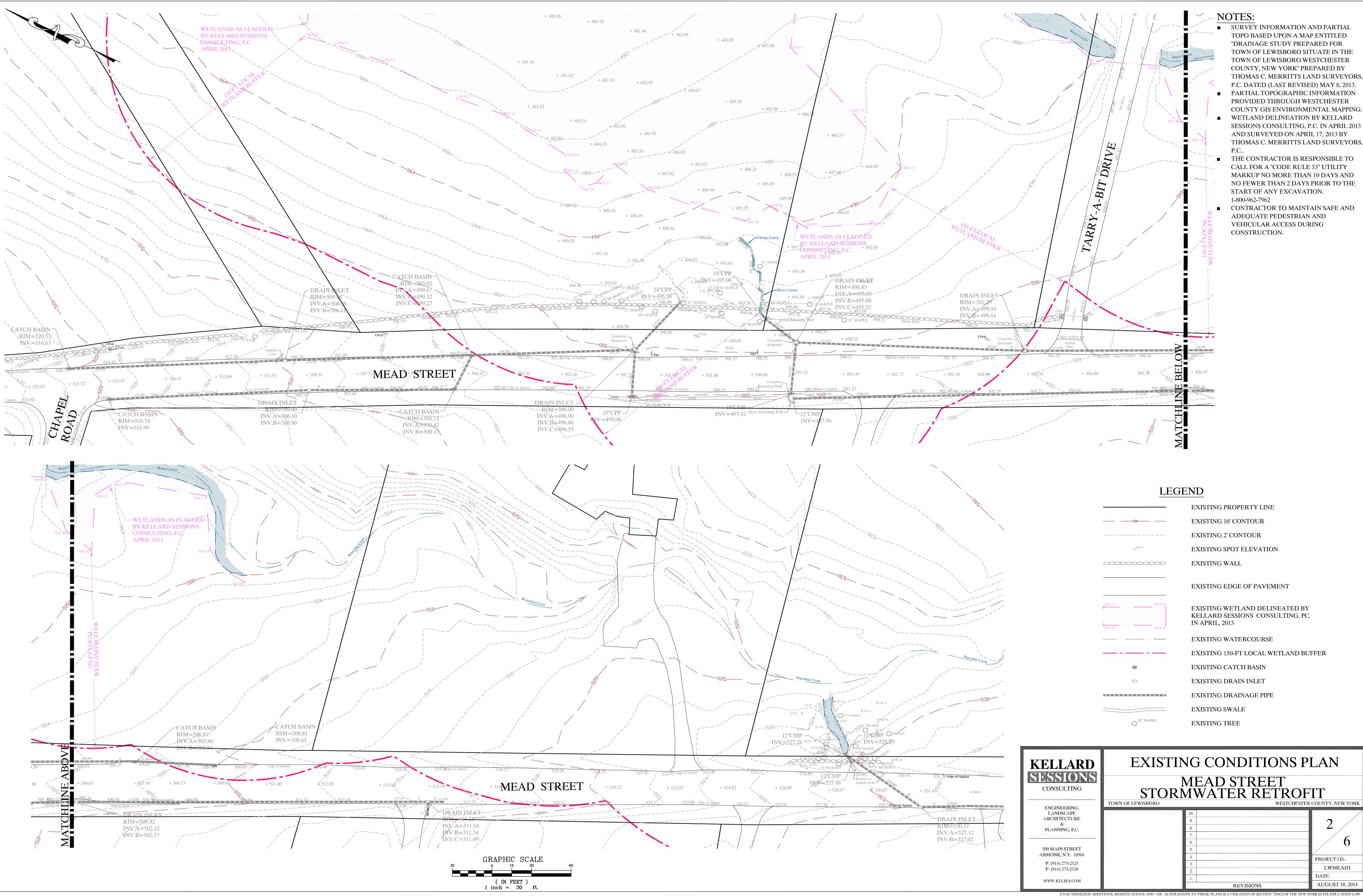
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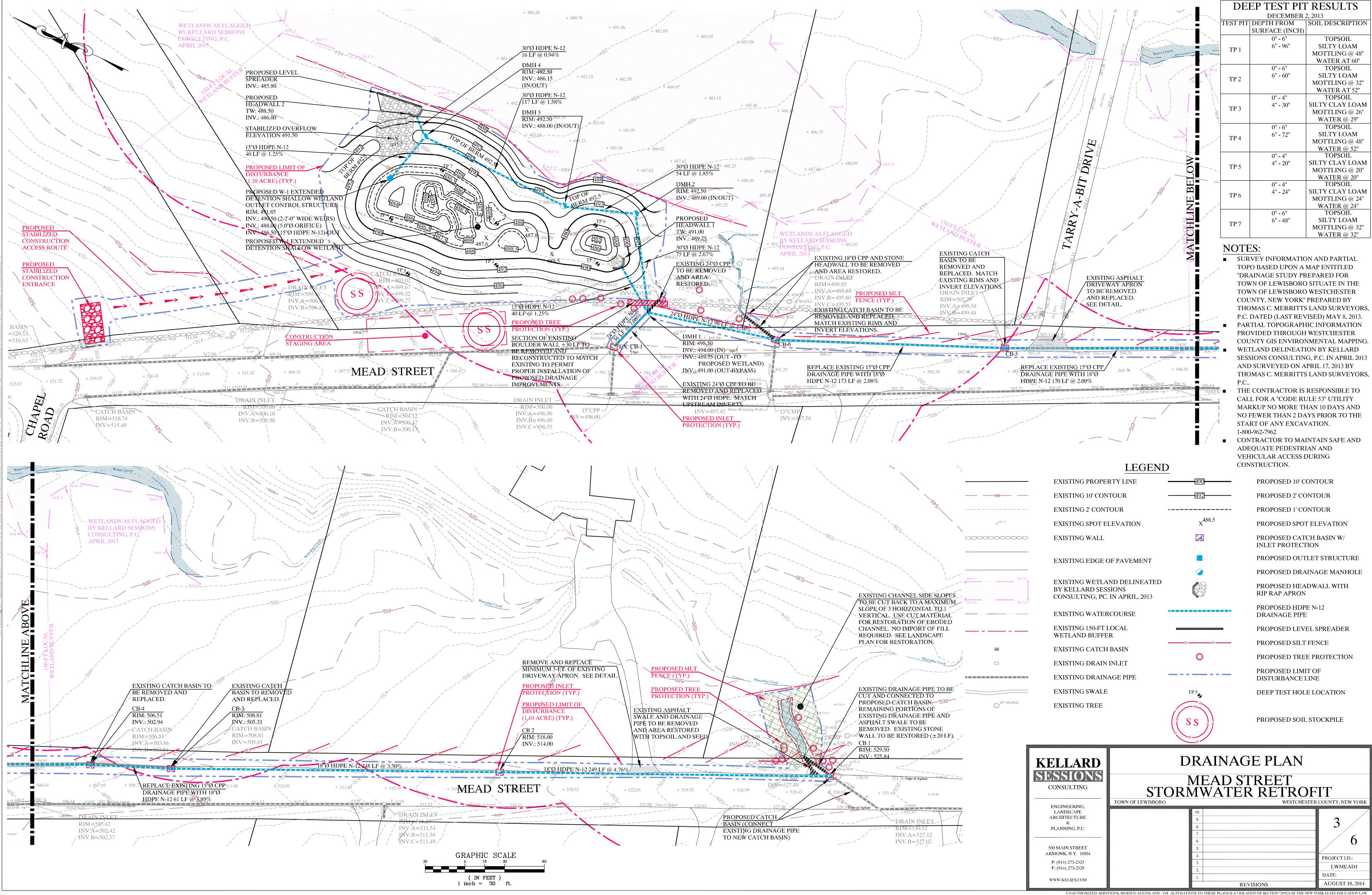
- Contractor shall top soil and install all plantings as shown on the Planting Plan.
- Concurrently, Contractor to install all drainage improvements along Mead Street to the existing outfalls at CB-6 and existing CB-1 • Once the Extended Detention Shallow Wetland is stabilized, final connections between existing CB-1, CB-6 and DMH-1 shall be made to discharge flows to the Extended Detention Shallow Wetland.
- Contractor to complete stream restoration.
- Contractor to complete paving for pipe trench restoration. • Contractor shall remove silt fence, inlet protection and all erosion control parameters upon final stabilization.

GENERAL LANDSCAPE NOTES:

- 1. The Contractor shall locate and verify the existence of all underground and above ground utilities prior to starting work. The contractor shall protect from damage to all existing pavements, utilities, structures, etc. and shall repair and/or replace any such damage at his expense.
- 2. The Contractor shall provide a four (4) inch minimum depth of topsoil for all lawn/sod areas and a 12" minimum depth of topsoil for all planting beds.
- 3. The Contractor shall supply all plant materials in quantities sufficient to complete the planting shown on all drawings. A minimum of 50% of plants provided shall be the larger end of the size range.
- 4. All material shall conform to the guidelines established by the current American Standard for Nurserv Stock. published by the American Association of Nurserymen. All plants shall have normal, well-developed branches and vigorous root systems and be nursery-grown.
- 5. No plant shall be put into the ground before rough grading has been finished.
- 6. All plants shall bear the same relationship to finished grade as the plant's original grade before digging.
- 7. All plants shall be balled and wrapped as specified. All root wrapping material made of synthetics or plastics shall be removed at the time of planting.
- 8. A minimum of four (4) inches (depth) of premium dark brown bark mulch shall be placed around root balls of trees/shrubs. The mulch area shall be at least two times the diameter of the plant container or root ball.
- 9. All plants and stakes shall be set plumb unless otherwise specified.
- 10. All plants shall be sprayed with an antidessicant within 24 hours after planting. In addition, all plants shall be sprayed with an antidessicant at the beginning of their first winter.
- 11. All plants shall be watered thoroughly twice during the first 24-hour period after planting. All plants shall then be watered weekly, if necessary, during the first growing season.



- THOMAS C. MERRITTS LAND SURVEYORS,
- THOMAS C. MERRITTS LAND SURVEYORS,



	LEGEND		
_	EXISTING PROPERTY LINE		
_	EXISTING 10' CONTOUR		
	EXISTING 2' CONTOUR		
	EXISTING SPOT ELEVATION		
\supset	EXISTING WALL	[
_	EXISTING EDGE OF PAVEMENT	I	
28 	EXISTING WETLAND DELINEATED BY KELLARD SESSIONS CONSULTING, PC. IN APRIL, 2013	(
_	EXISTING WATERCOURSE		
_	EXISTING 150-FT LOCAL WETLAND BUFFER		
	EXISTING CATCH BASIN	SF	
	EXISTING DRAIN INLET	(
	EXISTING DRAINAGE PIPE		
_	EXISTING SWALE	TP 5	
	EXISTING TREE	SS -4S	

	DEEP TEST PIT RESULTS			
	DECEMBER 2, 2013			
	TEST PIT	DEPTH FROM	SOIL DESCRIPTION	
		SURFACE (INCH)		
		0" - 6"	TOPSOIL	
	TP 1	6" - 96"	SILTY LOAM	
	111		MOTTLING @ 48"	
			WATER AT 60"	
/LF 4		0" - 6"	TOPSOIL	
	TP 2	6" - 60"	SILTY LOAM	
	1 P Z		MOTTLING @ 32"	
$\langle \rangle$			WATER AT 52"	
		0" - 4"	TOPSOIL	
1,	TP 3	4" - 30"	SILTY CLAY LOAM	
496-	113		MOTTLING @ 26"	
-A			WATER @ 29"	
1		0" - 6"	TOPSOIL	
. /	/ TP 4	6" - 72"	SILTY LOAM	
			MOTTLING @ 48"	
			WATER @ 52"	
		0" - 4"	TOPSOIL	
	TP 5	4" - 20"	SILTY CLAY LOAM	
/			MOTTLING @ 20"	
		01 41	WATER @ 20"	
		0" - 4"	TOPSOIL SILTY CLAY LOAM	
	TP 6	4" - 24"	MOTTLING @ 24"	
/			WATER @ 24	
/		0" - 6"	TOPSOIL	
		6" - 48"	SILTY LOAM	
	TP 7	0 - +0	MOTTLING @ 32"	
			WATER @ 32"	
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	

