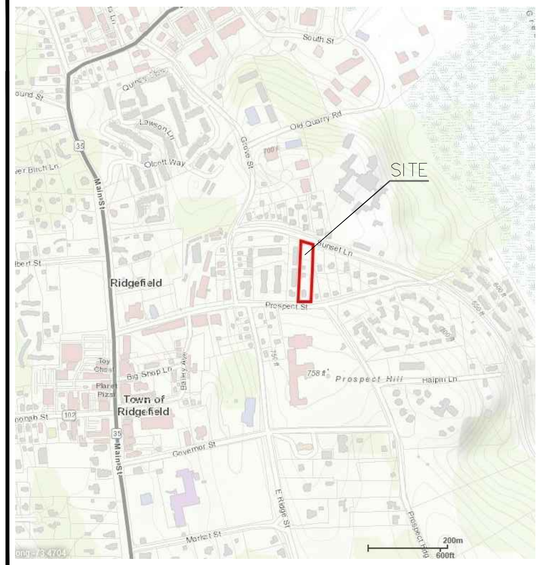
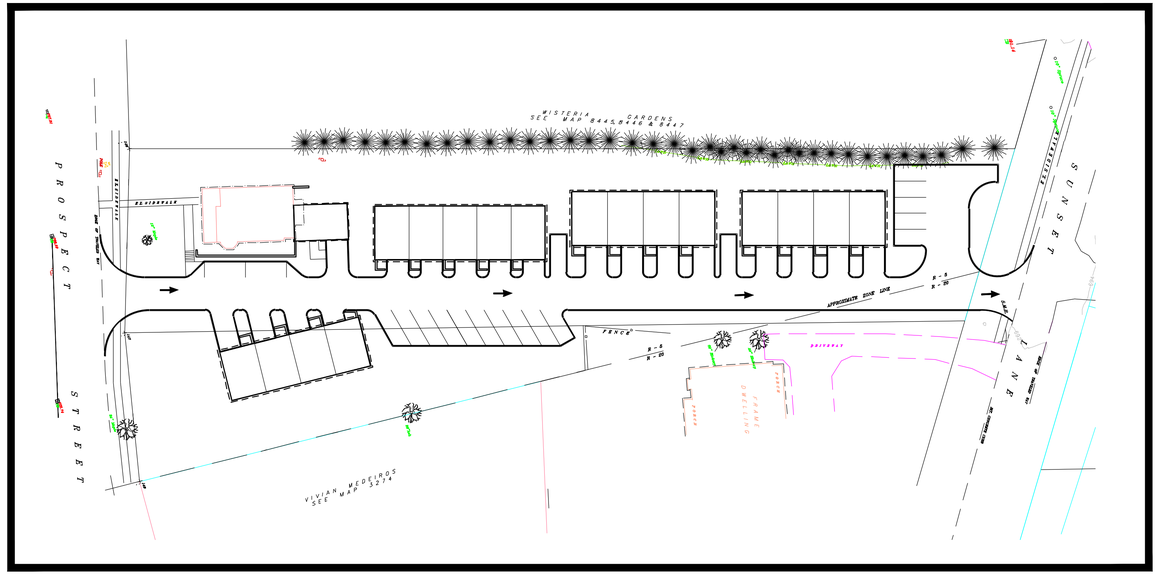
SITE DEVELOPMENT PLANS
63-67 PROSPECT STREET
RIDGEFIELD, CT

PREPARED FOR
63-67 PROSPECT STREET OWNERS



VICINITY MAP SCALE: 1"=600'±
PROJECT: 63-67 PROSPECT STREET



LIST OF DRAWINGS

SHEET	TITLE
N1	GENERAL LEGEND, NOTES & ABBREVIATIONS
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APPLICANT/DEVELOPER
63-67 PROSPECT STREET OWNERS
19 FULTON PLACE
WEST HARTFORD, CT

CIVIL ENGINEER & LANDSCAPE ARCHITECT
ENVIRONMENTAL - CIVIL - ENGINEERING - SURVEYING
CCA LLC

40 OLD NEW MILFORD ROAD
BROOKFIELD, CONNECTICUT

FEBRUARY 18, 2021

04/01/21 PEER REVIEW REVISIONS
12/12/22 REVISIONS PER ADJOINERS

Not Valid Without Embossed Seal
(SEAL AND SIGNATURE LIMITED TO PLANS PREPARED BY CCA, LLC)

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ABBREVIATIONS

APPROX	APPROXIMATE
BF	BASEMENT FLOOR
BM	BENCH MARK
BCLC	BITUMINOUS CONCRETE LIP CURB
BLDG	BUILDING
CIP	CAST IRON PIPE
CB	CATCH BASIN
CD	CURTAIN DRAIN
Ch	CHORD
CLL	CONSTRUCTION LIMIT LINE
CONC	CONCRETE
CONST	CONSTRUCT
CMP	CORRUGATED METAL PIPE
CPEP-S	CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INTERIOR
CULV	CULVERT
DOT	DEPARTMENT OF TRANSPORTATION
DB	DISTRIBUTION BOX
DMH	DRAINAGE MANHOLE
DH	DEEP HOLE
DR	DRIVEWAY
DIP	DUCTILE IRON PIPE
EOP	EDGE OF PAVEMENT
ELEC	ELECTRIC
ELEV	ELEVATION
EXIST, EX	EXISTING
EG	EXISTING GRADE
FE	FLARED END
FF	FIRST FLOOR
FG	FINISH GRADE
FND	FOUNDATION
GPD	GALLONS PER DAY
GAR	GARAGE
GND	GROUND
GSF	GEOTEXTILE SILT FENCE
GV	GAS VALVE
HW	HEADWALL
HC	HANDICAP
HWY	HIGHWAY
HYD	HYDRANT
IN	INLET
INV	INVERT
IP	IRON PIPE
L	LENGTH
LF	LINEAR FEET
LP	LIGHT POLE
MH	MANHOLE
MAX	MAXIMUM
MET	METAL
MBR	METAL BEAM RAIL
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
NO	NUMBER
OUT	OUTLET
P-#	PERCOLATION TEST
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PV	PERMANENT VEGETATION
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVRC	POINT OF VERTICAL REVERSE CURVE
PVC	POLYVINYL CHLORIDE PIPE
PROJ	PROJECT
PL	PROPERTY LINE
PROP, PR	PROPOSED
PS	PUMP STATION
R	RADIUS
RR	RAILROAD
RCP	REINFORCED CONCRETE PIPE
RELOC	RELOCATION
REQ'D	REQUIRED
RET	RETAINING
ROW	RIGHT OF WAY
RD.	ROAD
RD	ROOF DRAIN
SAN	SANITARY
SSMH	SANITARY SEWER MANHOLE
ST	SEPTIC TANK
SPEC	SPECIFICATION
SPK	SPIKE
STK	STAKE
STD	STANDARD
STA	STATION
SW	STONE WALL
SS	SANITARY SEWER
STY	STORY
ST.	STREET
TAN	TANGENT
TEL	TELEPHONE
TEMP	TEMPORARY
TF	TOP OF FRAME
U-DRAIN	UNDER DRAIN
VERT	VERTICAL
WV	WATER VALVE
W/	WITH
YD	YARD DRAIN

GENERAL LEGEND

PROPERTY LINE

EXISTING MONUMENT

EXISTING IRON PIN OR PIPE

PROPOSED IRON PIN OR PIPE

PROPOSED MONUMENT

DRILL HOLE

STONE BOUND

UTILITY POLE W/ANCHOR

EASEMENT LINE

CHAIN FENCE

WOOD FENCE

STONE WALL

WIRE FENCE

CATCH BASIN

LIGHT POLE

BLDG. SETBACK LINE

WATERCOURSE

FLOODWAY

FLOODPLAIN

EXISTING CONTOUR — 310

PROPOSED CONTOUR — 310

DEEPHOLE TEST PIT

PERCOLATION TEST — A

EXISTING SPOT ELEVATION — 311.5

PROPOSED SPOT ELEVATION — 311+5

LOT NUMBER — 4

STREET NUMBER — 55

TREE LINE

GEOTEXTILE SILT FENCE (GSF) — GSF

FLAGGED WETLANDS — 7 — +W 7

SOIL BOUNDARY — Rd, Wy

ROCK OUTCROP

CONSTRUCTION LIMIT LINE — CLL

HAY BALES (HB) — HB

FOOTING DRAIN (F) — F

ROOF DRAIN (R) — R

PRIMARY SEPTIC SYSTEM AREA — P

RESERVE SEPTIC SYSTEM AREA — R

SOLAR ACCESS

ROOF RECHARGE GALLERY — ROOF

GUIDE RAIL

EXISTING CURB

GRAVEL ROAD

EXISTING MANHOLE — MH

EXISTING STORM DRAINAGE MANHOLE — D

EXISTING SANITARY SEWER MANHOLE

EXISTING WATER VALVE — GV

EXISTING GAS VALVE

EXISTING FIRE HYDRANT

EXISTING SIGN

HANDICAP PARKING SPACE

HANDICAP RAMP — HC

REFUSE AREA — R

EXISTING WELL — W

TRAFFIC FLOW DIRECTION

MONITORING WELL

SWALE, GRADE TO DRAIN

EXISTING RETAINING WALL

PROPOSED RETAINING WALL

RAILROAD TRACKS

RIPRAP PAD

EXIST. GAS MAIN — G

EXIST. WATER MAIN — W

EXIST. WATER SERVICE — WS

EXIST. TELEPHONE LINE — T

EXIST. ELECTRIC SERVICE — E

EXIST. OVERHEAD ELECTRIC SERVICE

EXIST. LEVEL 3 COMMUNICATION LINE — LEVEL 3

EXIST. FIBER OPTIC LINE — FO

EXIST. SANITARY SEWER — SS

EXIST. SANITARY SEWER LATERAL — SL

EXIST. DRAINAGE — EXIST DRAINAGE

PROPOSED FIRE HYDRANT

PROPOSED WELL — PROP WELL

PROPOSED GAS VALVE — WV

PROPOSED WATER VALVE — GV

SCREENED REFUSE AREA — R

PROPOSED CATCH BASIN — PCB

PROPOSED MANHOLE — PMH

PROPOSED LAWN DRAIN — LD

PROPOSED LIGHT POLE

PROPOSED BUILDING LIGHT

PROPOSED BOLLARD LIGHT

START / END CURBING — SC, EC

TEMPERORY SWALE

PROPOSED FIRE LANE — FL

PROPOSED GAS MAIN — GS

PROPOSED ELECTRIC/TELEPHONE SERVICE — E/T

PROPOSED AIR VENT OR BLOW-OFF — AIR-VENT OR BLOW-OFF

GENERAL NOTES

1. HOLD PRE-CONSTRUCTION MEETING WITH OWNER, EXCAVATION AND WALL CONTRACTORS, ENGINEER AND TOWN STAFF.
2. ALL WORK TO MEET TOWN OR CITY, STATE AND FEDERAL CODES, REGULATIONS AND STANDARDS AS APPLICABLE.
3. DISCREPANCIES IN THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY FOR RESOLUTION.
4. ALL PERMITS SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING REQUIRED PERMITS AND NOTIFYING THE TOWN OR CITY DEPARTMENTS AND THE ENGINEER FOR INSPECTIONS.
6. THE TOWN AND PROJECT ENGINEER SHALL INSPECT THE PROPERTY REGULARLY. IMPROVEMENTS TO THE SITE BASED ON THOSE INSPECTIONS ARE INTENDED TO BE COMPLETED WITHIN 48 HOURS OR BEFORE THE NEXT STORM WHICHEVER IS EARLIER. CHANGES TO THE SEQUENCE PLANS SHALL BE NOTED ON THE PLANS AND SUBMITTED TO THE TOWN FOR STAFF REVIEW PRIOR TO IMPLEMENTATION.
7. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL MEET CONNECTICUT D.O.T. STANDARDS FOR ITEMS NOT SPECIFIED IN THE TOWN OR CITY REGULATIONS.
8. ALL CATCH BASINS, MANHOLES, PIPING AND OTHER UTILITY COMPONENTS WITHIN TRAFFIC AREAS SHALL BE CAPABLE OF SUPPORTING H-20 LOADING.
9. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL ON-SITE AND OFF-SITE FIELD CONDITIONS AND VERIFY THAT NO CHANGES HAVE OCCURRED SINCE THE ISSUANCE OF THIS PLAN. THE DESIGN ENGINEER IS TO BE NOTIFIED OF ANY CHANGES WHICH CONFLICT WITH THIS PLAN.
10. THE EROSION CONTROL LINE (GSF) IS TO BE CONSIDERED AS THE LIMIT OF CONSTRUCTION UNLESS OTHERWISE NOTED.
11. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND QUANTITIES SHOWN ON THESE PLANS PRIOR TO PROCEEDING WITH CONSTRUCTION AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER WHOM SHALL HAVE FINAL SAY AS TO THE ACTUAL DIMENSIONS TO CONSTRUCT BY.
12. STRICT ADHERENCE TO ALL OSHA, TOWN OR CITY AND STATE OF CONNECTICUT REGULATIONS REGARDING CONSTRUCTION IS REQUIRED AT ALL TIMES.
13. CONTRACTOR SHALL NOTIFY CALL-BEFORE-YOU-DIG (1-800-922-4455) FOR UTILITY MARKOUT PRIOR TO CONSTRUCTION.
14. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR JOB SAFETY.
15. ALL UTILITIES TO BE INSTALLED UNDERGROUND
16. UTILITY LOCATIONS WILL BE AS DETERMINED BY THE UTILITY COMPANIES.
17. THE LOCATION AND ELEVATION OF UNDERGROUND UTILITIES IS UNKNOWN. IF THEY ARE INDICATED AT ALL ON THESE PLANS, THEY ARE APPROXIMATE AND CCA, LLC, IT'S PRINCIPALS OR EMPLOYEES, SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES AND/OR ADDITIONAL COSTS WHICH MIGHT RESULT FROM THE EXISTENCE OF SAID UTILITIES.
18. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
19. ALL GRADING SHALL BE PERFORMED TO ELIMINATE LOW POINTS AND DEPRESSIONS WHICH WOULD TRAP SURFACE WATER. CONTACT THE DESIGN ENGINEER IF CHANGES ARE WARRANTED.
20. GRADING TO BE TO ALL APPLICABLE REGULATIONS AND NORMAL STANDARDS OF GOOD PRACTICE.
21. MINOR GRADING CHANGES ARE PERMITTED TO MEET FIELD CONDITIONS PROVIDED PRIOR APPROVAL IS OBTAINED FROM THE ENGINEER.
22. GRADING SHALL MAINTAIN EXISTING RUNOFF CONDITIONS.
23. ALL BACKFILL FOR BUILDINGS, TRENCHES, STRUCTURES, PARKING, DRIVEWAY AND SIDEWALK ETC. SHALL BE ADEQUATELY COMPACTED TO PREVENT EXCESSIVE SETTLEMENT. CONTACT THE ENGINEER SHOULD ADDITIONAL CLARIFICATION BE NECESSARY.
24. CONTRACTOR TO MATCH INTO EXISTING CONDITIONS AT ALL POINTS WHERE CONSTRUCTION MUST MATCH SUCH EXISTING CONDITIONS.
25. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED SO THAT THEY MAY BE ADJUSTED DOWN AT LEAST 12".
26. NO SILTY WATER SHALL BE PERMITTED TO DISCHARGE INTO THE DETENTION SYSTEMS. STORMWATER SYSTEMS SHALL BE CLEANED PRIOR TO CONNECTION TO THE DETENTION SYSTEMS. SILT SACKS SHALL BE MAINTAINED IN CATCH BASINS UNTIL PROJECT IS COMPLETED.
27. THESE PLANS ARE FOR LAND USE APPROVALS ONLY. ADDITIONAL ENGINEERING MAY BE NECESSARY PRIOR TO CONSTRUCTION.

DATE	DESCRIPTION

GENERAL LEGEND, NOTES AND ABBREVIATIONS

PREPARED FOR

63-67 PROSPECT STREET OWNERS

63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

Date:	2-18-2021
Scale:	AS NOTED
Proj. No.:	18043.1
File No.:	3734
Acad No.:	18043.1SP
Sheet:	N1
Drawn by:	NY

40 Old New Milford Road
Brookfield, CT 06804
(203)775-6207
www.ccaengineering.com

NOTE:

1. BASE SURVEY & TOPOGRAPHY PREPARED BY R.K.W. LAND SURVEYING.

DATE	DESCRIPTION

EXISTING CONDITIONS &
DEMOLITION PLAN
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

20 0 10 20 40

Date:	2-18-2021
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Drawn by:	NY

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Brookfield, CT 06804
(203)775-6207
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NOTES:

1. BOUNDARY & TOPOGRAPHIC DATA R.K.W. LAND SURVEYING.
2. VERTICAL DATUM IS BASED ON ASSUMED DATUM.
3. PARCEL IS LOCATED IN FLOOD ZONE X AS SHOWN ON FIRM FLOOD INSURANCE RATE MAP, FAIRFIELD COUNTY, CONNECTICUT, PANEL 236 OF 626, EFFECTIVE DATE JUNE 18, 2010.
4. STRICT ADHERENCE TO ALL OSHA, TOWN OF RIDGEFIELD AND STATE OF CONNECTICUT REGULATIONS REGARDING CONSTRUCTION IS REQUIRED AT ALL TIMES.
5. CONSTRUCTION IS EXPECTED TO BEGIN UPON RECEIPT OF PROPER PERMITS.
6. ALL UTILITIES TO BE INSTALLED UNDERGROUND AND IN THE LOCATIONS AS TO BE DETERMINED BY EACH UTILITY COMPANY.
7. ALL LANDSCAPED AREAS TO BE MULCHED.
8. CONTRACTOR IS RESPONSIBLE TO CONTACT " CALL BEFORE YOU DIG".
9. DISCREPANCIES IN THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY FOR RESOLUTIONS.
10. SPARE EROSION CONTROLS SHALL BE STORED ON SITE FOR EMERGENCY USE.
11. ALL DISTURBED AREAS TO BE TOPSOIL AND SEEDED.
12. ANY RETAINING WALLS OVER 3' IN HEIGHT ARE TO BE DESIGNED AND CONSTRUCTED UNDER THE SUPERVISION OF A STATE OF CT. LICENSED PROFESSIONAL ENGINEER.
13. NO WOOD RETAINING WALLS OVER 3' IN HEIGHT ARE ALLOWED.
14. UNDERGROUND UTILITIES, STRUCTURES, AND FACILITIES NOT FIELD LOCATED. THE SIZE, LOCATION, EXISTENCE OR NONEXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES. CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455.
15. UNDERGROUND UTILITIES SHOWN AS MARKED IN THE FIELD BY CALL BEFORE YOU DIG. LOCATIONS TO BE VERIFIED BY APPROPRIATE AGENCIES PRIOR TO CONSTRUCTION. CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 BEFORE ANY SITE WORK.
16. THE EROSION CONTROL LINE (GSF) IS THE LIMIT OF CONSTRUCTION UNLESS OTHERWISE NOTED.
17. ALL ON-SITE TRAFFIC SIGNAGE AND MARKINGS SHALL BE THE RESPONSIBILITY OF AND MAINTAINED BY THE OWNER
18. HOURS OF OPERATION FOR ALL EARTH EXCAVATION/PLACEMENT TO OCCUR IN ACCORDANCE WITH TOWN OF RIDGEFIELD ZONING REGULATIONS.
19. NO LIGHTING IS TO BE DIRECTED TOWARD OR OUTSIDE THE PROPERTY LIMITS.
20. CROSS SLOPE ON SIDEWALKS SHALL BE A MIN. OF 1/4" PER FOOT FROM BUILDING.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING REQUIRED PERMITS AND NOTIFYING THE TOWN DEPARTMENTS AND THE ENGINEER FOR INSPECTIONS.
22. METHODS OF CONSTRUCTION SHALL MEET TOWN OF RIDGEFIELD AND CONNECTICUT D.O.T. STANDARDS.
23. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL ON-SITE AND OFF-SITE FIELD CONDITIONS AND VERIFY THAT NO CHANGES HAVE OCCURRED SINCE THE ISSUANCE OF THIS PLAN. THE DESIGN ENGINEER IS TO BE NOTIFIED OF ANY CHANGES WHICH CONFLICT WITH THIS PLAN.
24. ALL CATCH BASINS, MANHOLES, PIPING AND OTHER UTILITY COMPONENTS SHALL BE CAPABLE OF SUPPORTING H-20 TRAFFIC LOADING.
25. ALL DRAINAGE PIPE SHALL BE CPEP-S, CORRUGATED POLYETHYLENE PIPE WITH A SMOOTH INTERIOR UNLESS NOTED OTHERWISE.

ALL STAIRS AND STEPS SHALL HAVE HANDRAILS IN ACCORDANCE WITH THE BUILDING CODE

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL MATERIALS FOR APPROVAL PRIOR TO CONSTRUCTION.

ALL PAVEMENT MARKINGS SHALL CONFORM TO CT DOT FORM 816 SECTION 12.10 AND M.07.22

ZONING INFORMATION

ZONING DISTRICT: R-5
PROPOSED USE: RESIDENTIAL
PARCEL AREA: 1.415 ACRES / 61,648 SF

	R-5	PROPOSED PER APPROVED R-5
MAXIMUM DENSITY	15 UNITS/ACRE = 21	21 UNITS
MAXIMUM LOT COVERAGE	25%	12,083 SF / 61,648 SF = 19.6%
MINIMUM FRONT YARD	50'	50.6'
MINIMUM SIDE YARD	30'	23' (PART OF SETTLEMENT)
MINIMUM REAR YARD	40'	N/A
MAXIMUM BUILDING HEIGHT	BASEMENT, 2 STORIES, ATTIC	GARAGE, 2 STORIES, ATTIC
SCREENING/LANDSCAPING	REQUIRED	SEE LANDSCAPE PLAN
SPECIAL REQUIREMENTS R-5 ZONE:		
1. PUBLIC WATER, SEWER & STREET LIGHTING	REQUIRED	AVAILABLE TO SITE
2.POLICE & FIRE DEPARTMENT AVAILABLE	REQUIRED	AVAILABLE TO SITE
3.EXTERIOR LAUNDRY DRYING AREAS, SCREENED OR ENCLOSED	REQUIRED	N/A
4.GARBAGE CONTAINERS STORED IN SCREENED COLLECTION AREA	REQUIRED	INDIVIDUAL UNIT PICK-UP
PARKING	1.5 SPACES PER UNIT 21 UNITS *1.5 = 32 SPACES	21 UNITS*1.86 = 39 SPACES 10 - 1 CAR GARAGES IN TOWNHOUSES 8 - 1 CAR SPACE IN DRIVEWAY 21 ON GRADE SPACES 39 TOTAL SPACES

FOR REVIEW -5-27-2022

DATE	DESCRIPTION
12/12/22	REVISIONS PER ADJOINERS

LAYOUT & MATERIALS PLAN
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

20 0 10 20 40

CCA LLC — ENVIRONMENTAL - CIVIL - ENGINEERING - SURVEYING

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DESIGN ENGINEER SHALL SUPERVISE THE CONSTRUCTION AND INSTALLATION OF THE STORMWATER MANAGEMENT SYSTEM AND RETAINING WALLS. UPON COMPLETION OF THE PROJECT, AN AS-BUILT SURVEY OF THE COMPLETED STORMWATER MANAGEMENT SYSTEM SHALL BE SUBMITTED ALONG WITH A CERTIFICATION LETTER FROM THE DESIGN ENGINEER THAT THE STORMWATER MANAGEMENT SYSTEM AND RETAINING WALLS WERE CONSTRUCTED AS DESIGNED.

ALL STORM SEWER PIPING SHALL BE CPEP-S UNLESS NOTED OTHERWISE. ALL ROOF DRAINS SHALL BE SDR 35 PVC.

THE SITE CONTRACTOR SHOULD INCLUDE IN THEIR BIDS A UNIT COST FOR A FOUR-FOOT DEEP, 6" UNDERDRAIN IN CASE THEY NEED TO BE ADDED DURING CONSTRUCTION.

ALL EARTHWORK ACTIVITY SHALL OCCUR M-F BETWEEN 8 AM AND 4 PM. NO EARTHWORK SHALL OCCUR ON THE WEEKENDS OR HOLIDAYS

IF LEDGE IS ENCOUNTERED, DEVELOPER SHALL RETAIN A LICENSED BLASTING CONTRACTOR TO PERFORM LEDGE/ROCK REMOVAL. BLASTING CONTRACTOR SHALL PROVIDE PROOF OF INSURANCE, PRE-BLAST SURVEYS, OBTAIN THE NECESSARY PERMITS FROM THE TOWN OF RIDGEFIELD AND COMPLY WITH THE FIRE MARSHAL REQUIREMENTS. HOURS OF OPERATION FOR ROCK REMOVAL AND ROCK CRUSHING SHALL ONLY OCCUR MONDAY THRU FRIDAY BETWEEN 8AM AND 4 PM.

ALL STAIRS AND STEPS SHALL HAVE HANDRAILS IN ACCORDANCE WITH THE BUILDING CODE

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL MATERIALS FOR APPROVAL PRIOR TO CONSTRUCTION.

DEVELOPER SHALL FILE A STORMWATER FACILITIES LONG TERM MAINTENANCE PLAN IN THE TOWN CLERK'S OFFICE.

IMPERVIOUS COVERAGE 34,312 SF/61,648 SF = 55.66% PROPOSED

STRUCTURE	TF	INVERTS IN, OUT	SUMP DEPTH	FRAME TYPE
PCB1	713.4	710.9	2'	24" SQUARE PEDESTRIAN GRATE
PCB2	714.5	711.5 FROM PCB3 710.3, 710.2	2'	C
PCB3	714.6	711.7	2'	C
PCB4	713.5	710.8	2'	CL
PCB5	710.5	703.0, 702.9	2'	CL
PCB6	707.15	702.7, 702.6	2'	C
PCB7	707.15	702.4, 702.3	2'	C
PCB8	707.5	705.0	2'	C
PCB9	701.5	698.0 697.9	2'	C
PCB10	701.0	698.5	2'	C
PCB11	696.3	693.1, 693.0	2'	C
PCB12	696.3	693.3	2'	C
PCB13	695.7	692.5 INTO GAL-SIDE INLET	2'	CL
PCB14	693.2	690.4	2'	C
PCB15-CDS	693.0	690.0	–	CL
PMH1-CDS	694.8	692.3, 692.3	–	MH
PMH2	694.5	687.5 689.8 (FROM PCB15)	–	MH
PMH3	692.6±	687.0, 686.9	–	MH
PMH4	687.0±	684.0, 683.9	–	MH
PMH5	683.9±	680.6, 680.5	–	MH
PMH6	678.3±	674.4, 674.3	–	MH

LONG TERM MAINTENANCE PROCEDURES

63-67 Prospect Street Site
Ridgefield, Connecticut

Inspection of the stormwater management system shall generally be performed on a semi-annual basis. More frequent inspections shall occur if sediment levels are deemed to be excessive after major storm events and after any type of spill.

The inspector shall keep a permanent log of inspections including date of inspection, any noted sediment levels, accumulation of oils, notation of any irregularities, name of contractor, etc. An annual report shall be submitted to the Town indicating the conditions observed and any measures taken to repair or refresh irregularities.

CATCH BASINS:

- After the site has been stabilized, monthly monitoring shall occur for the first year of a new installation. After the first year, semi-annual inspections shall generally be performed.
- It is best to schedule maintenance based on the solids collected in the sump. Optimally, the structure should be cleaned when the sump is half full.
- Maintenance is best achieved with a vacuum truck.

The requirements for disposal of materials removed from the basins are similar to that of any other BMP. Disposal should be by a Connecticut licensed waste management company and discharged to a Connecticut DEEP approved location.

SWEEPING:

All parking areas, sidewalks and driveways and other impervious surfaces (except roofs) are swept clean of sand, litter and any other possible pollutants at least twice a year as described below, and at other times as may be necessary.

- Once between November 14 and December 15 (i.e., after leaf fall)
- Once during the month of April (i.e., after snow melt)

HYDRODYNAMIC SEPARATORS:

Inspection of the hydrodynamic separator units shall generally be performed on a semi-annual basis. More frequent inspections shall occur if sediment levels are deemed to be excessive after major storm events and after any type of spill.

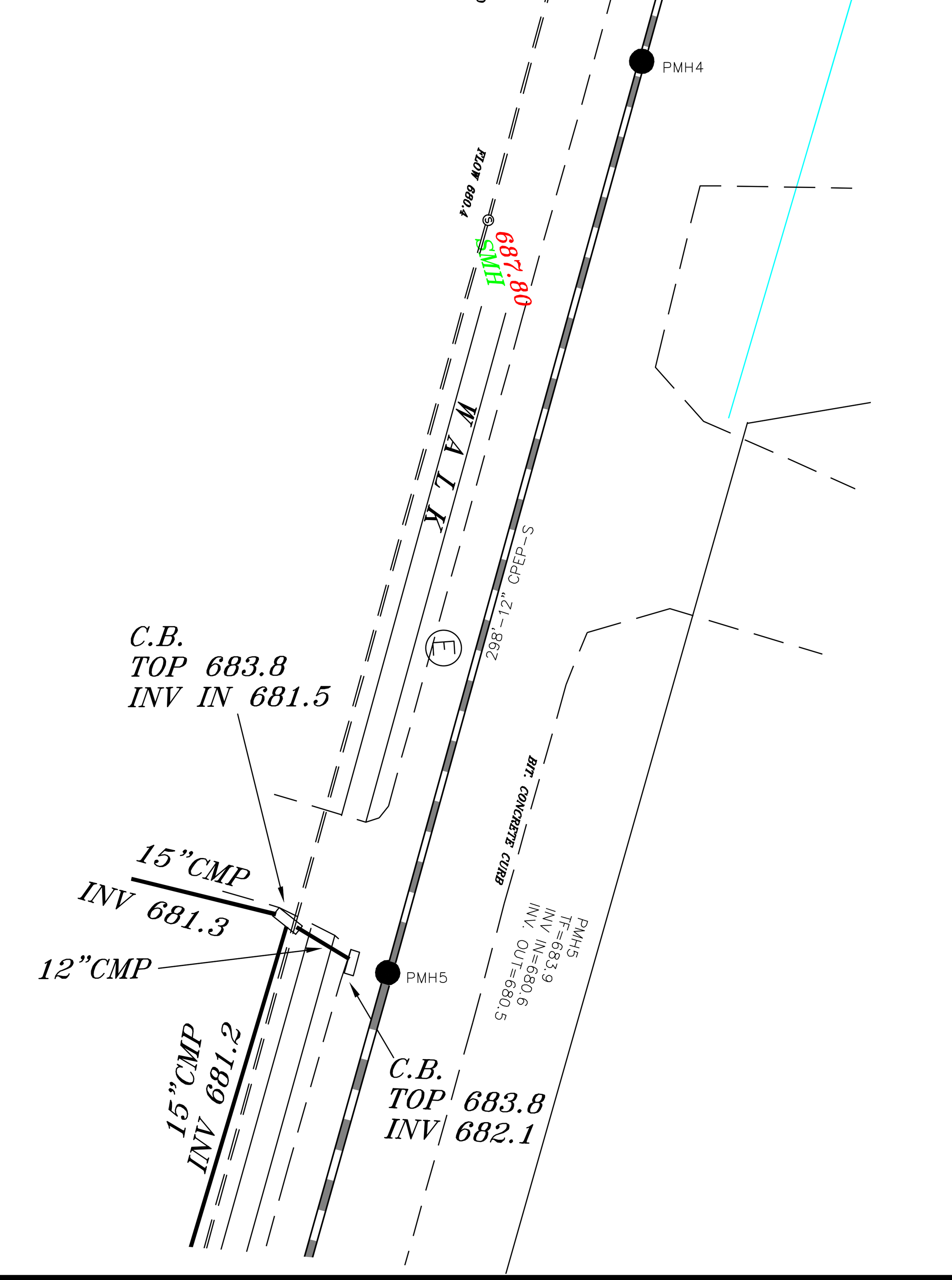
Maintenance of the hydrodynamic separator type units is performed using vacuum and/or pumping trucks. This industry is a well-established sector of the service industry that cleans tanks, sewers and catch basins. The use of a vacuum or pumping truck and hose will allow maintenance personnel to pump the unit while the truck is parked on the paved parking lot, thereby not disturbing the adjacent areas.

The hydrodynamic separator unit is sized based on the appropriate guidelines provided in the technical documentation. A CONTECH Hydrodynamic separator was selected. An equivalent may be substituted. Based on this data approximately 15% of the total sediment capacity will be utilized per year. Therefore the unit should be cleaned each year. It is suggested that the cleaning take place in the spring of each year. Based on the accumulated sediment levels the cleaning and monitoring schedule may be adjusted accordingly but not less than once per year.

The requirements for disposal of materials removed from the unit are similar to that of any other BMP. Disposal should be by a Connecticut licensed waste management company and discharged to a Connecticut DEEP approved location.

CULTEC RECHARGERS:

Visit www.cultec.com for the manufacturer's maintenance guidelines and schedules.



DATE	DESCRIPTION
12/12/22	REVISIONS PER ADJOINERS
04/01/21	PEER REVIEW REVISIONS

GRADING & DRAINAGE PLAN
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

20 0 10 20 40

ENVIRONMENTAL - CIVIL - ENGINEERING - SURVEYING
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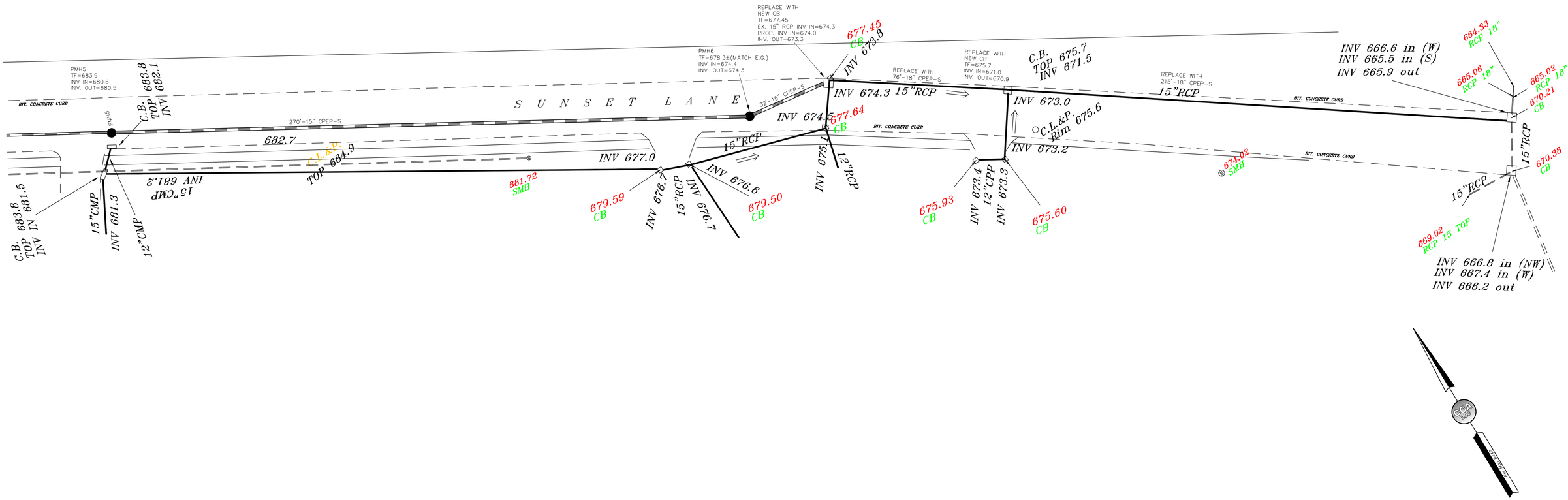

DESIGN ENGINEER SHALL SUPERVISE THE CONSTRUCTION AND INSTALLATION OF THE STORMWATER MANAGEMENT SYSTEM AND RETAINING WALLS. UPON COMPLETION OF THE PROJECT, AN AS-BUILT SURVEY OF THE COMPLETED STORMWATER MANAGEMENT SYSTEM SHALL BE SUBMITTED ALONG WITH A CERTIFICATION LETTER FROM THE DESIGN ENGINEER THAT THE STORMWATER MANAGEMENT SYSTEM AND RETAINING WALLS WERE CONSTRUCTED AS DESIGNED.

ALL STORM SEWER PIPING SHALL BE CPEP-S UNLESS NOTED OTHERWISE.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL MATERIALS FOR APPROVAL PRIOR TO CONSTRUCTION.

REPLACE DISTURBED BIT. CONCRETE CURB AND MILL AND OVERLAY GUTTER LINE TO GUTTER LINE. SEE PAVING DETAILS ON SH. N2

CONTACT CALL BEFORE YOU DIG PRIOR TO CONSTRUCTION TO VERIFY EXISTING UTILITY LOCATIONS.

DATE	DESCRIPTION

OFFISTE DRAINAGE PLAN
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

20 0 10 20 40

Date:	04-01-2021
Scale:	1"= 20'
Proj. No.:	18043.1
File No.:	3734
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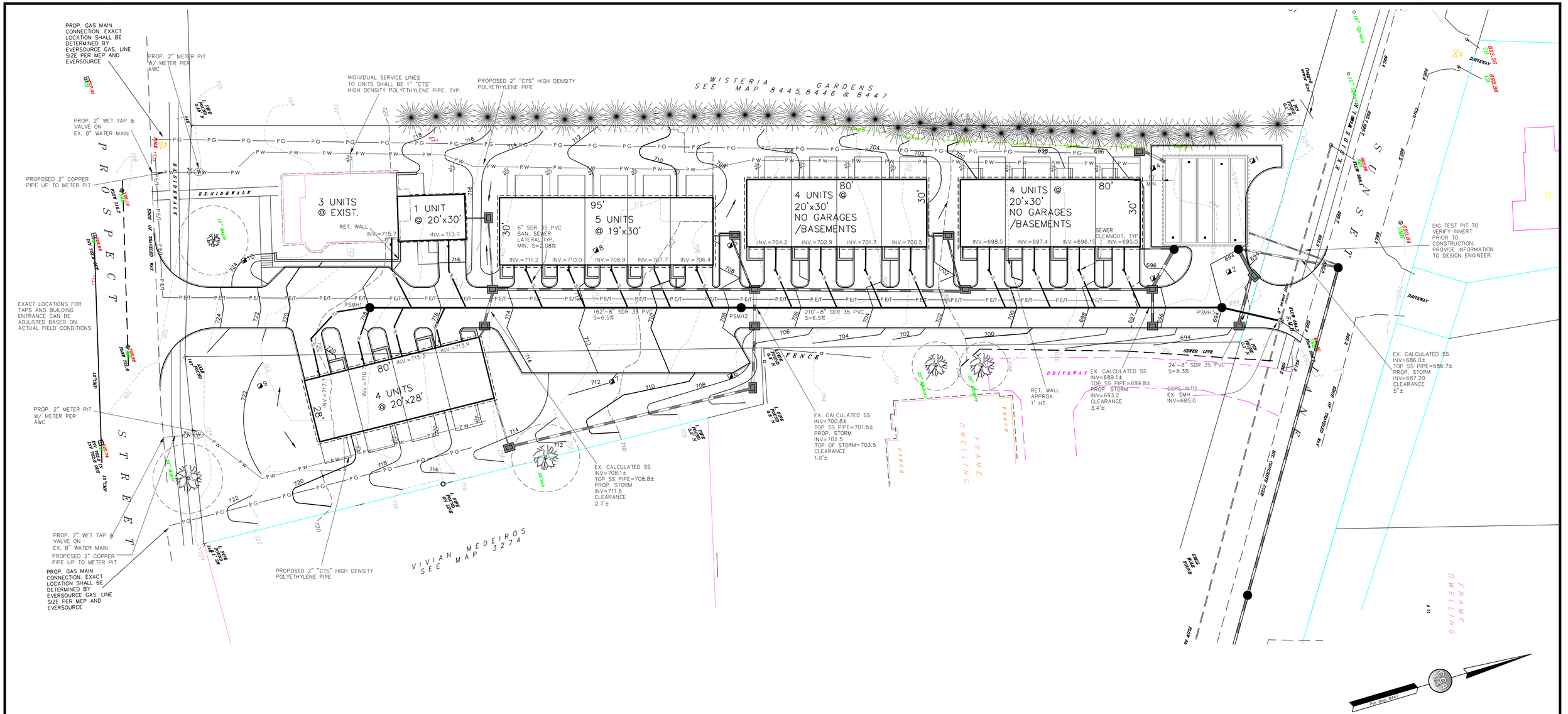

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL MATERIALS FOR APPROVAL PRIOR TO CONSTRUCTION.

CONSTRUCTION OF THE SANITARY SEWER SYSTEM SHALL BE SUPERVISED BY THE DESIGN ENGINEER.

ALL SANITARY MANHOLES & FRAMES SHALL BE WATERTIGHT.

ALL ELEC., CATV, GAS, TELE., & WATER UTILITY CONNECTIONS AND LOCATIONS TO BE DETERMINED BY APPROPRIATE UTILITY CO.

EVERSOURCE NOTES:
SERVICE TRENCH CONDUIT SHALL BE AT 25" DEPTH
PRIMARY TRENCH CONDUIT SHALL BE AT 30" DEPTH

SANITARY SEWER SYSTEM NOTES:

A. BUILDING SEWER CONNECTION TO BE 6-INCH DIAMETER SDR 35 ASTM D3034 PVC AND HAVE A MINIMUM SLOPE OF 1/4" PER FOOT.
B. SIX-INCH WYES TO BE USED FOR BUILDING SEWER CONNECTION.
C. SANITARY SEWER TO BE CONSTRUCTED IN COMPLIANCE WITH THE "STANDARD DETAILS" AND THE "SEWER USE REGULATIONS" OF THE RIDGEFIELD WPCA.
D. BUILDING SEWERS TO BE EXTENDED TO WITHIN FIVE FEET OF THE BUILDING OUTLET BY OTHERS.
E. BASE INFORMATION TAKEN FROM SURVEY DATA PREPARED BY RKW.
F. NO DEVIATION FROM THESE DOCUMENTS WILL BE PERMITTED WITHOUT PRIOR APPROVAL OF THE DESIGN. AMBIGUITIES AND INCONSISTENCIES IN THE SPECIFICATIONS SHALL BE REFERRED TO THE DESIGN ENGINEER FOR CLARIFICATION.
G. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
H. NOTIFY "CALL-BEFORE-YOU-DIG" AT 1-800-922-4455 FOR MARK-OUT OF EXISTING UTILITIES IN ALL ADJOINING ROADS BEFORE COMMENCEMENT OF WORK.
I. THE OWNER SHALL OBTAIN ALL APPLICABLE PERMITS FROM THE TOWN OF RIDGEFIELD.
J. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND QUANTITIES SHOWN ON THESE PLANS PRIOR TO PROCEEDING WITH CONSTRUCTION AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER WHOM SHALL HAVE FINAL SAY AS TO THE ACTUAL DIMENSIONS TO CONSTRUCT BY.
K. THE LOCATION AND ELEVATION OF UNDERGROUND UTILITIES IS UNKNOWN. IF THEY ARE INDICATED AT ALL ON THESE PLANS, THEY ARE APPROXIMATE AND CCA, LLC, ITS PRINCIPLES OR EMPLOYEES, SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES AND/OR ADDITIONAL COSTS WHICH MIGHT RESULT FROM THE EXISTENCE OF SAID UTILITIES.
L. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
M. NO PIPE CONNECTION CAN BE MADE OR TRENCH BACKFILLED UNLESS A RIDGEFIELD W.P.C.A. REPRESENTATIVE IS PRESENT.
N. SANITARY SEWER TESTING SHALL BE DONE UNDER THE SUPERVISION OF THE DESIGN ENGINEER IN ACCORDANCE WITH THE LATEST ASTM TESTING STANDARDS. THE AIR TEST PRESSURE SHALL BE 3.5 PSI AND THE MAXIMUM PRESSURE LOSS OVER A 10 MINUTE PERIOD SHALL BE 0.5 PSI. MANHOLES SHALL BE VACUUM TESTED WITH 10 INCHES OF MERCURY AND WILL PASS IF THE TIME TO DROP TO 9 INCHES IS GREATER THAN 60 SECONDS.
O. NO ROOF DRAINS, STORM DRAINS, FOUNDATION DRAINS OR SUBDRAINS SHALL BE CONNECTED TO THE SANITARY SEWER SYSTEM.

STRUCTURE	TF	INVERTS IN, OUT
PSMH1	718.0	711.5
PSMH2	707.6	701.0 700.9
PSMH3	694.0	687.1, 687.0

MAINTAIN A MINIMUM OF 10' HORIZONTAL CLEARANCE BETWEEN SANITARY SEWER AND WATER MAINS AND SERVICES
IF THIS CANNOT BE ACHIEVED, INSTALL IN A BENCHED CONFIGURATION AS SHOWN IN DETAIL ON SHEET N2

MAINTAIN A MINIMUM OF 2' HORIZONTAL CLEARANCE BETWEEN STORM DRAINAGE AND WATER MAINS AND SERVICES
MAINTAIN A MINIMUM OF 5' HORIZONTAL CLEARANCE BETWEEN GAS LINES AND WATER MAINS AND SERVICES
IF BLASTING IS REQUIRED, CONTRACTOR SHALL NOTIFY YANKEE GAS FOR PROPER PROCEDURES PRIOR TO BLASTING.

MAINTAIN A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN UTILITIES AND WATER MAINS AND SERVICES
MAINTAIN A MINIMUM OF 18" VERTICAL CLEARANCE BETWEEN (STORM SEWER, SANITARY SEWER, GAS) AND WATER MAINS AND SERVICES
PROVIDE MANUAL AIR RELEASE VALVES AT ALL HIGH POINTS
MINIMUM COVER OVER WATER MAIN SHALL BE 4.5' BELOW FINISHED GRADE
METER SIZES PER AQUARION WATER COMPANY.
DOMESTIC WATER AND FIRE SERVICE LINE SIZES TO BE VERIFIED BY MEP ENGINEER.

DATE	DESCRIPTION
12/12/22	REVISIONS PER ADJOINERS
04/01/21	PEER REVIEW REVISIONS

UTILITY PLAN
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

20 0 10 20 40

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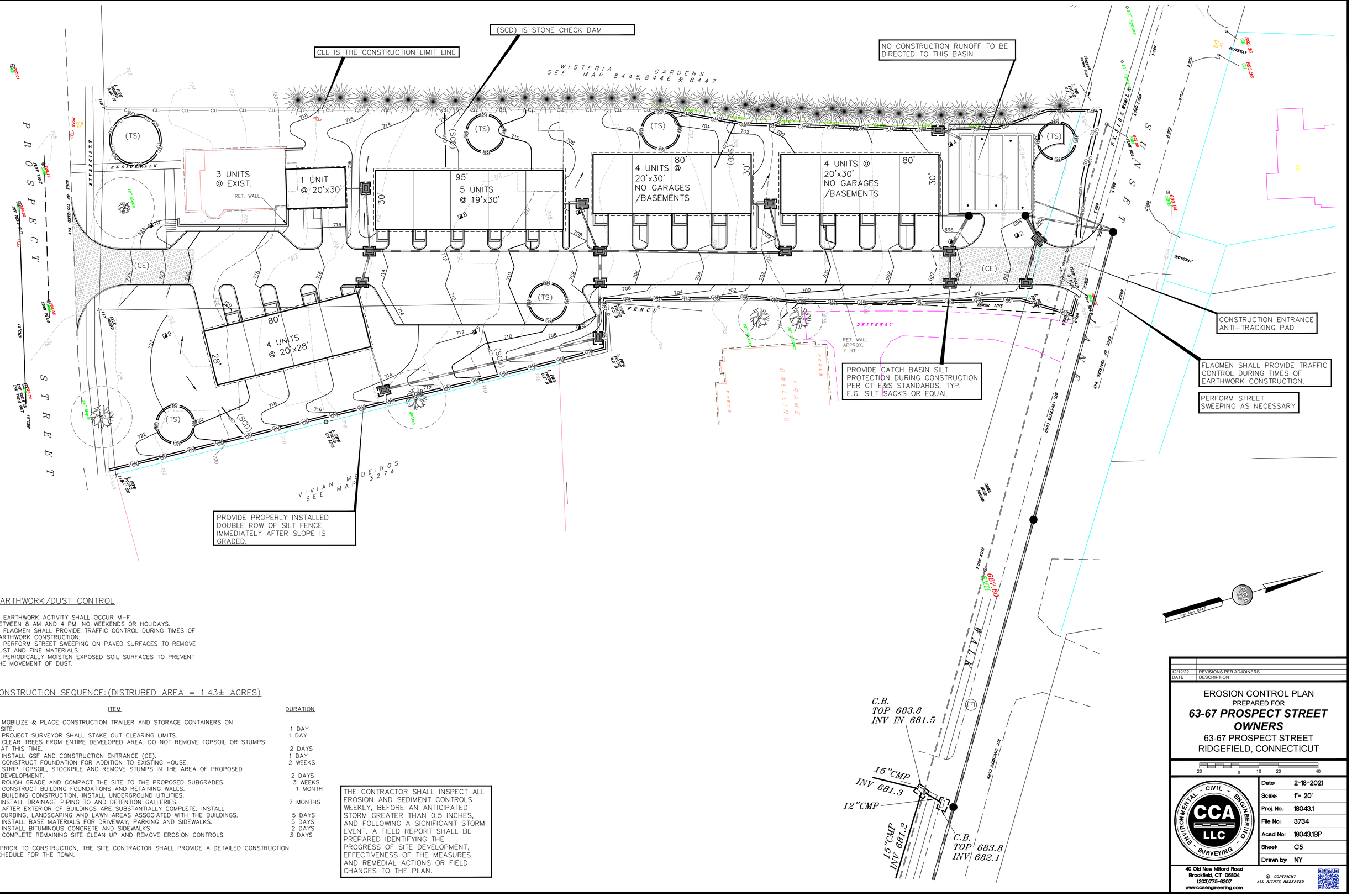

EARTHWORK/DUST CONTROL

- EARTHWORK ACTIVITY SHALL OCCUR M-F BETWEEN 8 AM AND 4 PM. NO WEEKENDS OR HOLIDAYS.
- FLAGMEN SHALL PROVIDE TRAFFIC CONTROL DURING TIMES OF EARTHWORK CONSTRUCTION.
- PERFORM STREET SWEEPING ON PAVED SURFACES TO REMOVE DUST AND FINE MATERIALS.
- PERIODICALLY MOISTEN EXPOSED SOIL SURFACES TO PREVENT THE MOVEMENT OF DUST.

CONSTRUCTION SEQUENCE: (DISTRUBED AREA = 1.43± ACRES)

ITEM	DURATION
- MOBILIZE & PLACE CONSTRUCTION TRAILER AND STORAGE CONTAINERS ON SITE.	1 DAY
- PROJECT SURVEYOR SHALL STAKE OUT CLEARING LIMITS.	1 DAY
- CLEAR TREES FROM ENTIRE DEVELOPED AREA. DO NOT REMOVE TOPSOIL OR STUMPS AT THIS TIME.	2 DAYS
- INSTALL GSF AND CONSTRUCTION ENTRANCE (CE).	1 DAY
- CONSTRUCT FOUNDATION FOR ADDITION TO EXISTING HOUSE.	2 WEEKS
- STRIP TOPSOIL, STOCKPILE AND REMOVE STUMPS IN THE AREA OF PROPOSED DEVELOPMENT.	2 DAYS
- ROUGH GRADE AND COMPACT THE SITE TO THE PROPOSED SUBGRADES.	3 WEEKS
- CONSTRUCT BUILDING FOUNDATIONS AND RETAINING WALLS.	1 MONTH
- BUILDING CONSTRUCTION, INSTALL UNDERGROUND UTILITIES, INSTALL DRAINAGE PIPING TO AND DETENTION GALLERIES.	7 MONTHS
- AFTER EXTERIOR OF BUILDINGS ARE SUBSTANTIALLY COMPLETE, INSTALL CURBING, LANDSCAPING AND LAWN AREAS ASSOCIATED WITH THE BUILDINGS.	5 DAYS
- INSTALL BASE MATERIALS FOR DRIVEWAY, PARKING AND SIDEWALKS.	5 DAYS
- INSTALL BITUMINOUS CONCRETE AND SIDEWALKS	2 DAYS
- COMPLETE REMAINING SITE CLEAN UP AND REMOVE EROSION CONTROLS.	3 DAYS

* PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL PROVIDE A DETAILED CONSTRUCTION SCHEDULE FOR THE TOWN.

THE CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROLS WEEKLY, BEFORE AN ANTICIPATED STORM GREATER THAN 0.5 INCHES, AND FOLLOWING A SIGNIFICANT STORM EVENT. A FIELD REPORT SHALL BE PREPARED IDENTIFYING THE PROGRESS OF SITE DEVELOPMENT, EFFECTIVENESS OF THE MEASURES AND REMEDIAL ACTIONS OR FIELD CHANGES TO THE PLAN.

DATE	DESCRIPTION
12/12/22	REVISIONS PER ADJOINERS

EROSION CONTROL PLAN

PREPARED FOR

63-67 PROSPECT STREET OWNERS

63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

20 0 10 20 40

Date:	2-18-2021
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-GRADING PERMITTED OVER PROPERTY LINE.
-ARBORVITAE PLANTINGS ARE SPACED 4' ON CENTER AND SHALL BE OF GOOD QUALITY.
-OWNER OF 63-67 PROSPECT STREET SHALL MAINTAIN AND REPLACE, IF NECESSARY, ANY ARBORVITAE FOR A TIME PERIOD OF 5 YEARS.
-ANY DISTURBED AREAS ON 73 PROSPECT ST. SHALL BE RESTORED WITH SOD.
-ANY DAMAGED EVERGREEN TREES ON 73 PROSPECT ST. DUE TO THE CONSTRUCTION PROCESS SHALL BE REPLACED.

PLANT SCHEDULE

SYM	BOTANICAL-NAME	COMMON-NAME	SIZE	ROOT	QTY
CANOPY TREES					
Ag	Acer griseum	Paperbark Maple	2-1/2" Cal	B&B	1
ArA	Acer rubrum 'Armstrong'	Armstrong Red Maple	2.5-3" Cal	B&B	4
FDP	Fagus sylvatica 'Dawyck Purple'	Dawyck Purple Beech	2.5-3" Cal.	B&B	2
EVERGREEN TREES					
PP2	Picea pungens	Colorado Spruce	10-12' Ht.	B&B	1
PpF	Picea pungens 'Fat Albert'	Fat Albert Spruce	6-7' Ht.	B&B	4
TpG	Thuja plicata 'Green Giant'	Green Giant Arborvitae	10-12' Ht.	B&B	57
TpG2	Thuja plicata 'Green Giant'	Green Giant Arborvitae	5-6' Ht.	B&B	43
UNDERSTORY/FLOWERING TREES					
SHRUBS					
HA	Hydrangea arborescens 'Annabelle'	Annabelle Hydrangea	30"-36"	B&B	5
HAi	Hydrangea arborescens 'Invincible Spirit'	Pink Flowering Annablelle Hydrangea	30"-36"	B&B	6
HNB	Hydrangea macrophylla 'Nikko Blue'	Nikko Blue Hydrangea	30"-36"	B&B	4
HpQ	Hydrangea paniculata 'Quick Fire'	Quick Fire Hydrangea	#10	Tree form	1
IDL	Ilex x aquiperny 'Meschick' Dragon Lady	Dragon Lady Holly	6'-7'	B&B	2
IcF	Ilex crenata 'Fastigiata'	Fastigiata Japanese Holly	30"-36"	B&B	18
IcS	Ilex crenata 'Steeds'	Steeds Upright Japanese Holly	5-6' Ht.	B&B	4
KLE	Kalmia latifolia "Elf"	Mountain Laurel Dwarf Hybrid	#3, 18"-24"	Cont	5
KLS	Kalmia latifolia 'Sarah'	Sarah Mountainlaurel - Dwarf	#3,18"-24"	1 gal.	6
PpG	Picea pungens Globosa	Dwarf Globe Blue Spruce	#10	Cont	2
RDA	Rhododendron 'Dora Amateis'	Dora Amateis Rhododendron	#3,18"-24"	Cont.	3
RmR	Rhododendron maximum 'Roseum'	Rosebay Rhododendron var.	3'- 4' Ht	B&B	4
SbG	Spirea x bumalda 'Goldmound'	Goldmound Spirea	#5, 2.5' Ht.	Cont	12
TmD	Taxus x media 'Densiformis'	Spreading Yew	18-24" Ht.	B&B	43
Vd	Viburnum dentatum	Arrowwood Viburnum FACW-	#5, 2.5' Ht.	Cont	4

NOTE:

1. SEE SHEET N6 FOR PLANTING DETAILS AND NOTES.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL MATERIALS FOR APPROVAL PRIOR TO CONSTRUCTION.

FINE LAWN GRASS SEED MIX
30% MERION KENTUCKY BLUE GRASS
40% KENTUCKY BLUE GRASS
20% PENLAWN RED FESCUE
10% ANNUAL RYEGRASS

NOTE:
ALL DISTURBED AREAS & THOSE AREAS NOT PLANTED WITH TREES OR SHRUBS TO BE TOPSOILED (4" MIN.) & SEEDED OR SODDED, TYP.

LIGHTING LEGEND:

- POLE LIGHT @ 14' HT (SEE PHOTOMETRICS PLAN)
- WALL MOUNTED LIGHT FIXTURE

DATE	DESCRIPTION
12/12/22	REVISIONS PER ADJOINERS

LANDSCAPE PLAN
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

20 0 10 20 40

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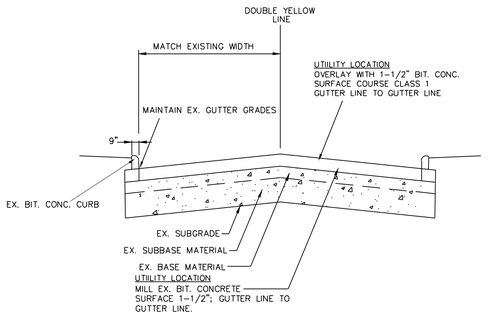

PERMANENT PAVEMENT RESTORATION TOWN ROAD

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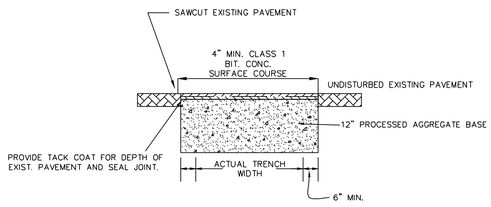

TEMPORARY TRENCH PATCH TOWN ROAD & DRIVEWAYS

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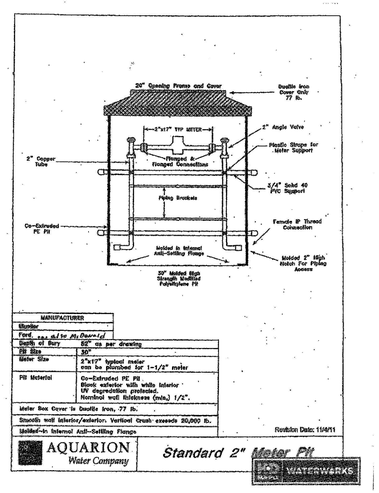

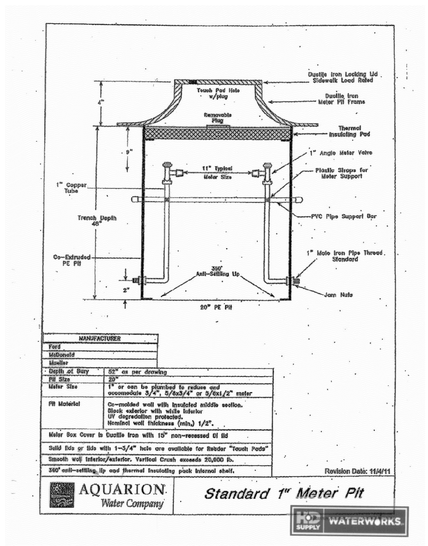

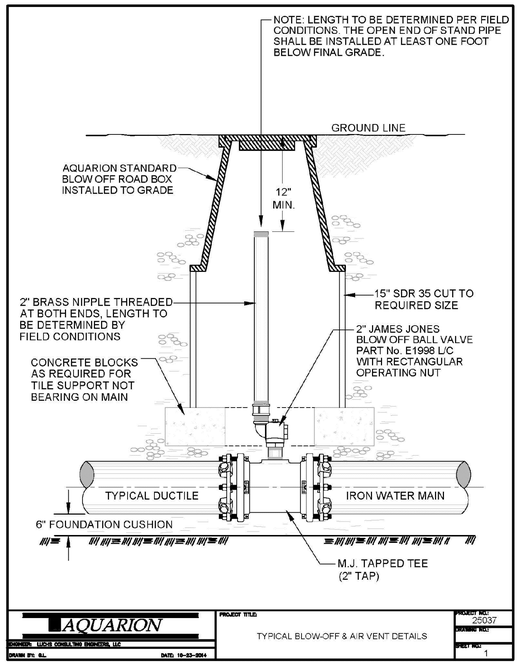

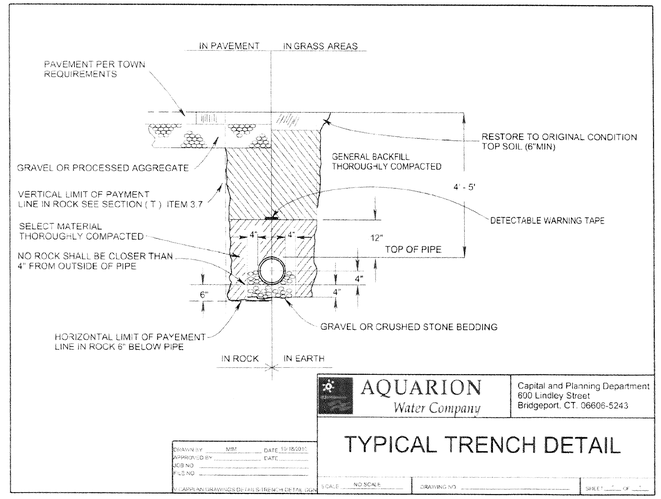

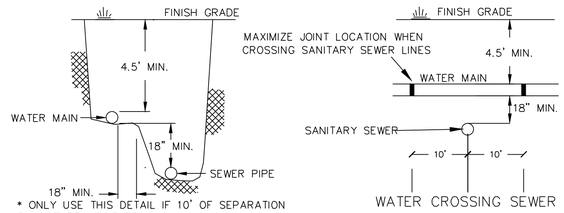

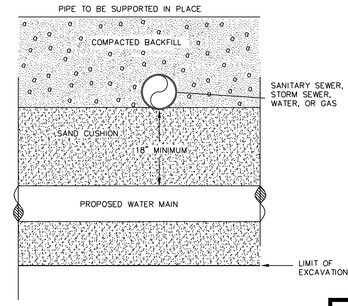

TYPICAL PIPE CROSSING

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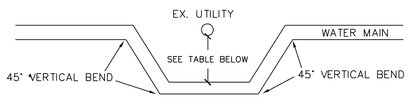
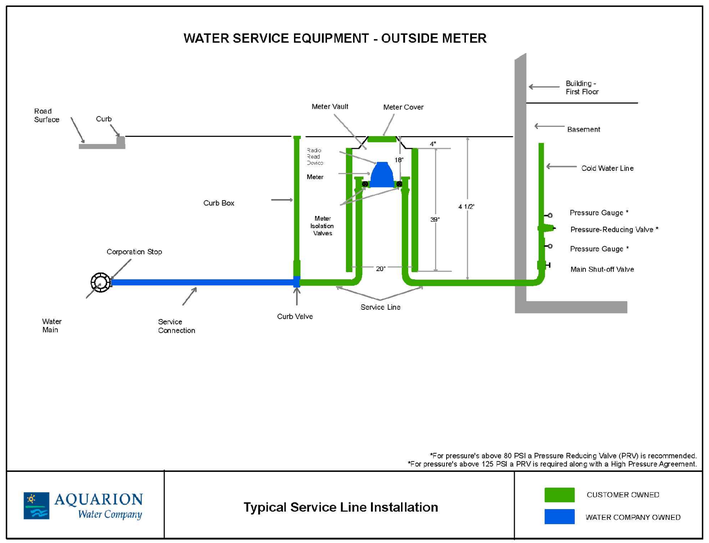


VERTICAL SEPARATING DISTANCE

GAS	18"
SANITARY SEWER	18"
STORM DRAINAGE	18"
ELEC., TV, TELE, FIBER OPTIC	12"

WATER CROSSING UTILITY DETAIL



DATE	DESCRIPTION

NOTES & DETAILS
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

Date:	2-18-2021
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SEDIMENTATION AND EROSION CONTROL PLAN

(NOTE: HEADING NUMBERS CORRESPOND TO SECTION "I. NARRATIVE" OF THE EROSION AND SEDIMENTATION CONTROL PLAN CHECKLIST THAT APPEARS ON PAGE 3-12 OF THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.)

1.1 PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE CONSTRUCTION OF A MULTI-FAMILY RESIDENTIAL DEVELOPMENT IN THE R-5 ZONE. AN EXISTING BUILDING IS TO REMAIN AND WILL CONTAIN 3 UNITS, PLUS A 1 UNIT ADDITION AT ITS NORTH END CONTAINING A GARAGE LEVEL, 2 STORIES, AND AN ATTIC. THERE ARE FOUR PROPOSED BUILDINGS THAT CONTAIN A GARAGE LEVEL, TWO STORIES AND AN ATTIC. THERE ARE A TOTAL OF 21 UNITS. VEHICLE ACCESS WILL BE FROM A NEW ENTRANCE DRIVEWAY FROM PROSPECT ST. AND AN EXIT DRIVEWAY TO SUNSET LANE. THE SITE WILL CONTAIN 18 GARAGE SPACES AND 21 ON-GRADE SPACES FOR A TOTAL OF 39 PARKING SPACES. INCLUDED AS INTEGRAL PARTS OF THE DEVELOPMENT ARE PARKING, SIDEWALKS, UTILITIES AND RETAINING WALLS. THE STORMWATER MANAGEMENT FACILITIES INCLUDE CATCH BASINS, PIPES, HYDRODYNAMIC SEPARATOR AND A DETENTION GALLERY SYSTEM. THE PROPOSED BUILDINGS WILL CONNECT INTO THE MUNICIPAL SANITARY SEWER SYSTEM ON SUNSET LANE AND TO THE AQUARION WATER COMPANY SYSTEM ON PROSPECT STREET.

1.2 SITE DISTURBANCE

THE SITE IS 1.42 ACRES IN SIZE. APPROXIMATELY 1.43 ACRES WILL BE DISTURBED WHICH INCLUDES ON-SITE DISTURBANCE AND OFFSITE DISTURBANCE.

1.3 SITE SPECIFIC SEDIMENTATION AND EROSION ISSUES

SPECIFIC SOIL EROSION AND SEDIMENTATION ISSUES RELATE TO THE:

1) DISTURBANCE OF SOIL SURFACES ASSOCIATED WITH ROUGH GRADING, PARKING AND ASSOCIATED UTILITY CONSTRUCTION.

2) CONSTRUCTION OF BUILDINGS AND DRIVES.

3) STABILIZATION OF CUT & FILL SLOPES.

4) MAINTENANCE OF TEMPORARY E&S CONTROL MEASURES DURING CONSTRUCTION.

1.4 PROJECT PHASING

THE PROJECT IS TO BE COMPLETED IN ONE PHASE.

1.5 SCHEDULING

ONCE FINAL APPROVALS ARE RECEIVED, OVERALL CONSTRUCTION IS EXPECTED TO TAKE 1 YEAR.

1.6 DESIGN CRITERIA, MAINTENANCE AND CONSTRUCTION SEQUENCING

1.6.1 DESIGN CRITERIA

THE STORM WATER MANAGEMENT SYSTEM IS DESIGNED FOR THE 2 THRU 50 YEAR STORM EVENTS.

1.6.2 MAINTENANCE OF E & S CONTROL MEASURES

1) LAND DISTURBANCE WILL BE KEPT TO A MINIMUM: RESTABILIZATION WILL BE SCHEDULED AS SOON AS PRACTICAL.

2) ALL CATCH BASINS ARE TO HAVE "SILT SACK" OR EQUIVALENT INSERTS INSTALLED AT. TIME OF CONSTRUCTION AND MAINTAINED UNTIL SITE IS STABILIZED.

3) DOUBLE ROW OF SILT FENCE WILL BE INSTALLED ALONG THE TOE OF ALL CRITICAL CUT AND FILL SLOPES, SOIL STOCKPILE AREAS, AND IN THOSE AREAS SHOWN ON THE PLAN.

4) ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, AS MAY BE AMENDED.

5) EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO LAND DISTURBANCE WHENEVER POSSIBLE.

6) ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED UNTIL STABILIZATION HAS BEEN ACHIEVED.

7) ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF NECESSARY OR REQUIRED. A MINIMUM OF 300 FEET OF SILT FENCE SHALL BE STORED AT THE SITE FOR EMERGENCY USE.

8) THE CONTRACTOR AND PROJECT ENGINEER SHALL INSPECT ALL EROSION AND SEDIMENT CONTROLS WEEKLY, BEFORE AN ANTICIPATED STORM GREATER THEN 0.5 INCHES, AND FOLLOWING A SIGNIFICANT STORM EVENT. A FIELD REPORT SHALL BE PREPARED IDENTIFYING THE PROGRESS OF SITE DEVELOPMENT, EFFECTIVENESS OF THE MEASURES AND REMEDIAL ACTIONS OR FIELD CHANGES TO THE PLAN.

9) ANY EXCAVATIONS THAT MUST BE DEWATERED WILL BE PUMPED INTO AN ACTIVE DRAINAGE SYSTEM OR DISPERSED IN AN UNDISTURBED UPLAND AREA. THE INLETS OF ALL PUMPS ARE TO BE FLOATED A MINIMUM OF 24 INCHES OFF THE BOTTOM OF THE EXCAVATION AS DEFINED AND DESIGNED BY THE PROJECT ENGINEER. NO SILTY WATER IS ALLOWED TO BE DISCHARGE OFF-SITE OR INTO THE WETLANDS DUE TO DEWATERING.

10) WATER OR CALCIUM CHLORIDE SHALL BE APPLIED TO UNPAVED DRIVEWAYS AND HAUL ROUTES TO CONTROL DUST.

11) DEBRIS AND OTHER WASTES RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION ACTIVITIES WILL NOT BE DISCARDED ON-SITE.

12) SILT FENCES SHALL HAVE SEDIMENT REMOVED WHEN THE DEPTH OF THE SEDIMENT IS EQUAL TO 1/3 THE HEIGHT OF THE FENCE. FENCES SHALL BE PROPERLY INSTALLED AND RIPPED FENCE OR BROKEN POSTS REPAIRED REGULARLY.

13) CATCH BASIN INSERTS (SILT SACK OR EQUIVALENT) SHALL BE CLEANED WHEN THE RESERVOIR IS FULL OR WHEN WATER BYPASSES SILT SACK WHICHEVER OCCURS FIRST. CONTRACTOR SHOULD CLEAN SILT SACKS IN A PROACTIVE MANNER TO AVOID UNINTENTIONAL DISCHARGE OF SILT.

14) CONSTRUCTION ENTRANCES SHALL BE REPLACED WHEN VOID SPACES ARE FULL AS DETERMINED BY A VISUAL INSPECTION OF SURFACE ONLY OR AS SOON AS TRACKING ON THE ROAD OCCURS WHICHEVER IS SOONER.

15) SEDIMENT REMOVED FROM CONTROL STRUCTURES WILL BE DISPOSED OF IN A MANNER CONSISTENT WITH THE INTENT OF THE PLAN.

16) TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE SOIL SURFACE STABILIZED WHEN CONSTRUCTION IS COMPLETE AND THE SOIL SURFACES ARE PERMANENTLY STABILIZED. STRUCTURAL COMPONENTS SHALL BE CLEANED OF ALL SEDIMENT UPON COMPLETION OF CONSTRUCTION. STABILIZATION MEANS THAT:

1. TEMPORARY OR PERMANENT VEGETATION HAS BEEN ESTABLISHED,
2. TURF OR LANDSCAPE AREAS ARE PLANTED OR MULCHED. IF SEASONAL RESTRICTIONS EXIST FOR PLANTING, THE TOWN OF RIDGEFIELD STAFF SHALL DETERMINE WHETHER THE SITE IS STABILIZED IN ACCORDANCE WITH THE ABOVE CRITERIA, PRUDENT CONSTRUCTION PRACTICES AND THE CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

17) PRIOR TO CONSTRUCTION A PERSON WILL BE DESIGNATED TO THE TOWN OF RIDGEFIELD AS THE PERSON RESPONSIBLE FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, NOTIFYING THE TOWN OF RIDGEFIELD OF ANY TRANSFER OF THIS RESPONSIBILITY AND FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT PLAN, IF AND WHEN THE TITLE OF LAND IS TRANSFERRED.

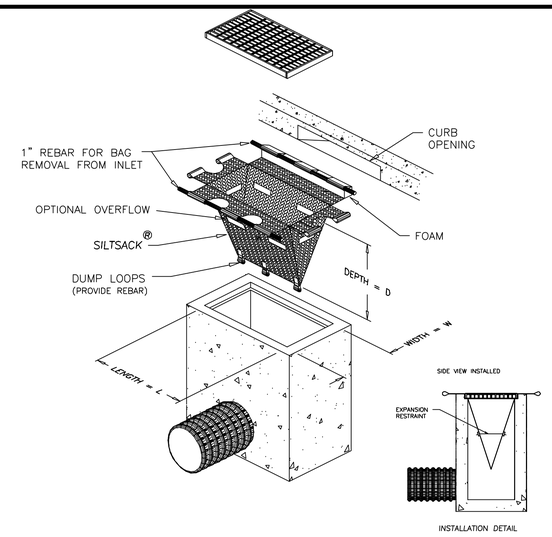
1.7 PERMITTING

THE PROPOSED DEVELOPMENT WILL REQUIRE PERMITS FROM THE TOWN OF RIDGEFIELD THE PLANNING AND ZONING COMMISSION IN ADDITION TO ALL APPLICABLE BUILDING PERMITS. DEVELOPER SHALL OBTAIN ALL REQUIRED STATE AND LOCAL PERMITS APPLICABLE.

1.8 CONSERVATION PRACTICES

CONSERVATION PRACTICES INCLUDE:

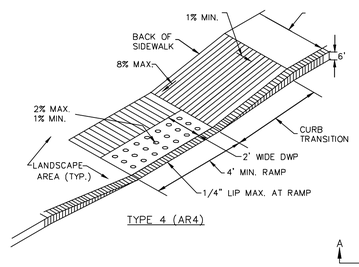
1) MINIMIZED SITE DISTURBANCE
2) RESTORATION AND STABILIZATION OF AFFECTED WETLANDS.
3) PROTECTION OF STEEP SLOPES.
4) PROTECTION OF DOWNSTREAM WETLANDS/WATERCOURSES
5) MINIMAL DISTURBANCE TO REGULATED AREAS.



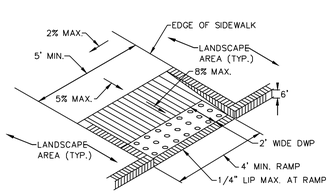
SILTSACK®
SPECIFICATIONS

NOTE: THE SILTSACK® WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

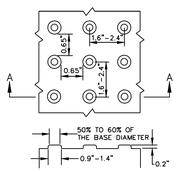
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1



TYPE 4 (AR4)

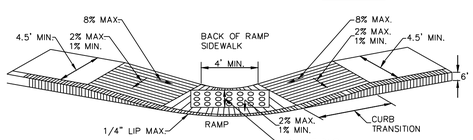


TYPE 1 (AR1)



DETECTABLE WARNING PANEL (DWP)
ONLY APPLICABLE TO RAMPS AT OLD QUARRY ROAD CROSSWALK – SEE NOTE 12.

NOTES:
1.) SEE PLANS FOR CURB TYPE
2.) CURBS AND WALKS ALONG ACCESSIBLE ROUTES SHALL MEET CT REGULATIONS AND ADA.
3.) THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 2%
4.) THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE EXCLUDING CURB RAMPS SHALL BE 5%
5.) THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 8%
6") MAINTAIN A MINIMUM OF 3 FEET CLEAR AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (IE; HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.)
7.) GRADE BASE OF RAMP TO PREVENT PONDING.
8.) RAMP CONSTRUCTION SHALL CONFORM TO TYPICAL SIDEWALK SECTION.
9.) WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5'X6' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
10.) ALL CURBING AT RAMPS SHALL BE VERTICAL CURBING SET FLUSH WHERE IT ABUTS ROADWAY.
11.) ALL RAMPS SHALL BE CEMENT CONCRETE WITH BROOM NON-SLIP SURFACE.
12.) BOTH RAMPS AT OLD QUARRY ROAD CROSSWALK SHALL HAVE A 2' WIDE DETECTABLE WARNING PANEL EXTENDING THE FULL WIDTH OF THE FLUSH RAMP EDGE.



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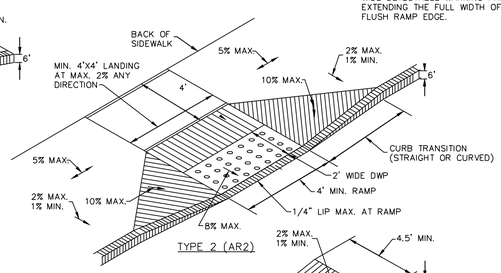
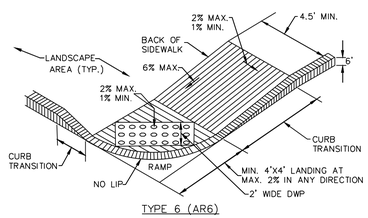


TYPE 2 (AR2)



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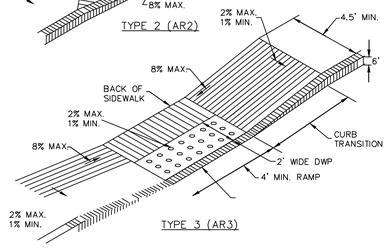

TYPE 3 (AR3)

ACCESSIBLE CURB RAMP DETAILS
N.T.S.

WATER SYSTEM OPERATOR: AQUARION WATER COMPANY, INC.

GENERAL NOTES:

1. TOPOGRAPHY BASED ON ASSUMED DATUM.
2. ANY CHANGES IN THIS PLAN SHALL FIRST BE APPROVED BY THE ENGINEER, AQUARION WATER COMPANY, AND OTHER REGULATORY AGENCIES AS MAY BE APPLICABLE.

CONSTRUCTION NOTES:

1. ORGANIC OR OTHERWISE UNSUITABLE SOILS IN AREA OF PROPOSED ROADS AND WATER LINES TO BE REMOVED PRIOR TO EXCAVATION OR EMBANKMENT CONSTRUCTION AND STOCKPILED ONSITE FOR RE-USE, OR DISPOSED OF PROPERLY OFFSITE.
2. SUITABLE FILL SHALL BE PLACED AND COMPACTED IN 8" LIFTS TO 92% DENSITY AS DETERMINED BY ASTM D1557.
3. DISTURBED SUBGRADE IN EXCAVATION AREAS SHALL BE RE-COMPACTED TO 92% DENSITY AS DETERMINED BY ASTM D1557.
4. ALL SEEDED AND SODDED AREAS SHALL HAVE A MINIMUM OF 4" OF TOPSOIL; ALL GRASS AREAS SHALL BE FERTILIZED AND REFER TO SHEET E1.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND QUANTITIES AS SHOWN ON THE PLANS PRIOR TO PROCEEDING WITH CONSTRUCTION AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER WHO SHALL HAVE FINAL SAY AS TO THE ACTUAL DIMENSIONS TO CONSTRUCT BY.
6. THE PRECISE LOCATION AND ELEVATION OF UNDERGROUND UTILITIES IS UNKNOWN. IF THEY ARE INDICATED AT ALL ON THESE PLANS, THEY ARE APPROXIMATE AND CCA, LLC, ITS PRINCIPLES OR EMPLOYEES SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES AND/OR ADDITIONAL COSTS WHICH MIGHT RESULT FROM THE EXISTENCE OF SAID UTILITIES.
7. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
8. NOTIFY "CALL-BEFORE-YOU-DIG" (1-800-922-4455) FOR UTILITY MARKOUT PRIOR TO START OF CONSTRUCTION.
9. ROAD AND DRAINAGE MATERIALS AND METHODS TO MEET CONNECTICUT D.O.T. SPECIFICATIONS FOR ITEMS NOT SPECIFIED IN THE LOCAL MUNICIPALITY STANDARDS.

WATER SYSTEM NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING RIDGEFIELD PUBLIC WORKS DEPARTMENT PERMITS.
2. ALL NEW DISTRIBUTION PIPE TO BE CLASS 52 DUCTILE IRON PIPE WITH PUSH-ON JOINTS OR MECHANICAL JOINTS.
3. ALL PIPE TO BE JOINED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. 4. ALL GATE/BUTTERFLY VALVES SHALL CONFORM TO A.W.W.A. STANDARD C500. VALVES SHALL BE INSTALLED LEVEL ON CONCRETE THRUST BLOCKING WITH THE STEM PLUMB. ALL GATE/BUTTERFLY VALVES SHALL OPEN RIGHT (CLOCKWISE).
5. ALL WATER LINES SHALL BE FLUSHED AND DISINFECTED BEFORE BEING PUT IN SERVICE IN ACCORDANCE WITH THE STATE HEALTH DEPARTMENT GUIDELINES.
6. ALL WATER LINES SHALL BE PRESSURE TESTED ACCORDING TO THE CT. P.U.R.A AND AWWA CRITERIA.
7. ALL WATER LINES SHALL BE MARKED DURING BACKFILLING BY PLACEMENT OF A METALLIC TAPE 12" TO 18" ABOVE PIPE. TAPE SHALL BE A BLUE PLASTIC-JACKETED 0.35 MIL ALUMINUM FOIL, AS MANUFACTURED BY ALLEN SYSTEMS, INC.
8. BACKFILL SHALL CONSIST OF NATIVE EXCAVATION, BUT SHALL BE FREE OF ANY DELETERIOUS MATERIALS OR STONES AND PIECES OF PAVEMENT IN EXCESS OF 4 INCHES IN SIZE. ANY UNSUITABLE MATERIAL SHALL BE REJECTED AND DISPOSED OF, AND REPLACE WITH CLEAN SANDY BORROW, SAND, OR GRAVEL. BACKFILL SHALL BE COMPACTED IN 6" LAYERS TO 95% OPTIMUM DENSITY AS DETERMINED BY ASTM METHOD D1557.
9. UNLESS OTHERWISE NOTED, MAINTAIN 18" MINIMUM VERTICAL CLEARANCE BETWEEN THE PROPOSED WATER LINE AND ANY STORM OR SANITARY SEWER, AND 12" MINIMUM VERTICAL CLEARANCE BETWEEN ANY OTHER UTILITY OR SERVICE (SEE DETAIL).
10. JOINT RESTRAINT FITTINGS (E.B.A.A. MEGALUGS SERIES 1100 OR 1700 OR FIELD LOK 350) SHALL BE USED AT ALL BENDS, TEES, VALVES, HYDRANTS AND FITTINGS IN ACCORDANCE WITH THE DETAIL.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR RETAINING A CONNECTICUT LICENSED LAND SURVEYOR FOR CONSTRUCTION STAKING AND AS-BUILT MEASUREMENTS.
12. ALL WORK IS SUBJECT TO INSPECTION AND APPROVAL BEFORE BACKFILLING.

DATE	DESCRIPTION

NOTES & DETAILS
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

ENVIRONMENTAL - CIVIL - ENGINEERING - SURVEYING
CCA LLC
40 Old New Milford Road
Brookfield, CT 06804
(203)775-6207
www.ccaengineering.com

Date:	2-18-2021
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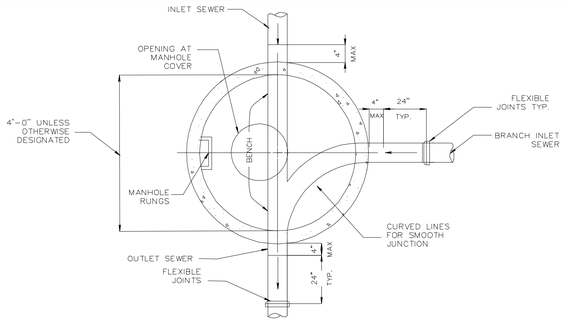
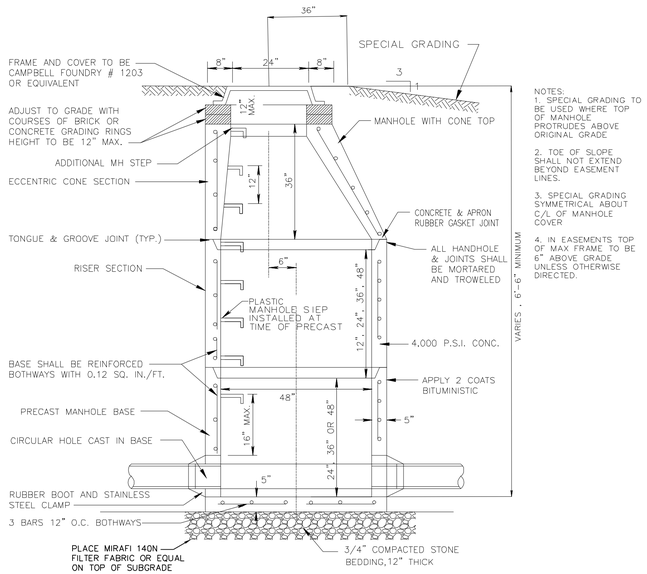


PLAN

SANITARY SEWER SYSTEM NOTES:

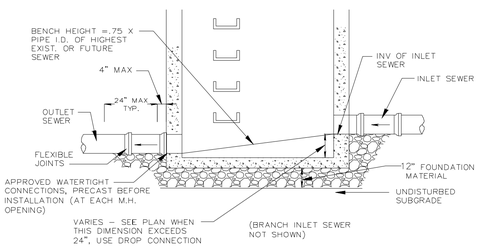
A. BUILDING SEWER CONNECTION TO BE 6-INCH DIAMETER SDR 35 ASTM D3034 PVC AND HAVE A MINIMUM SLOPE OF 1/4" PER FOOT.
B. SIX-INCH WYES TO BE USED FOR BUILDING SEWER CONNECTION.
C. SANITARY SEWER TO BE CONSTRUCTED IN COMPLIANCE WITH THE "STANDARD DETAILS" AND THE "SEWER USE REGULATIONS" OF THE RIDGEFIELD WPCA.
D. BUILDING SEWERS TO BE EXTENDED TO WITHIN FIVE FEET OF THE BUILDING OUTLET BY OTHERS.
E. BASE INFORMATION TAKEN FROM SURVEY DATA PREPARED BY RKW
F. NO DEVIATION FROM THESE DOCUMENTS WILL BE PERMITTED WITHOUT PRIOR APPROVAL OF THE DESIGN. AMBIGUITIES AND INCONSISTENCIES IN THE SPECIFICATIONS SHALL BE REFERRED TO THE DESIGN ENGINEER FOR CLARIFICATION.
G. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
H. NOTIFY "CALL-BEFORE-YOU-DIG" AT 1-800-922-4455 FOR MARK-OUT OF EXISTING UTILITIES IN ALL ADJOINING ROADS BEFORE COMMENCEMENT OF WORK.
I. THE OWNER SHALL OBTAIN ALL APPLICABLE PERMITS FROM THE TOWN OF RIDGEFIELD.
J. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND QUANTITIES SHOWN ON THESE PLANS PRIOR TO PROCEEDING WITH CONSTRUCTION AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER WHOM SHALL HAVE FINAL SAY AS TO THE ACTUAL DIMENSIONS TO CONSTRUCT BY.
K. THE LOCATION AND ELEVATION OF UNDERGROUND UTILITIES IS UNKNOWN. IF THEY ARE INDICATED AT ALL ON THESE PLANS, THEY ARE APPROXIMATE AND CCA, LLC, ITS PRINCIPLES OR EMPLOYEES, SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES AND/OR ADDITIONAL COSTS WHICH MIGHT RESULT FROM THE EXISTENCE OF SAID UTILITIES.
L. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
M. NO PIPE CONNECTION CAN BE MADE OR TRENCH BACKFILLED UNLESS A RIDGEFIELD W.P.C.A. REPRESENTATIVE IS PRESENT.
N. SANITARY SEWER TESTING SHALL BE DONE UNDER THE SUPERVISION OF THE DESIGN ENGINEER IN ACCORDANCE WITH THE LATEST ASTM TESTING STANDARDS. THE AIR TEST PRESSURE SHALL BE 3.5 PSI AND THE MAXIMUM PRESSURE LOSS OVER A 10 MINUTE PERIOD SHALL BE 0.5 PSI. MANHOLES SHALL BE VACUUM TESTED WITH 10 INCHES OF MERCURY AND WILL PASS IF THE TIME TO DROP TO 9 INCHES IS GREATER THAN 60 SECONDS.
O. NO ROOF DRAINS, STORM DRAINS, FOUNDATION DRAINS OR SUBDRAINS SHALL BE CONNECTED TO THE SANITARY SEWER SYSTEM.



NOTES:
1. SPECIAL GRADING TO BE USED WHERE TOP OF MANHOLE PROTRUDES ABOVE ORIGINAL GRADE.
2. TOE OF SLOPE SHALL NOT EXTEND BEYOND EASEMENT LINES.
3. SPECIAL GRADING SYMMETRICAL ABOUT C/L OF MANHOLE COVER
4. IN EASEMENTS TOP OF MAX FRAME TO BE 6" ABOVE GRADE UNLESS OTHERWISE DIRECTED.

SANITARY PRECAST REINFORCED CONCRETE MANHOLE ASSEMBLY

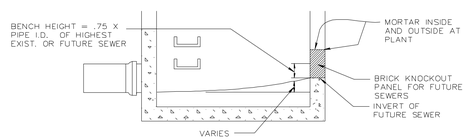
NOT TO SCALE



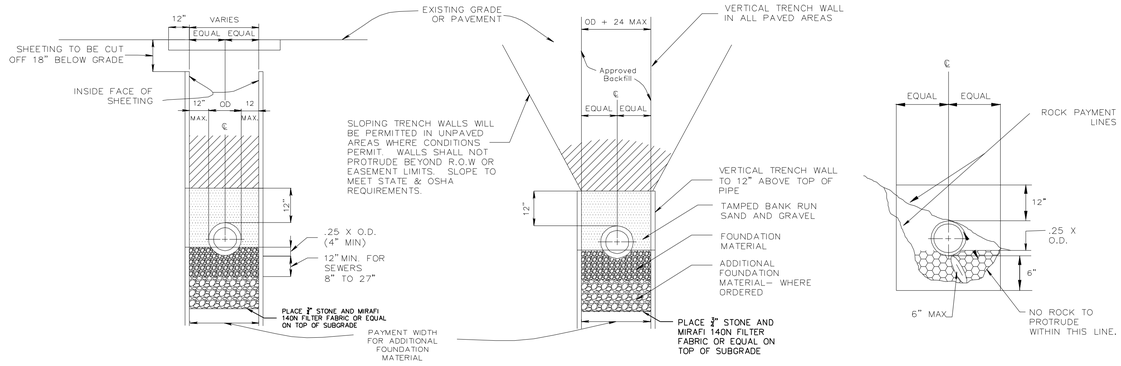
INVERT DETAIL

DIA. FUTURE SEWER	DIA. KNOCKOUT * FOR P.V.C. OR D.I. PIPE
8"	12"
10"	16"
12"	18"
15"	21"

* CENTER LINE OF KNOCKOUT TO BE COINCIDENTAL WITH THAT OF FUTURE SEWER



KNOCKOUT DETAIL

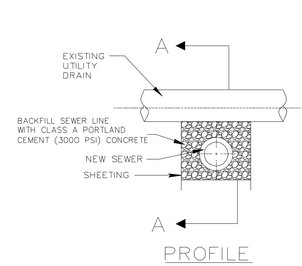


SHEETED TRENCH

TRENCH IN EARTH

TRENCH IN ROCK

TRENCH SECTIONS



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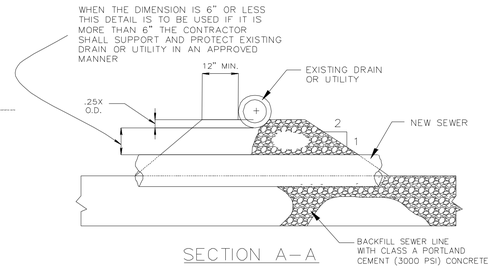
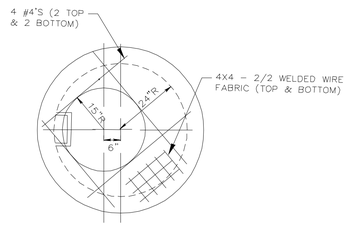
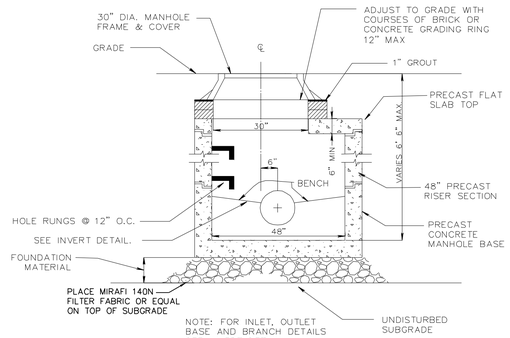


SECTION A-A

SEWER CROSSING BELOW EXISTING DRAIN OR UTILITY



FLAT SLAB TOP



SECTION
SHALLOW MANHOLE

DATE	DESCRIPTION

NOTES & DETAILS
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

Date:	2-18-2021
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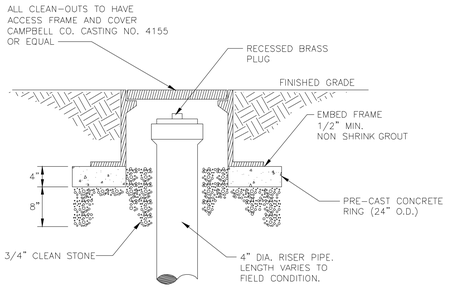
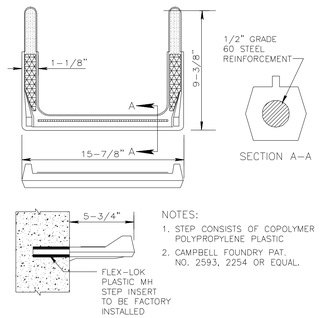


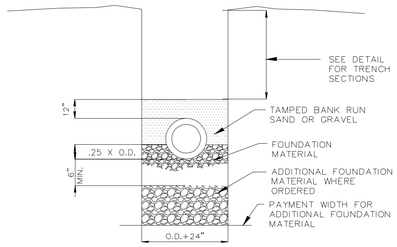
SANITARY SEWER CLEAN-OUT FRAME AND COVER DETAIL IN PAVED AREAS

NOT TO SCALE

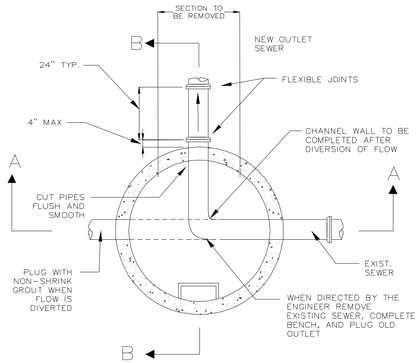


PLASTIC MANHOLE STEP

NOT TO SCALE

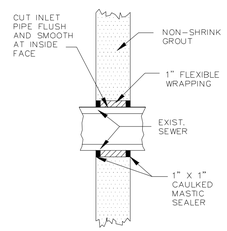


TYPICAL TRENCH SECTION FOR HOUSE CONNECTION

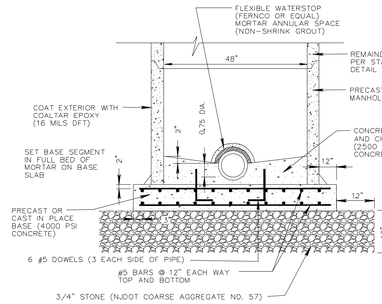


NEW CONNECTION TO EXISTING SEWER

PLAN

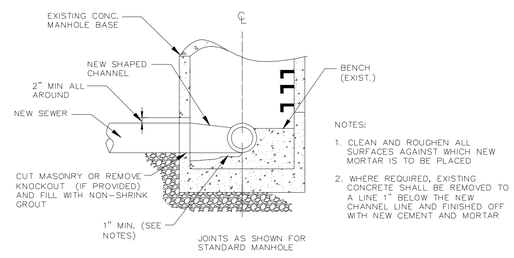


DETAIL



DOGHOUSE MANHOLE

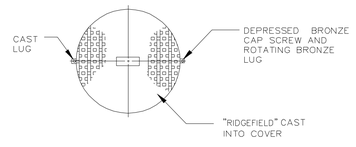
SECT. A – A



SECTION

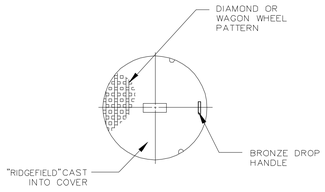
NEW CONNECTION TO EXISTING SEWER

SECT. B – B



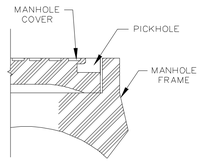
LOCKING TYPE MANHOLE COVER

SHALL BE USED WHEN MANHOLES ARE LOCATED WITHIN EASEMENT



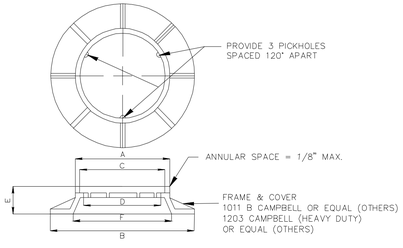
STANDARD MANHOLE COVER

STANDARD PATTERN

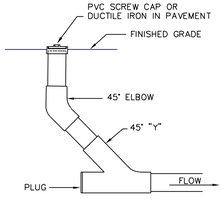


SPECIAL PICKHOLE DETAIL

NOTE:
SEATING SURFACE OF MANHOLE FRAME & COVER SHALL BE MACHINED TO INSURE NON CHATTERING FIT. MANHOLE FRAMES AND COVERS SHALL BE PROPERLY CLEANED AND COATED WITH A WATERPROOF ASPHALTUM APPLIED BY IMMERSION.



FRAME & COVER DIMENSIONS



CLEAN OUT TO GRADE DETAIL

N.T.S.

DATE	DESCRIPTION

NOTES & DETAILS
PREPARED FOR
63-67 PROSPECT STREET OWNERS
63-67 PROSPECT STREET
RIDGEFIELD, CONNECTICUT

Date:	2-18-2021
Scale:	AS NOTED
Proj. No.:	18043.1
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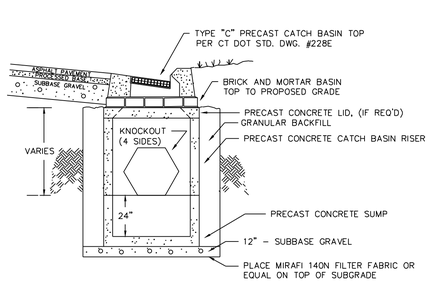
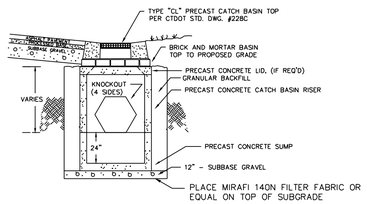
Brookfield, CT 06804
(203)775-6207
www.ccaengineering.com



NOTE - 1) ALL PRECAST COMPONENTS TO BE ABLE TO WITHSTAND HS-20 WHEEL LOADING
- 2) BACKFILL TO BE COMPACTED IN 8" LIFTS AROUND BASIN
- 3) TYPE C-L OR C-G BASIN TOP MAY SUBSTITUTED ABOVE WHERE CALLED FOR ON THE PLANS.

PRECAST CATCH BASIN WITH TYPE "C" TOP

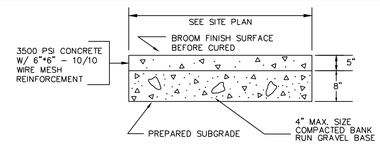
N.T.S.



NOTE - 1) ALL PRECAST COMPONENTS TO BE ABLE TO WITHSTAND HS-20 WHEEL LOADING
- 2) BACKFILL TO BE COMPACTED IN 8" LIFTS AROUND BASIN
- 3) TYPE C OR C-G BASIN TOP MAY BE SUBSTITUTED ABOVE WHERE CALLED FOR ON THE PLANS.

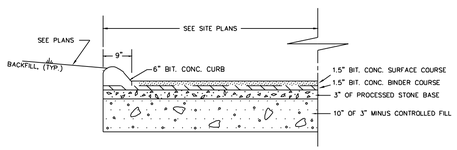
DETAIL - PRECAST CATCH BASIN WITH TYPE CL CATCH BASIN TOP

N.T.S.



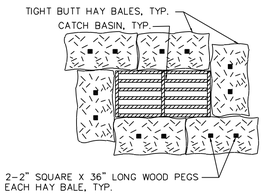
TYPICAL SIDEWALK DETAIL

N.T.S.



PARKING, DRIVEWAY & CURBING DETAIL

N.T.S.



NOTE: SEDIMENT FENCE MAY BE SUBSTITUTED FOR HAY BALES.

TYPICAL DETAIL - PLAN VIEW EROSION CONTROL AT CATCH BASIN

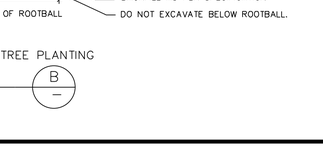
N.T.S.

DRAINAGE SYSTEM NOTES:

1. UNLESS OTHERWISE NOTED ON THE PLANS, ALL DRAINAGE PIPE SHALL BE CONNECTICUT DOT APPROVED, CPEP(s). PIPE TO BE JOINED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. ALL CATCH BASINS SHALL CONFORM TO THE REQUIREMENTS OF TOWN OF RIDGEFIELD STANDARD DETAIL FOR PRECAST DRAINAGE STRUCTURES.
3. CATCH BASIN TOPS SHALL CONFORM TO TOWN OF RIDGEFIELD STANDARD.
4. ALL CATCH BASIN FRAMES AND GRATES SHALL CONFORM TO TOWN OF RIDGEFIELD STANDARD
5. DRAINAGE MANHOLES SHALL CONFORM TO TOWN OF RIDGEFIELD STANDARD FOR PRECAST MANHOLES.
6. CRUSHED STONE FOR UNDERDRAINS (PERFORATED PIPE) SHALL BE 3/4" STONE CONFORMING TO SEC"N M.01.01-FORM 816 CT. D.O.T. STANDARD SPECIFICATIONS. FILTER FABRIC SHALL BE MIRAFI 140N OR EQUIVALENT.
7. RIP-RAP SHALL CONFORM TO SEC"N M.12.02-FORM 816, CT. D.O.T. STANDARD SPECIFICATIONS.
8. ALL FOOTING AND CURTAIN DRAINS SHALL BE CONNECTED TO A PROPOSED CATCH BASIN OR DAYLIGHT TO GRADE.
9. GROUNDWATER (CURTAIN) DRAINS MAY BE REQUIRED IN EXCAVATION AREAS BY THE ENGINEER DURING CONSTRUCTION.
10. ALL ROOF DRAINS AND PIPES FROM TRENCH DRAIN SHALL BE SCH. 80 PVC.
11. CONTRACTOR IS TO SUPPLY CIVIL ENGINEER WITH SHOP DRAWINGS/PRODUCT SUBMITTALS FOR ALL DRAINAGE SYSTEM PRODUCTS.

GRADING NOTES:

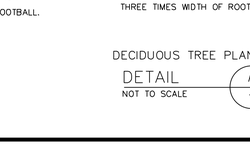
1. - All grading shall be performed to eliminate low points and depressions which would trap surface water. Contact the design engineer if changes are warranted.
2. - Fill under all parking, driveway and sidewalk areas shall be adequately compacted to 95% of the maximum density as determined by ASTM D 1557.
3. - All backfill for buildings, trenches, structures, etc. shall be adequately compacted to prevent excessive settlement. Compaction shall achieve 95% of the maximum density as determined by ASTM D 1557. Contact the engineer should additional clarification be necessary.
4. - Minor grading changes are permitted to meet field conditions provided prior approval is obtained from the engineer.
5. - Proposed grading shall maintain existing runoff conditions.
6. - Care should be taken when paving to properly grade the driveway/parking areas in order to avoid ponding and provide adequate drainage patterns.



NOTE: 1) - PIPE SECTIONS TO BE JOINED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
2) - INSTALL ADDITIONAL 6" OF BEDDING MATERIAL FOR TRENCH IN LEDGE.
3) - NO FREE DRAINING MATERIAL SHALL BE USED IN THE TRENCH WITHIN 25-FEET OF THE LEACHING FIELDS.

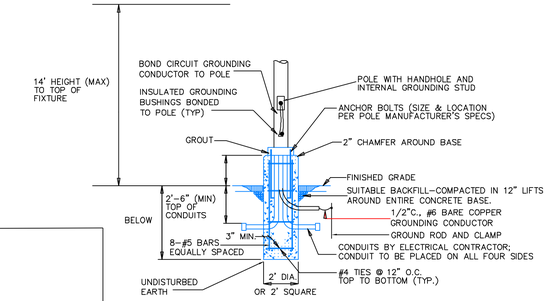
TYPICAL TRENCH SECTION

NTS



UNDER DRAIN DETAIL

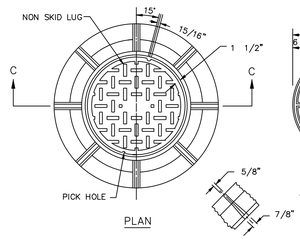
NTS



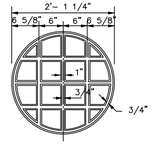
- CONCRETE SHALL BE 4000 PSI.
- REINFORCING STEEL BARS SHALL BE A MINIMUM ASTM A615, GRADE 60 AND SHALL BE FIELD WIRED IN PLACE.
- ALL WORK ASSOCIATED WITH GROUNDING TO BE DONE BY OTHERS.
- GROUNDING IN ACCORDANCE WITH REQUIREMENTS OF THE NEC OR LOCAL ELECTRICAL CODES

LIGHT POLE BASE DETAIL

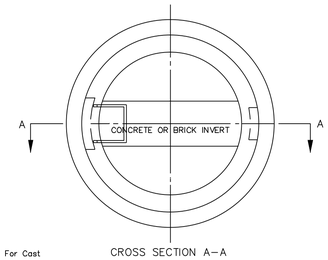
N.T.S.



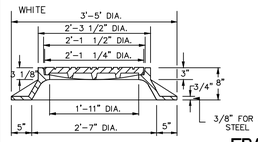
PLAN



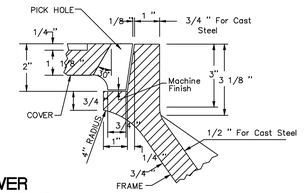
UNDERSIDE OF COVER



CROSS SECTION A-A



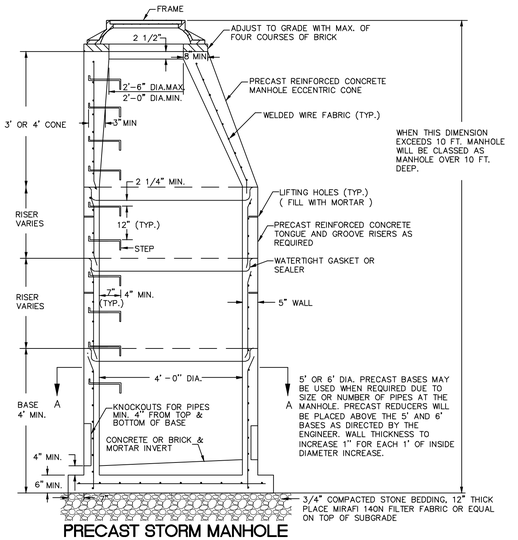
SECTION C-C



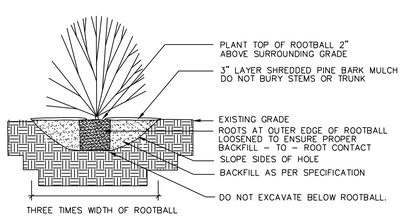
DETAIL OF SEAT

FRAME AND COVER

A FRAME DIAMETER OF 3'-3" WITH 4" FLANGE THE MUST BE USED WHEN THE TOP DIAMETER OF ALL OTHER PRECAST CONE IS LESS THAN 3'-6". FRAME DIMENSIONS ARE TO REMAIN THE SAME

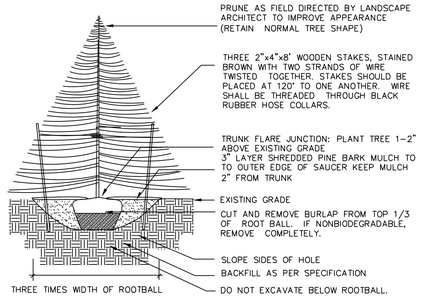


PRECAST STORM MANHOLE



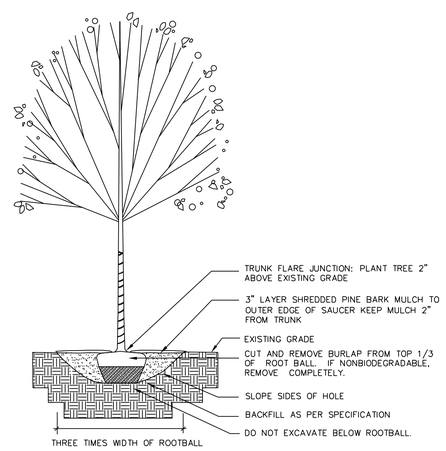
SHRUB PLANTING

DETAIL C
NOT TO SCALE



EVERGREEN TREE PLANTING

DETAIL B
NOT TO SCALE



DECIDUOUS TREE PLANTING

DETAIL A
NOT TO SCALE

PLANTING NOTES:

1. ALL PLANTING MATERIAL TO BE NURSERY GROWN STOCK SUBJECT TO APPLICABLE A.A.N. STANDARDS.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANTS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND LISTED IN THE PLANT LIST. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT LIST AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER NUMBER SHALL APPLY.
3. ALL PLANTS SHALL BE APPROVED PRIOR TO INSTALLATION AND SHALL BE LOCATED ON SITE BY THE CONTRACTOR, FOR THE APPROVAL OF THE LANDSCAPE ARCHITECT. ANY INSTALLATIONS WHICH WERE NOT APPROVED BY THE LANDSCAPE ARCHITECT AND WHICH ARE SUBSEQUENTLY REQUESTED TO BE MOVED, WILL BE DONE AT THE CONTRACTORS EXPENSE.
4. PRECISE LOCATION OF ITEMS NOT DIMENSIONED ON THE PLAN ARE TO BE FIELD STAKED BY THE CONTRACTOR AND SHALL BE SUBJECT TO THE REQUIREMENTS SPECIFIED IN THE PREVIOUS NOTE.
5. ALL SHRUB MASSINGS AND TREE PITS SHALL BE MULCHED TO A DEPTH OF 3" WITH SHREDDED PINE BARK MULCH.
6. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGED VEGETATION AND SHALL REPLACE OR REPAIR ANY DAMAGE, AT HIS OWN EXPENSE.
7. ALL SHRUB AND GROUND COVER PLANTING AREAS SHALL HAVE CONTINUOUS BEDS OF TOPSOIL, 12" DEEP.
8. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES IN THE FIELD. WHERE PLANT MATERIAL MAY INTERFERE WITH UTILITIES, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT TO COORDINATE THEIR INSTALLATION.
9. PLANTINGS INSTALLED IN THE DRY SUMMER MONTHS AND /OR LAWN SEEDED OUT OF SPRING OR FALL PERIODS, IF ALLOWED BY OWNER, WILL REQUIRE AGGRESSIVE IRRIGATION PROGRAMS AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE DIRECTED BY THE OWNER.
10. SUBSTITUTIONS PERMITTED ONLY UPON WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
11. PLANT TAGS TO REMAIN ON ALL PLANT MATERIAL UNTIL FINAL ACCEPTANCE. CONTRACTOR TO THEN REMOVE ALL PLANT TAGS.
12. WHERE A SIZE RANGE IS GIVEN IN THE PLANT SCHEDULE, AT LEAST 50% OF THE PLANTS PROVIDED SHALL BE OF THE LARGER SIZE.
13. CONTRACTOR TO GUARANTEE ALL PLANT MATERIAL FOR ONE YEAR AFTER DATE OF FINAL ACCEPTANCE.
14. CONTRACTOR TO MAINTAIN ALL PLANT MATERIAL UNTIL 60 DAYS AFTER FINAL ACCEPTANCE.
15. TOPSOIL AND SEED ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES AND NOT COVERED BY OTHER SITE IMPROVEMENTS.
16. CONTRACTOR SHALL DECOMPACT ALL LANDSCAPE AREAS DISTURBED BY CONSTRUCTION ACTIVITIES TO A MINIMUM DEPTH OF 12" PRIOR TO PLACEMENT OF TOPSOIL.

DATE	DESCRIPTION

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PREPARED FOR
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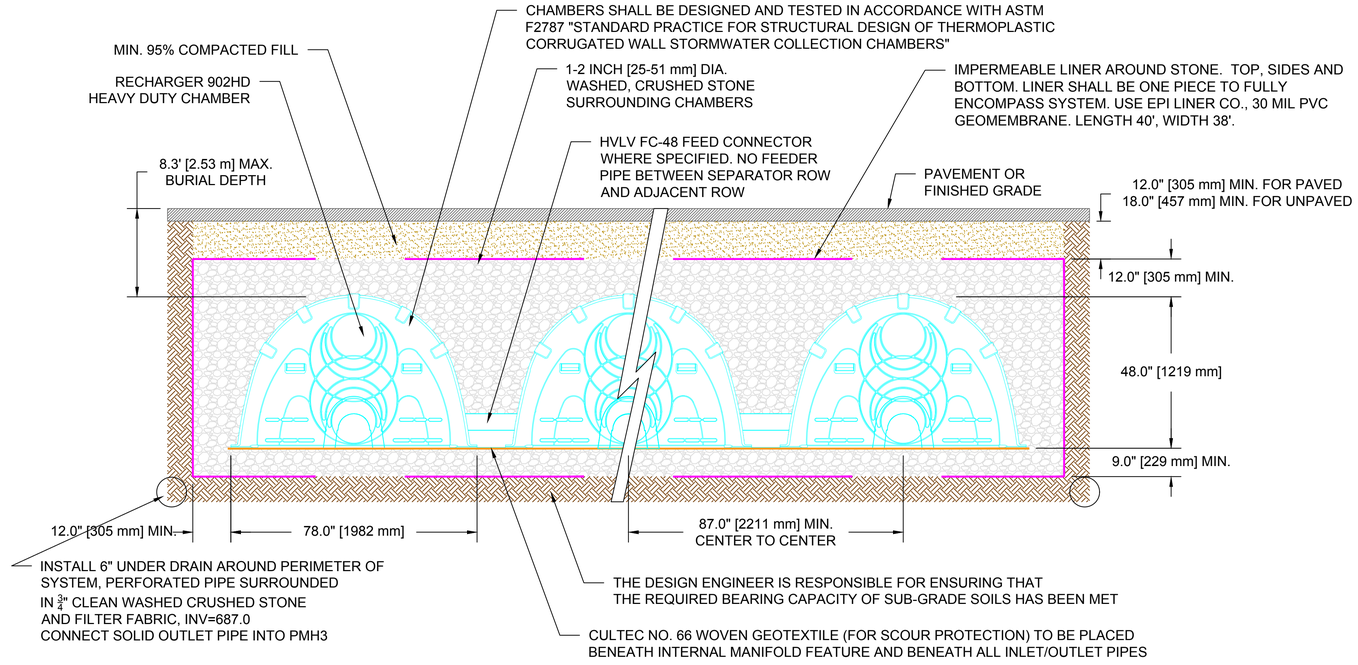


GENERAL NOTES

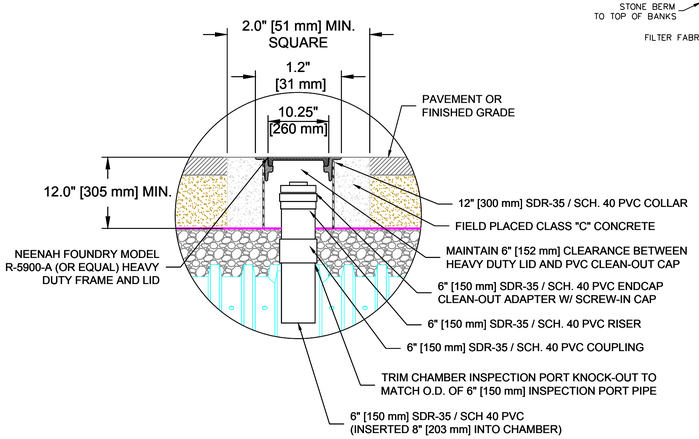
RECHARGER 902HD BY CULTEC, INC. OF BROOKFIELD, CT.

THE CHAMBER SYSTEM SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12, WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. ALL RECHARGER 902HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

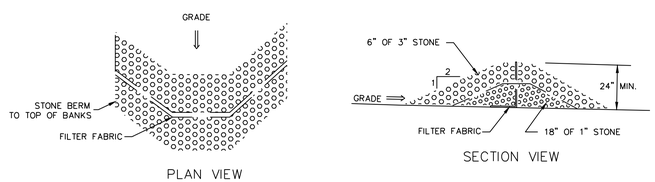
REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES. CALL CULTEC, INC. AT (800) 428-5832 TO ARRANGE A PRE-CONSTRUCTION MEETING. USE RECHARGER 902HD HEAVY DUTY FOR TRAFFIC APPLICATIONS.

AT PIPE PENETRATIONS THOUGH THE LINER, CUT LINER IN A CROSS SHAPE FASHION, INSTALL PIPE AND APPLY ZIP TAPE AROUND THE OUTSIDE OF LINER AND PIPE TO PROVIDE A WATERTIGHT CONNECTION.

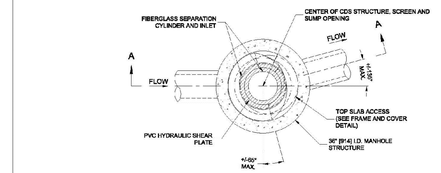
CULTEC RECHARGER 902HD HEAVY DUTY CROSS SECTION



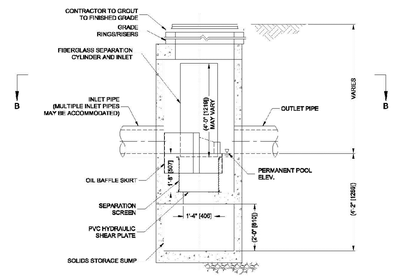
INSPECTION PORT - ZOOM DETAIL



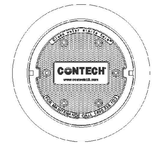
STONE CHECK DAM (SCD)
N.T.S.



PLAN VIEW B-B
N.T.S.



ELEVATION A-A
N.T.S.



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

CDS1515-3-C DESIGN NOTES

CDS1515-3-C RATED TREATMENT CAPACITY IS 1.0 CFS, OR PER LOCAL REGULATIONS.

THE STANDARD CDS1515-3-C CONFIGURATION IS SHOWN.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)			*
PEAK FLOW RATE (CFS OR L/s)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*

NOTES/SPECIAL REQUIREMENTS:

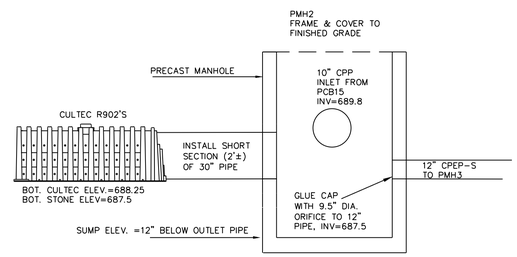
* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY BACKFILL, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE AND INSTALL GROUT (INLET AND OUTLET PIPES). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH APPROPRIATE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

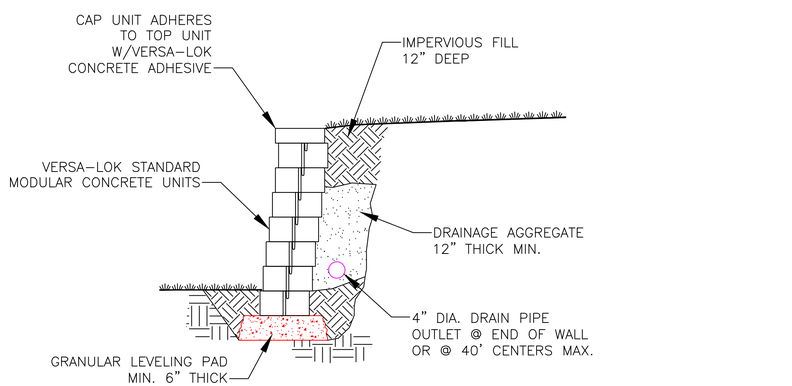
CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
(800) Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS1515-3-C
ONLINE CDS
STANDARD DETAIL



NOTES:
1. ALL PRECAST COMPONENTS TO BE ABLE TO WITHSTAND HS-20 LOADING
2. BACKFILL TO BE COMPACTED IN 8" LIFTS TO 95% MAXIMUM DENSITY AROUND BASIN.
3. REFER TO SITE PLAN FOR ADDITIONAL INFORMATION.

DETENTION SYSTEM OUTLET STRUCTURE DETAIL
PMH2 – MANHOLE
N.T.S.



TYPICAL SECTION-UNREINFORCED PRECAST SEGEMENTAL RETAINING WALL-VERSAOLOK OR EQUAL
NOT TO SCALE:

DATE	DESCRIPTION
04/01/21	PEER REVIEW REVISIONS

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RIP RAP (RR)

DESIGN CRITERIA
A. SIZES - EQUIVALENT SPHERES

RIP RAP SIZES CAN BE DESIGNATED BY EITHER THE DIAMETER OR THE WEIGHT OF THE STONES. THEY CAN ALSO BE DESIGNATED BY ESTABLISHED PUBLISHED STANDARDS, SUCH AS THAT FOUND IN THE DOT STANDARDS AND SPECIFICATIONS SECTION M.02.06. IT IS OFTEN MISLEADING TO THINK OF RIP RAP IN TERMS OF DIAMETER, SINCE THE STONES SHOULD BE ANGULAR INSTEAD OF SPHERICAL. IT IS SIMPLER TO SPECIFY THE DIAMETER OF AN EQUIVALENT SIZE OF SPHERICAL STONE. STONE SIZES ARE BASED UPON AN ASSUMED BULK WEIGHT OF 2.65 GRAMS PER CUBIC CENTIMETER (165 LBS./CF).

A DIAMETER OF STONE IN THE MIXTURE IS SPECIFIED FOR WHICH SOME PERCENTAGE, BY WEIGHT, WILL BE SMALLER. FOR EXAMPLE, d85 REFERS TO A MIXTURE OF STONES IN WHICH 85% OF THE STONE BY WEIGHT WOULD BE SMALLER THAN THE DIAMETER SPECIFIED. MOST DESIGNS ARE BASED ON d50 (SEE FIGURE RR-2). IN OTHER WORDS, THE DESIGN IS BASED ON THE AVERAGE SIZE OF STONE IN THE MIXTURE.

B. GRADATION

RIP RAP GRADATIONS SHALL BE SPECIFIED BY EITHER THE DOT STANDARD SPECIFICATIONS, OR OTHER ESTABLISHED PUBLISHED STANDARDS. REGARDLESS OF THE STANDARD USED, RIP RAP SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50% OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE d50 SIZE AS DETERMINED FROM THE DESIGN PROCEDURE. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE d50 SIZE. A WELL-GRADED MIXTURE AS USED HEREIN IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZES BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DOT RIP RAP STANDARDS ARE EXAMPLES OF WELL GRADED MIXTURES.

AFTER DETERMINING THE RIP RAP SIZE THAT WILL BE STABLE UNDER THE FLOW CONDITIONS, CONSIDER THAT SIZE TO BE A MINIMUM AND THEN, BASED ON RIP RAP GRADATIONS ACTUALLY AVAILABLE IN THE AREA, SELECT THE SIZE OR GRADATIONS THAT EQUAL OR EXCEED THE MINIMUM SIZE.

FIGURE RR-2: EXAMPLES OF AVERAGE STONE SIZE FOR d50

MODIFIED d50:	0.42 FEET OR 5 INCHES
INTERMEDIATE d50:	0.67 FEET OR 8 INCHES
STANDARD d50:	1.25 FEET OR 15 INCHES

C. THICKNESS
THE MINIMUM THICKNESS OF THE RIP RAP LAYER SHALL BE 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 12 INCHES.
D. QUALITY OF STONE
INDIVIDUAL ROCK FRAGMENTS SHALL BE DENSE, SOUND AND FREE FROM CRACKS, SEAMS AND OTHER DEFECTS CONDUCIVE TO ACCELERATED WEATHERING. THE ROCK FRAGMENTS SHALL BE ANGULAR IN SHAPE. THE LEAST DIMENSION OF AN INDIVIDUAL ROCK FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD THE GREATEST DIMENSION OF THE FRAGMENT. THE STONE SHALL BE OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE, AND SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.65.

NOTE: DOT STANDARD SPECIFICATIONS DO NOT ACCEPT ROUNDED STONE OR BROKEN CONCRETE FOR RIPRAP.

D.O.T. STANDARD RIP RAP SIZES
STANDARD RIP RAP: THIS MATERIAL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
(A) NOT MORE THAN 15% OF THE RIP RAP SHALL BE SCATTERED SPALLS AND STONES LESS THAN 6 INCHES (150 MM) IN SIZE.
(B) NO STONE SHALL BE LARGER 30 THAN INCHES (760 MM) IN SIZE, AND AT LEAST 75% OF THE MASS SHALL BE STONES AT LEAST 15 INCHES (380 MM) IN SIZE.
INTERMEDIATE RIP RAP: THIS MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION:

STONE SIZE (ENGLISH) / (METRIC)	% OF MASS
18" OR OVER / 460MM OR OVER	0
10" TO 18" / 255 MM TO 460MM	30-50
6" TO 10" / 150MM TO 255MM	30-50
4" TO 6" / 100MM TO 150MM	20-30
2" TO 4" / 50MM TO 100MM	10-20
LESS THAN 2" / LESS THAN 50MM	0-10

MODIFIED RIP RAP: THIS MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION:

STONE SIZE (ENGLISH) / (METRIC)	% OF MASS
10" OR OVER / 255 MM OR OVER	0
6" TO 10" / 150MM TO 255MM	30-50
4" TO 6" / 100MM TO 150MM	30-50
2" TO 4" / 50MM TO 100MM	20-30
1" TO 4" / 25MM TO 50MM	10-20
LESS THAN 1" / LESS THAN 50MM	0-10

E. RIP RAP AT OUTLETS

DESIGN CRITERIA FOR SIZING THE STONE AND DETERMINING THE DIMENSIONS OF RIP RAP PADS USED AT THE OUTLET OF DRAINAGE STRUCTURES ARE CONTAINED IN THE OUTLET PROTECTION MEASURE. A PROPERLY DESIGNED BEDDING, FILTER, AND/OR GEOTEXTILE UNDERLINING IS REQUIRED FOR RIP RAP USED AS OUTLET PROTECTION. WHERE THE NATIVE MATERIAL MEETS THE REQUIREMENTS FOR GRANULAR FREE DRAINING BEDDING MATERIAL, NO ADDITIONAL FILTER OR GEOTEXTILE IS REQUIRED.

F. RIP RAP FOR CHANNEL STABILIZATION

RIP RAP FOR CHANNEL STABILIZATION SHALL BE DESIGNED TO BE STABLE FOR THE CONDITION OF BANK-FULL FLOW IN THE REACH OF CHANNEL BEING STABILIZED (SEE PERMANENT LINED WATERWAY MEASURE). THE DESIGN PROCEDURE, WHICH IS EXTRACTED FROM THE FEDERAL HIGHWAY ADMINISTRATION'S DESIGN OF ROADSIDE CHANNELS WITH FLEXIBLE LININGS, IS ONE ACCEPTED METHOD. OTHER GENERALLY ACCEPTED PUBLISHED METHODS MAY BE USED.

RIP RAP SHALL EXTEND UP THE BANKS OF THE CHANNEL TO A HEIGHT EQUAL TO THE DESIGN DEPTH OF FLOW OR TO A POINT WHERE VEGETATION CAN BE ESTABLISHED TO ADEQUATELY PROTECT THE CHANNEL.

THE RIP RAP SIZE TO BE USED IN A CHANNEL BEND SHALL EXTEND UPSTREAM FROM THE POINT OF CURVATURE A MINIMUM OF 0.4 TIMES THE WATER SURFACE WIDTH, AND DOWNSTREAM FROM THE POINT OF TANGENCY A DISTANCE OF AT LEASE 5 TIMES THE CHANNEL BOTTOM AND UP BOTH SIDES OF THE CHANNEL OR ONLY PROTECT THE OUTSIDE BANK, DEPENDING UPON SPECIFIC DESIGN REQUIREMENTS.

WHERE RIP RAP IS USED ONLY FOR BANK PROTECTION AND DOES NOT EXTEND ACROSS THE BOTTOM OF THE CHANNEL, RIP RAP SHALL BE KEYED INTO THE BOTTOM OF THE CHANNEL TO A MINIMUM ADDITIONAL DEPTH EQUAL TO 1.5 TIMES THE MAXIMUM SIZE STONE.

FOR RIP RAPPED AND OTHER LINED CHANNELS, THE HEIGHT OF CHANNEL LINING ABOVE THE DESIGN WATER SURFACE SHALL BE BASED ON THE SIZE OF THE CHANNEL, THE FLOW VELOCITY, THE CURVATURE, INFLOWS, WIND ACTION, FLOW REGULATION, ETC.

G. RIP RAP FOR SLOPE STABILIZATION

RIP RAP FOR CHANNEL STABILIZATION SHALL BE DESIGNED TO BE STABLE FOR THE CONDITION OF BANK-FULL FLOW IN THE REACH OF CHANNEL BEING STABILIZED (SEE PERMANENT LINED WATERWAY MEASURE). THE DESIGN PROCEDURE, WHICH IS EXTRACTED FROM THE FEDERAL HIGHWAY ADMINISTRATION'S DESIGN OF ROADSIDE CHANNELS WITH FLEXIBLE LININGS, IS ONE ACCEPTED METHOD. OTHER GENERALLY ACCEPTED PUBLISHED METHODS MAY BE USED.

RIP RAP SHALL EXTEND UP THE BANKS OF THE CHANNEL TO A HEIGHT EQUAL TO THE DESIGN DEPTH OF FLOW OR TO A POINT WHERE VEGETATION CAN BE ESTABLISHED TO ADEQUATELY PROTECT THE CHANNEL.

THE RIP RAP SIZE TO BE USED IN A CHANNEL BEND SHALL EXTEND UPSTREAM FROM THE POINT OF CURVATURE A MINIMUM OF 0.4 TIMES THE WATER SURFACE WIDTH, AND DOWNSTREAM FROM THE POINT OF TANGENCY A DISTANCE OF AT LEAST 5 TIMES THE CHANNEL BOTTOM WIDTH. THE RIP RAP MAY EXTEND ACROSS THE BOTTOM AND UP BOTH SIDES OF THE CHANNEL OR ONLY PROTECT THE OUTSIDE BANK, DEPENDING UPON SPECIFIC DESIGN REQUIREMENTS.

WHERE RIP RAP IS USED ONLY FOR BANK PROTECTION AND DOES NOT EXTEND ACROSS THE BOTTOM OF THE CHANNEL, RIP RAP SHALL BE KEYED INTO THE BOTTOM OF THE CHANNEL TO A MINIMUM ADDITIONAL DEPTH EQUAL TO 1.5 TIMES THE MAXIMUM SIZE STONE.

FOR RIP RAPPED AND OTHER LINED CHANNELS, THE HEIGHT OF CHANNEL LINING ABOVE THE DESIGN WATER SURFACE SHALL BE BASED ON THE SIZE OF THE CHANNEL, THE FLOW VELOCITY, THE CURVATURE, INFLOWS, WIND ACTION, FLOW REGULATION, ETC.

H. FILTER BLANKETS OR BEDDING

A FILTER BLANKET OR BEDDING IS A LAYER OF MATERIAL PLACED BETWEEN THE RIP RAP AND THE UNDERLYING SOIL SURFACE TO PREVENT SOIL MOVEMENT THROUGH THE RIP RAP.

FILTER BLANKETS OR BEDDING SHOULD ALWAYS BE PROVIDED WHERE SEEPAGE FROM UNDERGROUND SOURCES THREATENS THE STABILITY OF THE RIP RAP.

A FILTER BLANKET OR BEDDING CAN BE EITHER GRANULAR STONE LAYER(S), A GEOTEXTILE OR BOTH. A DETERMINATION OF THE NEED FOR A FILTER BLANKET IS MADE BY COMPARING PARTICLE SIZE'S OF THE OVERLYING MATERIAL AND THE UNDERLYING MATERIAL IN ACCORDANCE WITH THE CRITERIA BELOW.

(1) GRANULAR FILTER LAYER: A GRANULAR (STONE) BEDDING IS A VIABLE OPTION WHEN THE FOLLOWING RELATIONSHIP EXISTS:

d15 filter/d85 base < 5 < d15 filter/d15 base < 40
and
d50 filter/d50 base < 40

IN SOME CASES, MORE THAN ONE LAYER OF FILTER MATERIAL MAY BE NEEDED. IN THESE CASES, FILTER REFERS TO THE OVERLYING MATERIAL AND BASE REFERS TO THE UNDERLYING MATERIAL. THE RELATIONSHIPS MUST HOLD BETWEEN THE RIP RAP AND THE FILTER MATERIAL. EACH LAYER OF FILTER MATERIAL SHALL BE A MINIMUM OF 6 INCHES THICK.

(2) GEOTEXTILE (SPECIFICALLY INTENDED TO PREVENT PIPING): MAY BE USED IN CONJUNCTION WITH A LAYER OF COARSE AGGREGATE. THE GEOTEXTILE SHALL NOT BE USED ON SLOPES STEEPER THAN 1-1/2 : 1 AS SLIPPAGE MAY OCCUR. THE FOLLOWING PARTICLE SIZE RELATIONSHIPS MUST EXIST:

(A) FOR GEOTEXTILE ADJACENT TO BASE MATERIALS CONTAINING 50% OR LESS (BY WEIGHT) OF FINE PARTICLES (LESS THAN 0.075MM):

I) d85 BASE (MM)/EOS GEOTEXTILE(MM) > 1

WHERE EOS = EQUIVALENT OPENING SIZE TO A U.S. STANDARD SIEVE SIZE

II) TOTAL OPEN AREA OF GEOTEXTILE IS LESS THAN 36%.

(B) FOR GEOTEXTILE ADJACENT TO ALL OTHER SOILS:
A) EOS LESS THAN U.S. STANDARD SIEVE NO. 70.
B) TOTAL OPEN AREA OF GEOTEXTILE IS LESS THAN 10%.

NO GEOTEXTILE SHOULD BE USED WITH AND EOS SMALLER THAN U.S. STANDARD SIEVE NO. 100.

INSTALLATION REQUIREMENTS

A. SUB GRADE PREPARATION

PREPARE THE SUB GRADE THE SUB GRADE FOR THE RIP RAP, BEDDING, FILTER OR GEOTEXTILE TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUB GRADE TO A DENSITY APPROXIMATING THAT OF THE SURROUNDING UNDISTRIBUTED MATERIAL. REMOVE BRUSH, TREES, STUMPS AND OTHER OBJECTIONABLE MATERIAL.

B. GEOTEXTILE

FOR GEOTEXTILE FILTERS, USE ONLY GEOTEXTILES THAT WERE STORED IN A CLEAN DRY PLACE, OUT OF DIRECT SUNLIGHT, WITH THE MANUFACTURER'S PROTECTIVE COVER IN PLACE TO INSURE THE GEOTEXTILE WAS NOT DAMAGED BY ULTRAVIOLET LIGHT. PLACE THE GEOTEXTILE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

C. FILTER BLANKET OR BEDDING

IMMEDIATELY AFTER SLOPE PREPARATION, INSTALL THE FILTER OR BEDDING MATERIALS. SPREAD THE FILTER OR BEDDING MATERIALS IN A UNIFORM LAYER TO THE SPECIFIED DEPTH. WHERE MORE THAN ONE DISTINCT LAYER OF FILTER OR BEDDING MATERIAL IS REQUIRED, SPREAD THE LAYERS SO THAT THERE IS MINIMAL MIXING BETWEEN MATERIALS.

D. STONE PLACEMENT

IMMEDIATELY AFTER PLACEMENT OF THE FILTER BLANKET, BEDDING AND/OR GEOTEXTILE, PLACE THE RIP RAP TO ITS FULL COURSE THICKNESS IN ONE OPERATION SO THAT IT PRODUCES A DENSE WELL-GRADED MASS OF STONE WITH A MINIMUM OF VOIDS. THE DESIRED DISTRIBUTION OF STONES THROUGHOUT THE MASS MAY BE OBTAINED BY SELECTIVE LOADING AT THE QUARRY, CONTROLLED DUMPING OF SUCCESSIVE LOADS DURING FINAL PLACING, OR BY A COMBINATION OF THESE METHODS. DO NOT PLACE THE RIP RAP IN LAYERS OR USE CHUTES OR SIMILAR METHODS TO DUMP THE RIP RAP WHICH ARE LIKELY TO CAUSE SEGREGATION OF THE VARIOUS STONE SIZES.

TAKE CARE NOT TO DISLODGE THE UNDERLYING MATERIAL WHEN PLACING THE STONES. WHEN PLACING RIP RAP ON A GEOTEXTILE TAKE CARE NOT TO DAMAGE THE FABRIC. IF DAMAGE OCCURS, REMOVE AND REPLACE THE DAMAGED SHEET. FOR LARGE STONE, 12 INCHES OR GREATER, USE A 6-INCH LAYER OF FILTER OR BEDDING MATERIAL TO PREVENT DAMAGE TO THE MATERIAL FROM PUNCTURE.

ENSURE THE FINISHED SLOPE IS FREE OF POCKETS OF SMALL STONES OR CLUSTERS OF LARGE STONES. HAND PLACING MAY BE NECESSARY TO ACHIEVE THE REQUIRED GRADES AND A GOOD DISTRIBUTION OF STONE SIZES. ENSURE THE FINAL THICKNESS OF THE RIP RAP BLANKET IS WITHIN PLUS OR MINUS 0.25 OF THE SPECIFIED THICKNESS.

GEOTEXTILE SILT FENCE (GSF)

GEOTEXTILE SILT FENCES SHALL BE UTILIZED EXCEPT WHERE NOTED OTHERWISE.

SEDIMENT BARRIERS
GEOTEXTILE SILT FENCE (ST)
SPECIFICATIONS

GEOTEXTILE SILT FENCING MINIMUM REQUIREMENTS

PHYSICAL PROPERTY	TEST METHOD	MINIMUM REQUIREMENT
FILTERING EFFICIENCY	ASTM 5141	75% (MIN)
GRAB TENSILE STRENGTH (LBS.)	ASTM D4632	100 LBS.
ELONGATION @ FAILURE	ASTM D4632	15%
MULLEN BURST STRENGTH	ASTM D3786	250 PSI
PUNCTURE STRENGTH	ASTM 4833	50 LBS.
APPARENT OPENING SIZE	ASTM D4751	NO GREATER THAN 0.90MM AND NO LESS THAN 0.60 MM
FLOW RATE	ASTM D4491	0.2 GAL/FT2/MIN
PERMATIVITY	ASTM D4491	0.05 SEC. -1 (MIN)
ULTRAVIOLET RADIATION STABILITY %	ASTM-D4355	70% AFTER 500 HOURS OF EXPOSURE (MIN)

GEOTEXTILE SILT FENCE SLOPE/ LENGTH LIMITATIONS

SLOPE STEEPNESS*	SLOPE LENGTH AND WING SPACING
5:1 OR FLATTER	100 FEET
3:1 TO 5:1	75 FEET
2:1 TO 3:1	50 FEET

*WHERE THE GRADIENT CHANGES THROUGH THE DRAINAGE AREA THE STEEPEST SLOPE SECTION SHALL BE USED.

1. MATERIALS

A. GEOTEXTILE FABRIC: SHALL BE A PERVIOUS SHEET OF POLYPROPYLENE, NYLON, POLYESTER, ETHYLENE OR SIMILAR FILAMENTS AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS SHOWN. THE GEOTEXTILE SHALL BE NON-ROTTING, ACID AND ALKALI RESISTANT AND HAVE SUFFICIENT STRENGTH AND PERMEABILITY FOR THE PURPOSE INTENDED, INCLUDING HANDLING AND BACKFILLING OPERATIONS. FILAMENTS IN THE GEOTEXTILE SHALL BE RESISTANT TO ABSORPTION. THE FILAMENT NETWORK MUST BE DIMENSIONALLY STABLE AND RESISTANT TO DE-LAMINATION. THE GEOTEXTILE SHALL BE FREE OF ANY CHEMICAL TREATMENT OR COATING THAT WILL REDUCE ITS PERMEABILITY. THE GEOTEXTILE SHALL ALSO BE FREE OF ANY FLAWS OR DEFECTS WHICH WILL ALTER ITS PHYSICAL PROPERTIES. TORN OR PUNCTURED GEOTEXTILES SHALL NOT BE USED.

B. SUPPORTING POSTS: SHALL BE AT LEAST 42 INCHES LONG MADE OF EITHER 1.5 INCH SQUARE HARDWOOD STAKES OR STEEL POSTS WITH PROJECTIONS FOR FASTENING THE GEOTEXTILE POSSESSING A MINIMUM STRENGTH OF 0.5 POUND PER LINEAR FOOT.

2. PLACEMENT ON THE LANDSCAPE

A. FOR TOE OF SLOPE: LOCATE 5-10 FEET DOWN GRADIENT FROM THE TOE OF THE SLOPE, GENERALLY ON THE CONTOUR WITH MAINTENANCE AND SEDIMENT REMOVAL REQUIREMENTS IN MIND. WHEN THE CONTOUR CANNOT BE FOLLOWED INSTALL THE FENCE SUCH THAT PERPENDICULAR WINGS ARE CREATED TO BREAK THE VELOCITY OF WATER FLOWING ALONG THE FENCE.

B. SWALES: LOCATE "U" SHAPE ACROSS SWALE SUCH THAT THE BOTTOM OF BOTH ENDS OF THE FENCE ARE HIGHER THAN THE TOP OF THE LOWEST SECTION OF THE FENCE.

C. CATCH BASINS IN SWALE ON SLOPES: LOCATE 2 "U" SHAPES ACROSS SWALE AS ABOVE: ONE IMMEDIATELY UP SLOPE FROM THE CATCH BASIN AND THE OTHER IMMEDIATELY DOWN SLOPE FROM THE CATCH BASIN.

D. CATCH BASINS IN DEPRESSIONS: ENCIRCLE ENTIRE CATCH BASIN.

E. CULVERT INLETS: LOCATE IN A "U" SHAPE APPROXIMATELY 6 FEET FROM THE CULVERT IN THE DIRECTION OF THE INCOMING FLOW.

F. CULVERT OUTLETS: LOCATE ACROSS THE SWALE AT LEAST 6 FEET FROM THE CULVERT OUTLET.

3. INSTALLATION

A. TRENCH EXCAVATION: EXCAVATE A TRENCH A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE ON THE UP SLOPE SIDE OF THE FENCE LOCATION. FOR SLOPE AND SWALE INSTALLATIONS, EXTEND THE ENDS OF THE TRENCH SUFFICIENTLY UP SLOPE SUCH THAT BOTTOM END OF THE FENCE WILL BE HIGHER THAN THE TOP OF THE LOWEST PORTION OF THE FENCE. WHEN THE FENCE IS NOT TO BE INSTALLED ON THE CONTOUR, EXCAVATE WING TRENCHES SPACED AT THE INTERVALS GIVEN IN TABLE.

B. SUPPORT POSTS: DRIVE SUPPORT POSTS ON THE DOWN SLOPE OF THE TRENCH TO A DEPTH OF AT LEAST 12 INCHES INTO ORIGINAL GROUND. NEVER INSTALL SUPPORT POSTS MORE THAN 10 FEET APART. INSTALL SUPPORT POSTS CLOSER THAN 10 FEET APART WHEN CONCENTRATED FLOWS ARE ANTICIPATED OR WHEN STEEP CONTRIBUTING SLOPES AND SOIL CONDITIONS ARE EXPECTED TO GENERATE LARGER VOLUMES OF SEDIMENT. FOR CATCH BASINS IN HOLLOWS, DRIVE POSTS AT EACH CORNER OF THE CATCH BASIN. WHENEVER THE GEOTEXTILE FILTER FABRIC THAT IS USED EXCEEDS THE MINIMUM MATERIAL SPECIFICATIONS CONTAINED IN THIS MEASURE, THE SPACING OF THE STAKES SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

C. GEOTEXTILE FILTER FABRIC: STAPLE OR SECURE THE GEOTEXTILE TO THE SUPPORT POSTS PER MANUFACTURER 'S INSTRUCTION SUCH THAT AT LEAST 6 INCHES OF GEOTEXTILE LIES WITHIN THE TRENCH, THE HEIGHT OF THE FENCE DOES NOT EXCEED 30 INCHES AND THE GEOTEXTILE IS TAUT BETWEEN THE POSTS. WHEN THE TRENCH IS OBSTRUCTED BY STONES, TREE ROOTS, ETC. ALLOW THE GEOTEXTILE TO LAY OVER THE OBSTRUCTION SUCH THAT THE BOTTOM OF THE GEOTEXTILE POINTS UP SLOPE.
IN THE ABSENCE OF MANUFACTURER'S INSTRUCTIONS, SPACE WIRE STAPLES ON WOODEN STAKES AT A MAXIMUM OF 4 INCHES APART AND ALTERNATE THEIR POSITION FROM PARALLEL TO THE AXIS OF THE STAKE TO PERPENDICULAR. DO NOT STAPLE THE GEOTEXTILE TO LIVING TREES. PROVIDE REINFORCEMENT FOR THE FENCE WHEN IT CAN BE EXPOSED TO HIGH WINDS. WHEN JOINTS IN THE GEOTEXTILE FABRIC ARE NECESSARY, SPLICE TOGETHER ONLY AT A SUPPORT POSTS, AND SECURELY SEAL (SEE MANUFACTURER'S RECOMMENDATIONS).

D. BACKFILL & COMPACTION: BACKFILL THE TRENCH WITH TAMPED SOIL OR AGGREGATE OVER THE GEOTEXTILE. WHEN THE TRENCH IS OBSTRUCTED BY A STONE, TREE ROOT, ETC. MAKE SURE THE BOTTOM OF THE GEOTEXTILE LIES HORIZONTAL ON THE GROUND WITH THE RESULTING FLAP ON THE UP SLOPE SIDE OF THE GEOTEXTILE AND BURY THE FLAP 6 INCHES OF TAMPED SOIL, OR AGGREGATE.

4. MAINTENANCE
INSPECT THE SILT FENCE AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER TO DETERMINE MAINTENANCE NEEDS. WHEN USED FOR DEWATERING OPERATIONS, INSPECT FREQUENTLY BEFORE, DURING AND AFTER PUMPING OPERATIONS.
REMOVE THE SEDIMENT DEPOSITS OR, IF ROOM ALLOWS, INSTALL A SECONDARY SILT FENCE UP SLOPE OF THE EXISTING FENCE WHEN SEDIMENT DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE EXISTING FENCE. REPLACE OR REPAIR THE FENCE WITHIN 24 HOURS OF OBSERVED FAILURE. FAILURE OF THE FENCE HAS OCCURRED WHEN SEDIMENT FAILS TO BE RETAINED BY THE FENCE BECAUSE:
(A) THE BARRIER HAS BEEN OVER TOPPED, UNDERCUT OR BYPASSED BY RUNOFF WATER,
(B) THE BARRIER HAS BEEN MOVED OUT OF POSITION, OR
(C) THE HAY BALES HAVE DETERIORATED OR BEEN DAMAGED.
WHEN REPETITIVE FAILURES OCCUR AT THE SAME LOCATION, REVIEW CONDITIONS AND LIMITATIONS FOR USE AND DETERMINE IF ADDITIONAL CONTROLS (E.G. TEMPORARY STABILIZATION OF CONTRIBUTING AREA, DIVERSIONS, STONE BARRIERS) ARE NEEDED TO REDUCE FAILURE RATE OR REPLACE HAY BALE BARRIER.
MAINTAIN THE HAY BALE BARRIER UNTIL THE CONTRIBUTING AREA IS STABILIZED.
AFTER THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED, PULL THE STAKES OUT OF THE HAY BALES. UNLESS OTHERWISE REQUIRED, NO REMOVAL OR REGRADING OF ACCUMULATED SEDIMENT IS REQUIRED. THE HAY BALES MAY THEN BE LEFT IN PLACE OR BROKEN UP FOR GROUND COVER.

SEDIMENT BARRIERS
HAY BALE BARRIER (HB)
SPECIFICATIONS

HAY BALE DESIGN SLOPE/LENGTH LIMITATIONS

SLOPE STEEPNESS	SLOPE LENGTH AND WING SPACING
5:1 OR SHALLOWER	100 FEET
3:1 TO 5:1	75 FEET
2:1 TO 3:1	50 FEET

1. MATERIALS

A. HAY BALES: SHALL BE MADE OF HAY OR STRAW WITH 40 POUNDS MINIMUM WEIGHT AND 120 POUNDS MAXIMUM WEIGHT HELD TOGETHER BY TWINE OR WIRE.

B. STAKES FOR ANCHORING HAY BALES: SHALL BE A MINIMUM OF 36 INCHES LONG AND MADE OF EITHER HARDWOOD WITH DIMENSIONS OF AT LEAST 1.5 INCHES SQUARE OR STEEL POSTS WITH A MINIMUM WEIGHT OF 0.5 POUND PER LINEAR FOOT.

2. PLACEMENT ON THE LANDSCAPE

CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 1 ACRE. MAXIMUM SLOPE LENGTH IS AS SHOWN IN TABLE ABOVE.

A. TOE OF SLOPE : LOCATE 5-10 FEET DOWN GRADIENT FROM THE TOE OF SLOPE GENERALLY ON THE CONTOUR.

B. SWALES: NOT RECOMMENDED. SEE GEOTEXTILE SILT FENCE OR STONE CHECK DAM MEASURES.

C. CATCH BASINS IN SWALES ON SLOPES: NOT RECOMMENDED. SEE GEOTEXTILE SILT FENCE OR STONE CHECK DAM MEASURES.

D. CATCH BASINS IN DEPRESSIONS OR LOW SPOTS (YARD DRAINS): ENCIRCLE CATCHBASIN.

E. CULVERT INLETS: NOT RECOMMENDED. SEE GEOTEXTILE SILT FENCE MEASURE.

F. CULVERT OUTLETS: NOT RECOMMENDED. USE TEMPORARY SEDIMENT TRAP AND/OR STONE CHECK DAM MEASURES.

3. INSTALLATION

A. TRENCH EXCAVATION: EXCAVATE A TRENCH AS WIDE AS THE BALES AND AT LEAST 4 INCHES DEEP. EACH END OF THE TRENCH SHOULD BE WINGED UPSLOPE SO THAT THE BOTTOM OF THE LAST BALE IS HIGHER THAN THE TOP OF THE LOWEST HAY BALE IN THE BARRIER.

B. HAY BALE PLACEMENT: PLACE BALES IN A SINGLE ROW IN THE TRENCH, LENGTHWISE, WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER AND THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES (TO AVOID PREMATURE ROTTING OF THE BINDINGS).

C. STAKING HAY BALES: ANCHOR EACH BALE WITH AT LEAST 2 STAKES, DRIVING THE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. STAKES MUST BE DRIVEN A MINIMUM OF 18 INCHES INTO THE GROUND. FILL ANY GAPS BETWEEN THE BALES WITH HAY OR STRAW TO PREVENT WATER FROM ESCAPING BETWEEN THE BALES.

D. BACKFILL & TAMPED: BACKFILL THE BALES WITH THE EXCAVATED TRENCH MATERIAL TO A MINIMUM DEPTH OF 4 INCHES ON THE UPHILL SIDE OF THE BALES TAMP BY HAND OR MACHINE AND COMPACT THE SOIL. LOOSE HAY OR STRAW SCATTERED OVER THE DISTURBED AREA IMMEDIATELY UPHILL FROM THE HAY BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY.

4. MAINTENANCE

INSPECT THE HAY BALE BARRIER AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER TO DETERMINE MAINTENANCE NEEDS. FOR DEWATERING OPERATIONS, INSPECT FREQUENTLY BEFORE, DURING AND AFTER PUMPING OPERATIONS.
REMOVE THE SEDIMENT DEPOSITS OR, INSTALL A SECONDARY BARRIER UPSLOPE FROM THE EXISTING BARRIER WHEN SEDIMENT DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE EXISTING BARRIER. REPLACE OR REPAIR THE BARRIER WITHIN 24 HOURS OF OBSERVED FAILURE. FAILURE OF THE BARRIER HAS OCCURRED WHEN SEDIMENT FAILS TO BE RETAINED BY THE BARRIER BECAUSE:
(A) THE FENCE HAS BEEN OVER TOPPED, UNDERCUT OR BYPASSED BY RUNOFF WATER,
(B) THE FENCE HAS BEEN MOVED OUT OF POSITION (KNOCKED OVER), OR
(C) THE GEOTEXTILE HAS DECOMPOSED OR BEEN DAMAGED.
WHEN REPETITIVE FAILURES OCCUR AT THE SAME LOCATION, REVIEW CONDITIONS AND LIMITATIONS FOR USE AND DETERMINE IF ADDITIONAL CONTROLS (E.G. TEMPORARY STABILIZATION OF CONTRIBUTING AREA, DIVERSIONS, STONE BARRIERS) ARE NEEDED TO REDUCE FAILURE RATE OR REPLACE FENCE.
MAINTAIN THE FENCE UNTIL THE CONTRIBUTING AREA IS STABILIZED.
AFTER THE CONTRIBUTING AREA IS STABILIZED DETERMINE IF SEDIMENT CONTAINED BY THE FENCE REQUIRES REMOVAL OR REGRADING AND STABILIZATION. IF THE DEPTH IS GREATER THAN OR EQUAL TO 6 INCHES, REGRADING OR REMOVAL OF THE ACCUMULATED SEDIMENT IS REQUIRED. NO REMOVAL OR REGRADING IS REQUIRED IF SEDIMENT DEPTH IS LESS THAN 6 INCHES.
REMOVE THE FENCE BY PULLING UP THE SUPPORT POSTS AND CUTTING THE GEOTEXTILE AT GROUND LEVEL. REGRADE OR REMOVE SEDIMENT AS NEEDED, AND STABILIZE DISTURBED SOILS.

STONE CHECK DAM (SCD)

1. PLANNING CONSIDERATIONS

A STONE CHECK DAM IS CONSIDERED TO BE TEMPORARY IF IT IS USED LESS THAN 1 YEAR. IT IS CONSIDERED TO BE PERMANENT IF IT IS USED MORE THAN 1 YEAR. ITS LENGTH OF USE AND THE SIZE OF THE WATERSHED DETERMINE IF AN ENGINEERED DESIGN IS REQUIRED.

DESIGN REQUIREMENTS

DESIGN REQUIREMENTS	DRAINAGE AREA	LENGTH OF USE
NO ENGINEERED DESIGN	< OR =TO 2 ACRES	< 6 MONTHS
2-YR FREQUENCY STORM	> 2 ACRES	> 6 MONTHS, < 1 YEAR
25-YR FREQUENCY STORM	ANY DRAINAGE SIZE	> 1 YEAR

2. SPECIFICATIONS

FOR ENGINEERED STONE CHECK DAMS, CONSTRUCT THE STONE CHECK DAM IN ACCORDANCE WITH THE DESIGN STANDARDS AND SPECIFICATIONS. FOR ALL NON-ENGINEERED STONE CHECK DAMS, COMPLY WITH THE FOLLOWING:

A. MATERIALS

STONE: SHALL MEET THE REQUIREMENTS OF DOT STANDARD SPECIFICATIONS SECTION M.01.01, #3 AGGREGATE. THE STONE SHALL BE SOUND, TOUGH, DURABLE, ANGULAR, NOT SUBJECT TO DISINTEGRATION ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE, AND SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED.

B. APPLICATION

PLACE THE STONE BY HAND OR MACHINE, MAKING SIDE SLOPES NO STEEPER THAN 1:1 (I.E., THE ANGLE OF REPOSE WITH A MAXIMUM HEIGHT OF 3 FEET AT THE CENTER OF THE CHECK DAM. A GEOTEXTILE MAY BE USED UNDER THE STONE TO PROVIDE A STABLE FOUNDATION AND TO FACILITATE REMOVAL OF THE STONE.

C. IN DRAINAGEWAYS: THE MINIMUM HEIGHT OF THE CHECK DAM SHALL BE THE FLOW DEPTH OF THE DRAINAGEWAY BUT IT SHALL NOT EXCEED 3 FEET IN HEIGHT AT THE CENTER. EXTEND THE STONE CHECK DAM TO THE FULL WIDTH OF THE DRAINAGEWAY, PLUS 18 INCHES ON EACH SIDE LEAVING THE HEIGHT OF THE CENTER OF THE STONE CHECK DAM APPROXIMATELY 6 INCHES LOWER THAN THE HEIGHT OF THE OUTER EDGES. THE MAXIMUM SPACING BETWEEN CHECK DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM CHECK DAM IS AT THE SAME ELEVATION AS THE TOP OF THE CENTER OF THE DOWNSTREAM CHECK DAM.

D. CATCH BASIN IN DRAINAGEWAYS ON SLOPES AND AT THE CULVERT INLETS: WHERE CATCH BASINS IN DRAINAGEWAYS ARE LOCATED ON SLOPES OR AT CULVERT INLETS, LOCATE THE CHECK DAM ACROSS THE DRAINAGEWAY NO FARTHER THAN 20 FEET ABOVE THE CATCH BASIN OR CULVERT. FOR CULVERT INLETS, LOCATE THE CHECK DAM AT LEAST 6 FEET FROM THE INLET.

E. CATCH BASINS IN DEPRESSIONS OR LOW SPOTS (YARD DRAINS): ENCIRCLE THE ENTIRE CATCH BASIN WITH A STONE CHECK DAM NOT TO EXCEED 18 INCHES IN HEIGHT AND 3 FEET OUT FROM THE OUTSIDE EDGE OF THE TOP OF THE FRAME.

F. CULVERT INLETS: LOCATE THE STONE CHECK DAM APPROXIMATELY 6 FEET FROM THE CULVERT IN THE DIRECTION OF THE INCOMING FLOW.

3. SPECIAL CASE COMBINATIONS FOR ADDED FILTRATION & FROZEN GROUND CONDITIONS: THESE ARE NON-ENGINEERED STONE CHECK DAMS MODIFIED FOR USE IN CRITICAL WATERSHEDS (E.G. PUBLIC WATER SUPPLY, COLD WATER FISHERIES) WHEN THE DRAINAGE AREA IS 2 ACRES OR LESS OR WHEN A SEDIMENT BARRIER NEEDS TO BE INSTALLED DURING FROZEN GROUND CONDITIONS.
STONE CHECK DAM/GEOTEXTILE: STONE CHECK DAMS THAT ARE INSTALLED WITH AN INTERNAL CORE OF GEOTEXTILE. THE GEOTEXTILE MUST MEET THE MINIMUM STANDARDS SET FORTH IN GEOTEXTILE SILT FENCE MEASURE. PARTIALLY CONSTRUCT THE STONE CHECK DAM TO AT LEAST HALF ITS HEIGHT. PLACE THE GEOTEXTILE OVER THE PARTIALLY BUILT DAM WITH SUFFICIENT MATERIAL ON THE UPSTREAM SIDE TO ALLOW FOR IT TO MAKE COMPLETE CONTACT WITH THE GROUND. COMPLETE THE PLACEMENT OF STONE BY BURYING THE GEOTEXTILE WITHIN THE CHECK DAM. USEFUL LIFE OF THE MEASURE IS LIMITED BY THE LIFE OF THE GEOTEXTILE USED AND MAINTENANCE.
STONE CHECK DAM/HAY BALES: STONE CHECK DAMS THAT ARE INSTALLED WITH A CORE OF HAY BALES. THE HAY BALES MUST MEET THE MINIMUM STANDARDS SET FORTH IN HAY BALE BARRIER MEASURE. AT THE LOCATION OF THE STONE CHECK DAM FIRST LAY A LOOSE BED OF HAY SEVERAL INCHES THICK ALONG THE ENTIRE LENGTH OF THE CHECK DAM ALIGNMENT. PLACE HAY BALES WITH THE ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER. WEDGE ANY GAPS WITH LOOSE HAY. BURY HAY BALES WITH STONE AND COMPLETE THE CONSTRUCTION OF THE STONE CHECK DAM AS INDICATED IN THE APPLICATION PARAGRAPHS ABOVE. USEFUL LIFE OF THE MEASURE IS LIMITED BY THE LIFE OF THE HAY BALES AND MAINTENANCE.

4. MAINTENANCE

FOR PERMANENT STONE CHECK DAMS, INSPECT AND MAINTAIN THE STONE CHECK DAM IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS PROVIDED IN THE DESIGN.
FOR TEMPORARY STONE CHECK DAMS, INSPECT STONE CHECK DAMS AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER TO DETERMINE MAINTENANCE NEEDS. REMOVE THE SEDIMENT DEPOSITS WHEN DEPOSITS REACH APPROXIMATELY HALF THE HEIGHT OF THE CHECK DAM. REPLACE OR REPAIR THE CHECK DAM WITHIN 24 HOURS OF OBSERVED FAILURE. FAILURE OF THE CHECK DAM HAS OCCURRED WHEN SEDIMENT FAILS TO BE RETAINED BECAUSE:
- STONE HAS MOVED,
- SOIL HAS ERODED AROUND OR UNDER THE CHECK DAM REDUCING ITS FUNCTIONAL CAPACITY, OR
- TRAPPED SEDIMENTS ARE OVER TOPPING THE CHECK DAM.

WHEN REPETITIVE FAILURES OCCUR AT THE SAME LOCATION, REVIEW CONDITIONS AND LIMITATIONS FOR USE AND DETERMINE IF ADDITIONAL CONTROLS (E.G. TEMPORARY STABILIZATION OF CONTRIBUTING AREA, DIVERSIONS, STONE CHECK DAMS) ARE NEEDED TO REDUCE FAILURE RATE. MAINTAIN THE STONE CHECK DAM UNTIL THE CONTRIBUTING AREA IS STABILIZED. AFTER THE CONTRIBUTING AREA IS STABILIZED, REMOVE ACCUMULATED SEDIMENT. STONE CHECK DAMS MAY BE REMOVED OR GRADED INTO THE FLOW LINE OF THE CHANNEL OVER THE AREA LEFT DISTURBED BY SEDIMENT REMOVAL. GRADE SO THERE ARE NO OBSTRUCTIONS TO WATER FLOW. IF STONE CHECK DAMS ARE USED IN GRASS-LINED CHANNELS, WHICH WILL BE MOWED, REMOVE ALL THE STONE OR CAREFULLY GRADE OUT THE STONE TO ENSURE IT DOES NOT INTERFERE WITH MOWING. STABILIZE ANY DISTURBED SOIL THAT REMAINS FROM CHECK DAM REMOVAL OPERATIONS.

TEMPORARY SEEDING (TS)

1. SPECIFICATIONS
A. SEED SELECTION
SELECT GRASS SPECIES APPROPRIATE FOR THE SEASON AND SITE CONDITIONS FROM TABLE.

B. TIMING CONSIDERATIONS
SEED WITH A TEMPORARY SEED MIXTURE WITHIN 7 DAYS AFTER THE SUSPENSION OF GRADING WORK IN DISTURBED AREAS WHERE THE SUSPENSION OF WORK IS EXPECTED TO BE MORE THAN 30 DAYS BUT LESS THAN 1 YEAR. SEEDING OUTSIDE THE OPTIMUM SEEDING DATES GIVEN IN TABLE MAY RESULT IN EITHER INADEQUATE GERMINATION OR LOW PLANT SURVIVAL RATE, REDUCING EROSION CONTROL EFFECTIVENESS.

C. SITE PREPARATION
INSTALL NEEDED EROSION CONTROL MEASURES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, SEDIMENT BASINS AND GRASSED WATERWAYS IN ACCORDANCE WITH THE APPROVED PLAN. GRADE ACCORDING TO PLANS AND ALLOW FOR THE USE OF APPROPRIATE EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH THE LAND GRADING MEASURE.

D. SEEDBED PREPARATION
LOOSEN THE SOIL TO A DEPTH OF 3-4 INCHES WITH A SLIGHTLY ROUGHENED SURFACE. IF THE AREA HAS BEEN RECENTLY LOOSENED OR DISTURBED, NO FURTHER ROUGHENING IS REQUIRED. SOIL PREPARATION CAN BE ACCOMPLISHED BY TRACKING WITH A BULLDOZER, DISCING, HARROWING, RAKING OR DRAGGING WITH A SECTION OF CHAIN LINK FENCE. AVOID EXCESSIVE COMPACTION OF THE SURFACE BY EQUIPMENT TRAVELING BACK AND FORTH OVER THE SURFACE. IF THE SLOPE IS TRACKED, THE CLEAT MARKS SHALL BE PERPENDICULAR TO THE ANTICIPATED DIRECTION OF THE FLOW OF SURFACE WATER.
APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SYSTEM OFFICE. APPENDIX E CONTAINS A LISTING OF THE COOPERATIVE EXTENSION SYSTEM OFFICES. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 300 POUNDS PER ACRE OR 7.5 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT. ADDITIONALLY, LIME MAY BE APPLIED USING RATES GIVEN IN TABLE BELOW.

SOIL TEXTURE VS. LIMING RATES

SOIL TEXTURES	TONS/ACRE OF LIME	LBS/1,000 SF OF LIME
CLAY, CLAY LOAM AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

E. SEEDING
APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER AT A MINIMUM RATE FOR THE SELECTED SEED IDENTIFIED IN TABLE BELOW. INCREASE SEEDING RATES BY 10% WHEN HYDROSEEDING.

F. MULCHING
TEMPORARY SEEDINGS MADE DURING OPTIMUM SEEDING DATES SHALL BE MULCHED ACCORDING TO THE MULCH FOR SEED MEASURE. NOTE WHEN SEEDING OUTSIDE OF THE OPTIMUM SEEDING DATES, INCREASE THE APPLICATION OF MULCH TO PROVIDE 95% - 100% COVERAGE.

2. MAINTENANCE
INSPECT SEEDED AREA AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER FOR SEED AND MULCH MOVEMENT AND RILL EROSION. WHERE SEED HAS MOVED OR WHERE SOIL EROSION HAS OCCURRED, DETERMINE THE CAUSE OF THE FAILURE. BIRD FEEDING MAY BE A PROBLEM IF MULCH WAS APPLIED TOO THINLY TO PROTECT SEED. RE-SEED AND RE-MULCH. IF MOVEMENT WAS THE RESULT OF WIND, THEN REPAIR EROSION DAMAGE (IF ANY) , REAPPLY SEED AND MULCH AND APPLY MULCH ANCHORING. IF FAILURE WAS CAUSED BY CONCENTRATED RUNOFF, INSTALL ADDITIONAL MEASURES TO CONTROL WATER AND SEDIMENT MOVEMENT, REPAIR EROSION DAMAGE, RE-SEED AND RE-APPLY MULCH WITH ANCHORING OR USE TEMPORARY EROSION CONTROL BLANKET MEASURE. CONTINUE INSPECTIONS UNTIL THE GRASSES ARE FIRMLY ESTABLISHED. GRASSES SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED WHICH IS MATURE ENOUGH TO CONTROL SOIL EROSION AND TO SURVIVE SEVERE WEATHER CONDITIONS (APPROXIMATELY 80% VEGETATIVE SURFACE COVER).

TEMPORARY SEEDING RATES AND DATES

SPECIES	SEEDING RATES (POUNDS) /Ac.	/1000 S.F.	OPTIMUM SEED DEPTH(NOTE2) (INCHES)	OPTIMUM SEEDING DATES(NOTE1)	PLANT CHARACTERISTICS
ANNUAL RYEGRASS LOLIUM MULTIFLORUM	40	1.0	0.5	3/1 - 6/15 & 8/1 - 10/15	MAY BE ADDED IN MIXES. WILL MOW OUT OF MOST STANDS.
PERENNIAL RYEGRASS LOLIUM PERENNE	40	1.0	0.5	3/15 -7/1 & 8/1 - 10/15	USE FOR WINTER COVER. TOLERATES COLD AND LOW MOISTURE.
WINTER RYE SECALE CEREALE	120	3.0	1.0	4/15 - 7/1 & 8/15 -10/15	QUICK GERMINATION AND HEAVY SPRING GROWTH. DIES BACK IN JUNE WITH LITTLE REGROWTH.
OATS AVENA SATIVA	86	2.0	1.0	3/1 - 6/15 & 8/1 - 9/15	IN NORTHERN CT. WINTER WILL KILL WITH THE FIRST KILLING OF FROST AND MAY THROUGHOUT THE STATE IN SEVERE WINTERS.
WINTER WHEAT TRITICUM AESTIVUM	120	3.0	1.0	4/15 - 7/1 & 8/15 - 10/15	QUICK GERMINATION WITH MODERATE GROWTH. DIES BACK IN JUNE WITH NO REGROWTH.
MILLET ECHINOCHLOA CRUSGALLI	20	0.5	1.0	5/15 - 7/15	WARM SEASON SMALL GRAIN. DIES WITH FROST IN SEPTEMBER.
SUDANGRASS SORGHUM SUDANENSE	30	0.7	1.0	5/15 - 8/1	TOLERATES WARM TEMPERATURES AND DROUGHTY CONDITIONS.
BUCKWHEAT FAGOPYRUM ESCULENTUM	15	0.4	1.0	4/1 - 9/15	HARDY PLANT THAT WILL RESEED ITSELF AND IS GOOD AS A GREEN MANURE CROP.
WEEPING LOVEGRASS ERAGROSTIS CURVULA	5	0.2	0.25	6/1 - 7/1	WARM-SEASON PERENNIAL. MAY BUNCH. TOLERATES HOT, DRY SLOPES, ACID INFERTILE SOILS. EXCELLENT NURSE CROP. USUALLY WINTER KILLS.
DOT ALL PURPOSE MIX	150	3.4	0.5	3/15 - 6/15 & 8/15 - 10/15	SUITABLE FOR ALL CONDITIONS. (NOTE3)

1 MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR CAN BE IRRIGATED. FALL SEEDING MAY BE EXTENDED 15 DAYS IN THE COASTAL TOWNS.
2 SEED AT TWICE THE INDICATED DEPTH FOR SANDY SOILS.
3 SEE PERMANENT SEEDING TABLE FOR SEEDING MIXTURE REQUIREMENTS.
4 LISTED SPECIES MAY BE USED IN COMBINATIONS TO OBTAIN A BROADER TIME SPECTRUM. IF USED IN COMBINATIONS, REDUCE EACH SPECIES PLANTING RATE BY 20% OF THAT LISTED.

PERMANENT SEEDING (PS)

1. SPECIFICATIONS

A. SEED SELECTION AND QUANTITY
SELECT A SEED MIXTURE APPROPRIATE TO THE INTENDED USE AND SOIL CONDITIONS OR USE MIXTURE RECOMMENDED BY THE NRCS. FOR SEED MIXTURES CONTAINING LEGUMES, SELECT THE TYPE AND AMOUNT OF INOCULANT THAT IS SPECIFIC FOR THE LEGUME TO BE USED.
WHEN BUYING SEED MAKE SURE THE QUALITY OF THE SEED IS GIVEN FOR PURE LIVE SEED AND GERMINATION RATE. ASK THE SUPPLIER FOR AN AFFIDAVIT OF PURITY AND GERMINATION RATE IF THERE IS ANY QUESTION. EXPECT A PURITY BETWEEN OF 95% AND 98% AND A GERMINATION RATE BETWEEN 70% AND 90%. SOME SEEDING MIXTURES CALL FOR PURE LIVE SEED.
INCREASE SEEDING RATES 10% WHEN USING FROST CRACK SEEDING OR HYDROSEEDING.

B. TIMING
SEED WITH A PERMANENT SEED MIXTURE WITHIN 7 DAYS AFTER ESTABLISHING FINAL GRADES OR WHEN GRADING WORK WITHIN A DISTURBED AREA IS TO BE SUSPENDED FOR A PERIOD OF MORE THAN I YEAR. SEEDING IS RECOMMENDED FROM APRIL 1 THROUGH JUNE 15 AND AUGUST 15 THROUGH OCTOBER 1, WITH THE FOLLOWING EXCEPTIONS:
* FOR THE COASTAL TOWNS AND IN THE CONNECTICUT RIVER VALLEY FINAL FALL SEEDING DATES CAN BE EXTENDED AN ADDITIONAL 15 DAYS, AND
* DORMANT OR FROST CRACK SEEDING IS DONE AFTER THE GROUND IS FROZEN.

C. SITE PREPARATION
GRADE IN ACCORDANCE WITH THE LAND GRADING MEASURE.
INSTALL ALL NECESSARY SURFACE WATER CONTROLS.
FOR AREAS TO BE MOWED REMOVE ALL SURFACE STONES 2 INCHES OR LARGER. REMOVE ALL OTHER
DEBRIS SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER
UNSUITABLE MATERIAL.

NOTE: ON AREAS WHERE WOOD CHIPS AND/OR BARK MULCH WAS PREVIOUSLY APPLIED, EITHER REMOVE THE MULCH OR INCORPORATE IT INTO THE SOIL WITH A NITROGEN FERTILIZER ADDED. NITROGEN APPLICATION RATE IS DETERMINED BY SOIL TEST AT TIME OF SEEDING; ANTICIPATE 12 LBS NITROGEN PER TON OF WOOD CHIPS AND/OR BARK MULCH.

D. SEEDBED PREPARATION
APPLY TOPSOIL IF NECESSARY, IN ACCORDANCE WITH THE TOPSOILING MEASURE.
APPLY FERTILIZER AND GROUND LIMESTONE ACCORDING TO SOIL TESTS CONDUCTED BY THE UNIVERSITY OF CONNECTICUT SOIL
TESTING LABORATORY OR OTHER RELIABLE SOURCE. A PH RANGE OF 6.2 TO 7.0 IS OPTIMAL FOR PLANT GROWTH OF MOST
GRASS SPECIES.
WHERE SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 300 POUNDS PER ACRE OR 7.5 POUNDS PER 1,000 SQUARE FEET USING 10-10-10 OR EQUIVALENT AND LIMESTONE AT 4 TONS PER ACRE OR 200 POUNDS PER 1,000 SQUARE FEET. ADDITIONALLY, LIME MAY BE APPLIED USING RATES GIVEN IN TABLE BELOW. A PH OF 6.2 TO 7.0 IS OPTIMAL.
FOR AREAS THAT WERE PREVIOUSLY MULCHED WITH WOOD CHIPS OR BARK AND THE WOOD CHIPS OR BARK ARE TO BE INCORPORATED INTO THE SOIL, APPLY ADDITIONAL NITROGEN AT A RATE THAT IS DETERMINED BY SOIL TESTS AT TIME OF SEEDING. WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF 3 TO 4 INCHES WITH A DISC OR OTHER SUITABLE EQUIPMENT.
CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. FOR AREAS TO BE MOWED THE FINAL SOIL LOOSENING AND SURFACE ROUGHENING OPERATION IS BY HAND, HARROW OR DISC. IF DONE BY HARROW OR DISC, IT IS GENERALLY DONE ON THE CONTOUR. AREAS NOT TO BE MOWED CAN BE TRACKED WITH CLEATED EARTH MOVING EQUIPMENT PERPENDICULAR TO THE SLOPE. HOWEVER, FOR AREAS WHERE TEMPORARY EROSION CONTROL BLANKETS ARE TO BE USED INSTEAD OF MULCH FOR SEED PREPARE THE SEED BED IN ACCORDANCE WITH BLANKET MANUFACTURER'S RECOMMENDATIONS.
INSPECT SEEDBED JUST BEFORE SEEDING. IF THE SOIL IS COMPACTED, CRUSTED OR HARDENED , SCARIFY THE AREA PRIOR TO SEEDING.

SOIL TEXTURE VS. LIMING RATES

SOIL TEXTURE	TONS/ACRE OF LIME	LBS/1000 SF OF LIME
CLAY, CLAY LOAM AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

E. SEED APPLICATION
APPLY SELECTED SEED AT RATES PROVIDED IN TABLE BELOW UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED, FERTILIZER). NORMAL SEEDING DEPTH IS FROM 0.25 TO 0.5 INCH. INCREASE SEEDING RATES BY 10% WHEN HYDROSEEDING OR FROST CRACK SEEDING. SEED WARM SEASON GRASSES DURING THE SPRING PERIOD ONLY.
APPLY MULCH ACCORDING TO THE MULCH FOR SEED MEASURE.

F. IRRIGATION FOR SUMMER SEEDING
WHEN SEEDING OUTSIDE OF THE RECOMMENDED SEEDING DATES IN THE SUMMER MONTHS, WATERING MAY BE ESSENTIAL TO ESTABLISH A NEW SEEDING. IRRIGATION IS A SPECIALIZED PRACTICE AND CARE NEEDS TO BE TAKEN NOT TO EXCEED THE INFILTRATION RATE OF THE SOIL. EACH APPLICATION MUST BE UNIFORMLY APPLIED WITH 1 TO 2 INCHES OF WATER APPLIED PER APPLICATION, SOAKING THE GROUND TO A DEPTH OF 4 INCHES.

2. MAINTENANCE
A. INITIAL ESTABLISHMENT
INSPECT SEEDED AREA AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER DURING THE FIRST GROWING SEASON.
WHERE SEED HAS BEEN MOVED OR WHERE SOIL EROSION HAS OCCURRED DETERMINE THE CAUSE OF THE FAILURE. BIRD DAMAGE MAY BE A PROBLEM IF MULCH WAS APPLIED TOO THINLY TO PROTECT SEED. RE-SEED AND RE-MULCH. IF MOVEMENT WAS THE RESULT OF WIND, REPAIR EROSION DAMAGE (IF ANY), RE-APPLY SEED AND MULCH, AND APPLY MULCH ANCHORING. IF FAILURE WAS CAUSED BY CONCENTRATED WATER, (1) INSTALL ADDITIONAL MEASURES TO CONTROL WATER AND SEDIMENT MOVEMENT. (2) REPAIR EROSION DAMAGE, (3) RE-SEED AND (4) RE-APPLY MULCH WITH ANCHORING OR USE TEMPORARY EROSION CONTROL BLANKET MEASURE AND/OR PERMANENT TURF REINFORCEMENT MAT MEASURE.
IF THERE IS NO EROSION, BUT SEED SURVIVAL IS LESS THAN 100 PLANTS PER SQUARE FOOT AFTER 4 WEEKS GROWTH, RE-SEED AS PLANTING SEASON ALLOWS. CONTINUE INSPECTIONS UNTIL AT LEAST 100 PLANTS PER SQUARE FOOT HAVE GROWN AT LEAST 6 INCHES TALL OR UNTIL THE FIRST MOWING.

B. FIRST MOWING
ALLOW THE MAJORITY OF PLANTS TO ACHIEVE A HEIGHT OF AT LEAST 6 INCHES BEFORE MOWING IT THE FIRST TIME. DO NOT MOW WHILE THE SURFACE IS WET. MOWING WHILE THE SURFACE IS STILL WET MAY PULL MANY SEEDLINGS FROM THE SOIL AND OFTEN LEAVES A SERIES OF UNNECESSARY RUTS. THE FIRST MOWING SHOULD REMOVE APPROXIMATELY ONE THIRD OF THE GROWTH, DEPENDING ON THE TYPE OF GRASS AND WHERE IT IS BEING USED. DO NOT MOW GRASS BELOW 3 INCHES.
IF THE SEEDING WAS MULCHED, DO NOT ATTEMPT TO RAKE OUT THE MULCHING MATERIAL. NORMAL MOWING WILL GRADUALLY REMOVE ALL UNWANTED DEBRIS.

C. LONG TERM MAINTENANCE
MOW AND FERTILIZE AT A RATE THAT SUSTAINS THE AREA IN A CONDITION THAT SUPPORTS THE INTENDED USE. IF APPROPRIATE THE HEIGHT OF CUT MAY BE ADJUSTED DOWNWARD, BY DEGREES, AS NEW PLANTS BECOME ESTABLISHED. CARRY OUT ANY FERTILIZATION PROGRAM IN ACCORDANCE WITH APPROVED SOIL TESTS THAT DETERMINE THE PROPER AMOUNT OF LIME AND FERTILIZER NEEDED TO MAINTAIN A VIGOROUS SOD YET PREVENT EXCESSIVE LEACHING OF NUTRIENTS TO THE GROUNDWATER OR RUNOFF TO SURFACE WATERS.
ALTHOUGH WEEDS MAY APPEAR TO BE A PROBLEM, THEY SHADE THE NEW SEEDLINGS AND HELP CONSERVE SURFACE MOISTURE. DO NOT APPLY WEED CONTROL UNTIL THE NEW SEEDLING HAS BEEN MOWED AT LEAST FOUR TIMES.

SELECTING SEED MIX TO MATCH NEED

AREA TO BE SEEDED	MIXTURE NUMBER[1] MOWING DESIRED	MOWING NOT REQUIRED
BORROW AREAS, ROADSIDES, DIKES, LEVEES, POND BANKS AND OTHER SLOPES AND BANKS		
A) WELL OR EXCESSIVELY DRAINED SOILS[2]	1,2,3,4,5, OR 8	5,6,7,8,9,10,11,12,16, ***22***
B) SOMEWHAT POORLY DRAINED SOILS[2]	2	5,6
C) VARIABLE DRAINAGE SOILS[2]	2	5,6,11
DRAINAGE DITCH AND CHANNEL BANKS		
A) WELL OR EXCESSIVELY DRAINED SOILS[2]	1,2,3, OR 4	9,10,11,12
B) SOMEWHAT POORLY DRAINED SOILS[2]	2	
C) VARIABLE DRAINAGE SOILS[2]	2	
DIVERSIONS		
A) WELL OR EXCESSIVELY DRAINED SOILS	2,3, OR 4	9,10,11
B) SOMEWHAT POORLY DRAINED SOILS	2	
C) VARIABLE DRAINAGE SOILS	2	
EFFLUENT DISPOSAL		5 OR 6
GRAVEL PITS[3]		26,27,28
GULLIED AND ERODED AREAS		3,4,5,8,10,11,12
MINESPOIL & WASTE AND OTHER SPOIL BANKS (IF TOXIC SUBSTANCES AND PHYSICAL PROPERTIES NOT LIMITING)[3]		15,16,17,18,26,27,28
SHORELINES (FLUCTUATING WATER LEVELS)		5 OR 6
SKI SLOPES		4,10
SOD WATERWAYS AND SPILLWAYS	1,2,3,4,6,7, OR 8	1,2,3,4,6,7, OR 8
SUNNY RECREATION AREAS (PICNIC AREAS AND PLAYGROUNDS OR DRIVING AND ARCHERY RANGES, NATURE TRAILS)	1,2, OR ***23***	
CAMPING AND PARKING, NATURE TRAILS (SHADED)	19, ***21***, OR ***23***	
SAND DUNES (BLOWING SAND)	25	
WOODLAND ACCESS ROADS, SKID TRAILS AND LOG YARDING AREAS		9,10,16, ***22***,26
LAWNS AND HIGH MAINTENANCE	1,19, ***21***, OR ***29***	

FOOTNOTES:
1 THE NUMBERS FOLLOWING IN THESE COLUMNS REFER TO SEED MIXTURES IN FOLLOWING TABLE. MIXES FOR SHADY AREAS ARE IN BOLD ITALICS PRINT (INCLUDING MIXES 20 THROUGH 24).
2 SEE COUNTY SOIL SURVEY FOR DRAINAGE CLASS. SOIL SURVEYS ARE AVAILABLE FROM THE COUNTY SOIL AND WATER CONSERVATION DISTRICT OFFICE.
3 USE MIX 26 WHEN SOIL PASSING A 200 MESH SIEVE IS LESS THAN 15% OF TOTAL WEIGHT. USE MIX 26 & 27 WHEN SOIL PASSING A 200 MESH SIEVE IS BETWEEN 15 AND 20% OF TOTAL WEIGHT . USE MIX 26, 27 & 28 WHEN SOIL PASSING A 200 MESH SIEVE IS ABOVE 20% OF TOTAL WEIGHT.

No.	SEED MIXTURE (VARIETY)[4]	LBS/ACRE	LBS/1,000 SF
1[5]	KENTUCKY BLUEGRASS	20	.45
	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	20	.45
	PERENNIAL RYEGRASS (NORLEA, MANHATTAN)	5	.10
		TOTAL 45	1.00
2[5]	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	20	.45
	REDTOP (STREAKER, COMMON)	2	.05
	TALL FESCUE (KENTUCKY 31) OR SMOOTH BROMEGRASS (SARATOGA, LINCOLN)	20	.45
		TOTAL 42	.95
3[5]	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	20	.45
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT[1]	8	.20
	TALL FESCUE (KENTUCKY 31) OR SMOOTH BROMEGRASS (SARATOGA, LINCOLN)	20	.45
		TOTAL 48	1.10
4[5]	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN) OR TALL FESCUE (KENTUCKY 31)	20	.45
	REDTOP (STREAKER, COMMON)	2	.05
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) W/INOCULANT[1]	8	.20
		TOTAL 30	.70
5[5]	WHITE CLOVER	10	.25
	PERENNIAL RYE GRASS	2	.05
		TOTAL 12	.30
6[5]	CREEPING RED FESCUE	20	.50
	REDTOP (STREAKER, COMMON)	2	.05
	PERENNIAL RYE GRASS	20	.50
		TOTAL 42	1.05
7[5]	SMOOTH BROMEGRASS (SARATOGA, LINCOLN)	15	.35
	PERENNIAL RYEGRASS (NORLEA, MANHATTAN)	5	.10
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) W/ INOCULANT[1]	10	.25
		TOTAL 30	.79
8[5]	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	10[1]	.25
	WEEPING LOVEGRASS	3	.07
	LITTLE BLUESTEM (BLAZE, ALDOUS, CAMPER)	10[1]	.25
		TOTAL 23	.57
9[5]	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	10	.25
	CROWN VETCH (CHEMUNG, PENNGIFT) WITH INOCULANT[1]	15	.35
	OR (FLATPEA (LATHCO) WITH INOCULANT[1])	(30)	(.75)
	TALL FESCUE (KENTUCKY 31) OR SMOOTH BROMEGRASS (SARATOGA, LINCOLN)	15	.35
	REDTOP (STREAKER, COMMON)	2	.05
		TOTAL 42 (OR 57)	1.00 (OR 1.40)
10[5]	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	20	.45
	REDTOP (STREAKER, COMMON)	2	.05
	CROWN VETCH (CHEMUNG, PENNGIFT) WITH INOCULANT[1]	15	.35
	OR (FLATPEA (LATHCO) WITH INOCULANT[1])	(30)	(.75)
		TOTAL 37 (OR 52)	.85 (OR 1.25)
11[5]	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT[1]	8	.20
	CROWN VETCH (CHEMUNG, PENNGIFT) WITH INOCULANT[1]	15	.35
	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)OR TALL FESCUE (KENTUCKY 31) OR SMOOTH BROMEGRASS (SARATOGA, LINCOLN)	20	.45
		TOTAL 43	1.00
12[6]	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	10[1]	.25
	PERENNIAL RYEGRASS (NORLEA, MANHATTAN)	5	.10
	CROWN VETCH (CHEMUNG, PENNGIFT) WITH INNOCULANT[1]	15	.35
		TOTAL 45	1.05
13[6]	CROWN VETCH (CHEMUNG, PENNGIFT) WITH INNOCULANT[1]	10	.25
	OR (FLATPEA (LATHCO) WITH INOCULANT[1])	(30)	(.75)
	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	5[1]	.10
	PERENNIAL RYEGRASS (NORLEA, MANHATTAN)	5	.10
		TOTAL 20 (OR40)	.45 (OR .95)
14[5]	CROWN VETCH (CHEMUING, PENNGIFT) WITH INNOCULANT[1]	15	.35
	OR (FLATPEA (LATHCO) WITH INOCULANT[1])	(30)	(.75)
	PERENNIAL RYEGRASS (NORLEA, MANHATTAN)	10	.25
		TOTAL 25 (OR 40)	.60 (OR 1.00)
15[6]	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	5[1]	.10
	BIG BLUESTEM (NIAGRA, KAW) OR LITTLE BLUESTEM (BLAZE, ALSOUS,CAMPER)	5[1]	.10
	PERENNIAL RYEGRASS (NORLEA, MANHATTAN)	5	.10
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT[1]	5	.10
		TOTAL 20	.40
16[5]	TALL FESCUE (KENTUCKY 31)	20	.45
	FLATPEA (LATHCO) WITH INOCULANT[1]	30	.75
		TOTAL 50	1.20
17[6]	DEER TONGUE (TIOGA) WITH INOCULANT[1]	10[1]	.25
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT[1]	8	.20
	PERENNIAL RYEGRASS (NORLEA, MANHATTAN)	3	.07
		TOTAL 21	.52
18[6]	DEER TONGUE (TIOGA) WITH INOCULANT[1]	10[1]	.25
	CROWN VETCH (CHEMUING, PENNGIFT) WITH INNOCULANT[1]	15	.35
	PERENNIAL RYEGRASS (NORLEA, MANHATTAN)	3	.07
		TOTAL 28	.67
19[3]	CHEWINGS FESCUE	35	.80
	HARD FESCUE	30	.70
	COLONIAL BENTGRASS	5	.10
	BIRDS FOOT TREFOIL (EMPIRE, VIKING) WITH INOCULANT[1]	10	.20
	PERENNIAL RYEGRASS	20	.50
		TOTAL 100	2.30
20[5]	DELETED DUE TO INVASIVE SPECIES		
21[5]	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	TOTAL 60	1.35
22[5]	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	40	.90
	TALL FESCUE (KENTUCKY 31)	20	.45
		TOTAL 60	1.35
23[5]	CREEPING RED FESCUE (PENNLAWN, WINTERGREEN)	15	.35
	FLATPEA (LATHCO) WITH INOCULANT[1]	30	.75
		TOTAL 45	3.60
24[5]	TALL FESCUE (KENTUCKY 31)	TOTAL 150	3.60
25[5]	AMERICAN BEACHGRASS (CAPE)	58,500 CULMS/ACRE	1,345 CULMS/100 SF
26[6]	SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	4.0	.10
	BIG BLUESTEM (NIAGRA, KAW)	4.0	.10
	LITTLE BLUESTEM (BLAZE, ALDOUS, CAMPER)	2.0	.05
	SAND LOVEGRASS (NE-27, BEND)	1.5	.03
	BIRD'S-FOOT TREFOIL (EMPIRE VIKING)	2.0	.05
		TOTAL 13.5	.33
27[5]	FLATPEA (LATHCO)	10	.20
	PERENNIAL PEA (LANCER)	2	.05
	CROWN VETCH (CHEMUNG, PENNGIFT)	10	.20
	TALL FESCUE (KENTUCKY 31)	2	.20
		TOTAL 24	.65
28[5]	ORCHARDGRASS (PENNLATE, KAY, POTOMAC)	5	.10
	TALL FESCUE (KENTUCKY 31)	10	.20
	REDTOP (STREAKER, COMMON)	2	.05
	BIRD'S-FOOT TREFOIL (EMPIRE VIKING)	5	.10
		TOTAL 22	.45
29	TURF TYPE TALL FESCUE (BONANZA, MUSTANG, REBEL II, SPARTAN, JAGUAR) OR PERENNIAL RYE ("FUTURE 2000" MIX: FIESTA II, BLAZER II, AND DASHER II)	175-250	6 TO 8

FOOTNOTES:
1 USE PROPER INOCULANT FOR LEGUME SEEDS, USE FOUR TIMES RECOMMENDED RATE WHEN HYDROSEEDING.
2 USE PURE LIVE SEED (PLS) = $\frac{(\%\ GERMINATION \times \%\ PURITY)}{100}$
EXAMPLE: COMMON BERMUDA SEED WITH 70% GERMINATION AND 80% PURITY=
$\frac{70 \times 80}{100}$ OR $\frac{56}{100}$ OR 56%
10LBS PLS/ACRE/56% = 17.9 LBS/ACRE OF BAGGED SEED
3 D.O.T. ALL PURPOSE MIX
4 WILD FLOWER MIX CONTAINING NEW ENGLAND ASTER, BABY'S BREATH, BLACK EYE SUSAN, CATCHFLY, DWARF COLUMBINE, PURPLE CONEFLOWER, LANCED-LEAVED COREOPSIS, CORNFLOWER, OX-EYE DAISY, SCARLET FLAX, FOXGLOVE, GAYFEATHER, ROCKY LARKSPUR, SPANISH LARKSPUR, CORN POPPY, SPURRED SNAPDRAGON, WALLFLOWER AND/OR YARROW MAY BE ADDED TO ANY SEED MIX GIVEN. MOST SEED SUPPLIERS CARRY A WILD FLOWER MIX THAT IS SUITABLE FOR THE NORTHEAST AND CONTAINS A VARIETY OF BOTH ANNUAL AND PERENNIAL FLOWERS. SEEDING RATES FOR THE SPECIFIC MIXTURES SHOULD BE FOLLOWED.
5 CONSIDERED TO BE A COOL SEASON MIX.
6 CONSIDERED TO BE A WARM SEASON MIX.

TOPSOILING (TO)

1. APPLICABILITY
- WHERE THE TEXTURE, PH, OR NUTRIENT BALANCE OF THE AVAILABLE SOIL (SANDS, GRAVELS OR OTHER UNCONSOLIDATED MATERIALS) CANNOT BE MODIFIED BY REASONABLE MEANS TO PROVIDE AN ADEQUATE GROWTH MEDIUM.
- WHERE THE EXISTING SOIL MATERIAL IS TOO SHALLOW TO PROVIDE AN ADEQUATE ROOT ZONE AND TO SUPPLY NECESSARY MOISTURE AND NUTRIENTS FOR PLANT GROWTH.
- WHERE HIGH QUALITY TURF IS DESIRABLE TO PREVENT EROSION AND WITHSTAND INTENSIVE USE AND/OR MEET AESTHETIC REQUIREMENTS.
- WHERE LANDSCAPE PLANTINGS ARE PLANNED.
- WHERE EXTENSIVE FILLING AND CUTTING OF SLOPES HAS OCCURRED.
- ONLY ON SLOPES NO STEEPER THAN 2:1.

2. MATERIALS
TOPSOIL SHALL INCLUSIVELY MEAN A SOIL:
A. MEETING ONE OF THE FOLLOWING SOIL TEXTURAL CLASSES ESTABLISHED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE CLASSIFICATION SYSTEM BASED UPON THE PROPORTION OF SAND, SILT, AND CLAY SIZE PARTICLES AFTER PASSING A 2 MILLIMETER (MM) SIEVE AND SUBJECTED TO A PARTICLE SIZE ANALYSIS:
* LOAMY SAND, INCLUDING COARSE, LOAMY FINE, AND LOAMY VERY FINE SAND.
* SANDY LOAM, INCLUDING COARSE, FINE AND VERY FINE SANDY LOAM
* LOAM, OR
* SILT LOAM WITH NOT MORE THAN 60% SILT;
B. CONTAINING NOT LESS THAN 6% AND NOT MORE THAN 20% ORGANIC MATTER AS DETERMINED BY LOSS-ON-IGNITION OF OVEN DRIED SAMPLES DRIED AT 105 DEGREES CENTIGRADE;
C. POSSESSING A PH RANGE OF 6.0 - 7.5. EXCEPT IF THE VEGETATIVE PRACTICE BEING USED SPECIFICALLY REQUIRES A LOWER PH, THEN PH MAY BE ADJUSTED ACCORDINGLY;
D. HAVING SOLUBLE SALTS NOT EXCEEDING 500 PPM; AND
E. THAT IS LOOSE AND FRIABLE AND FREE FROM REFUSE, STUMPS, ROOTS, BRUSH, WEEDS, FROZEN PARTICLES, ROCKS, AND STONES OVER 1.25 INCHES IN DIAMETER, AND ANY MATERIAL THAT WILL PREVENT THE FORMATION OF A SUITABLE SEEDBED OR PREVENT SEED GERMINATION AND PLANT GROWTH. TOPSOIL MAY BE OF NATURAL ORIGIN OR MANUFACTURED BY BLENDING COMPOSTED ORGANIC MATERIALS WITH ORGANIC DEFICIENT SOILS, MINERAL SOILS, SAND AND LIME SUCH THAT THE RESULTING SOIL MEETS THE MATERIAL SPECIFICATIONS LISTED ABOVE.
ALL TOPSOIL SHALL BE ANALYZED BY A RECOGNIZED SOIL TESTING LABORATORY FOR ORGANIC CONTENT, PH AND SOLUBLE SALTS REQUIREMENTS GIVEN ABOVE.

3. CALCULATING TOPSOIL NEEDS
TOPSOILING NEEDS CAN BE CALCULATED BY USING THE VALUES GIVEN IN FIGURE TO-1. CALCULATE TOPSOIL NEEDS IN ADVANCE OF STRIPPING TO DETERMINE IF THERE IS SUFFICIENT TOPSOIL OF GOOD QUALITY TO JUSTIFY STRIPPING.

FIGURE TO-1: TOPSOIL REQUIRED FOR APPLICATION OF VARIOUS DEPTHS

DEPTH	CY/1,000 SF	CY/ACRE
4"	12.4	537
5"	15.5	672
6"	18.6	806

4. STRIPPING
STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA. A 4- TO 6-INCH STRIPPING DEPTH IS COMMON, BUT DEPTH MAY VARY DEPENDING ON THE PARTICULAR SOIL. PLACE ALL PERIMETER DIKES, BASINS, AND OTHER SEDIMENT CONTROLS PRIOR TO STRIPPING.

5. STOCKPILING
STOCKPILE TOPSOIL THAT IS STRIPPED FROM THE SITE IN SUCH A MANNER THAT NATURAL SITE DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE RESULTS. IN ALL CASES, LOCATE STOCKPILES TO MAXIMIZE DISTANCE FROM WETLANDS AND/OR WATERCOURSES.
THE SIDE SLOPES OF ALL STOCKPILES SHALL NOT EXCEED 2:1.
INSTALL A SEDIMENT BARRIER DOWN SLOPE TO TRAP SEDIMENTS ERODING FROM THE STOCKPILE. STABILIZE THE STOCKPILED MATERIAL IF IT IS TO REMAIN FOR A PERIOD OF 30 DAYS OR LONGER.

6. APPLICATION OF TOPSOIL
A. SITE PREPARATION: INSTALL AND/OR REPAIR EROSION AND SEDIMENT CONTROL MEASURES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, WATERWAYS, SILT FENCE AND SEDIMENT BASINS BEFORE TOPSOILING. MAINTAIN THESE MEASURES DURING TOPSOILING. BONDING: AFTER BRINGING THE SUBSOIL TO GRADE (AND IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL), THE SUBGRADE SHALL BE LOOSENED BY DISCING, SCARIFYING OR TRACKING TO A DEPTH OF AT LEAST 4 INCHES TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.
B. APPLYING TOPSOIL: DISTRIBUTE THE TOPSOIL UNIFORMLY TO A MINIMUM DEPTH OF 4 INCHES. MAINTAIN APPROVED GRADES WHEN SPREADING TOPSOIL. CORRECT ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
NOTE: DO NOT PLACE TOPSOIL IF THE SUBGRADE OR THE TOPSOIL IS FROZEN OR EXCESSIVELY WET. ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL AND OBTAIN A UNIFORM FIRM SEEDBED FOR THE ESTABLISHMENT OF VEGETATION. AVOID EXCESSIVE COMPACTION AS IT INCREASES RUNOFF VELOCITY AND VOLUME, AND INHIBITS SEED GERMINATION.
C. LIMING: WHERE THE PH OF THE SUBSOIL IS 6.0 OR LESS, GROUND AGRICULTURAL LIMESTONE SHALL BE SPREAD IN ACCORDANCE WITH THE SOIL TEST TO ATTAIN A PH OF 6.0 TO 6.5 OR TO ATTAIN A PH AS REQUIRED BY THE VEGETATIVE ESTABLISHMENT PRACTICE BEING USED.
D. STABILIZING APPLIED TOPSOIL: IMMEDIATELY FOLLOWING TOPSOIL APPLICATIONS, PROTECT THE TOPSOIL FROM EROSION BY EITHER SODDING, SEEDING AND/OR MULCHING.

MAINTENANCE
INSPECT AND MAINTAIN IN ACCORDANCE WITH THE SURFACE PROTECTION MEASURE(S) USED.

DUST CONTROL (DC)

1. DEFINITION
THE CONTROL OF DUST ON CONSTRUCTION SITES, CONSTRUCTION ROADS AND OTHER AREAS WHERE DUST IS GENERATED.

2. PURPOSE
TO PREVENT THE MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, WHICH MAY CAUSE BOTH OFF-SITE AND ON-SITE DAMAGE, BE A HEALTH HAZARD TO HUMANS, WILDLIFE AND PLANT LIFE, OR CREATE A SAFETY HAZARD BY REDUCING TRAFFIC VISIBILITY.

3. APPLICABILITY
ON UNSTABLE SOILS SUBJECT TO CONSTRUCTION TRAFFIC.
WHERE UNSTABLE SOILS ARE LOCATED ON HILL TOPS OR LONG REACHES OF OPEN GROUND AND CAN BE EXPOSED TO HIGH WINDS.

4. PLANNING CONSIDERATIONS
WHEN CONSTRUCTION ACTIVITIES EXPOSE SOILS, FUGITIVE DUST IS EMITTED BOTH DURING THESE ACTIVITIES (I.E., EXCAVATION, DEMOLITION, VEHICLE TRAFFIC, ROCK DRILLING AND OTHER HUMAN ACTIVITIES) AND AS A RESULT OF WIND EROSION OF THE EXPOSED EARTH SURFACES. LARGE QUANTITIES OF DUST CAN BE GENERATED DURING "HEAVY" CONSTRUCTION ACTIVITIES, SUCH AS ROAD AND STREET CONSTRUCTION, SUBDIVISION, COMMERCIAL OR INDUSTRIAL DEVELOPMENT.

IN PLANNING FOR DUST CONTROLS:

A. LIMIT THE AMOUNT OF EXPOSED SOIL BY PHASING CONSTRUCTION TO REDUCE THE AREA OF LAND DISTURBED AT ANY ONE TIME AND BY USING, AS SOON AS POSSIBLE, STABILIZATION MEASURES SUCH AS ANCHORED TEMPORARY SOIL PROTECTION, TEMPORARY SEEDING OR PERMANENT SEEDING WITH ANCHORED MULCH FOR SEED, LANDSCAPE PLANTINGS WITH LANDSCAPE MULCH, SODDING OR STONE SLOPE PROTECTION.

B. MAINTAIN AS MUCH NATURAL VEGETATION AS IS PRACTICABLE. UNDISTURBED VEGETATIVE BUFFERS (MINIMUM OF 50' WIDTH) LEFT BETWEEN GRADED AREAS AND AREA TO BE PROTECTED CAN BE VERY EFFECTIVE.

C. IDENTIFY AND ADDRESS SOURCES OF DUST GENERATED BY CONSTRUCTION ACTIVITIES. LIMIT CONSTRUCTION TRAFFIC TO PREDETERMINED ROUTES. PAVED SURFACES REQUIRE MECHANICAL SWEEPERS TO REMOVE SOIL THAT HAS BEEN DEPOSITED OR TRACKED ONTO THE PAVEMENT. ON UNPAVED TRAVEL WAYS AND TEMPORARY HAUL ROADS, USE ROAD CONSTRUCTION STABILIZATION MEASURES AND/OR WATER AS NEEDED TO KEEP SURFACE DAMP. STATIONARY SOURCES OF DUST, SUCH AS ROCK CRUSHERS, USE FINE WATER SPRAYS TO CONTROL DUST. IF WATER IS EXPECTED TO BE NEEDED FOR DUST CONTROL, IDENTIFY THE SOURCE OF WATER IN ADVANCE. PUMPING FROM STREAMS, POND AND SIMILAR WATERBODIES MAY REQUIRE APPROVAL FROM THE MUNICIPAL INLAND WETLAND AGENCY.

D. IDENTIFY AND ADDRESS SOURCES OF WIND GENERATED DUST. PROVIDE SPECIAL CONSIDERATION TO HILL TOPS AND LONG REACHES OF OPEN GROUND WHERE SLOPES MAY BE EXPOSED TO HIGH WINDS. CONSIDER BREAKING UP LONG REACHES WITH TEMPORARY WINDBREAKS CONSTRUCTED FROM BRUSH PILES, GEOTEXTILE SILT FENCES OR HAY BALES. PLAN ON STABILIZING SLOPES EARLY. MULCH FOR SEED WILL REQUIRE ANCHORING WHEN USED.

E. CONSIDER WATER QUALITY WHEN SELECTING THE METHOD AND/OR MATERIALS USED FOR DUST CONTROL. WHEN CONSIDERING THE USE OF CALCIUM CHLORIDE, BE AWARE OF THE FOLLOWING: THE RECEIVING SOIL'S PERMEABILITY SO AS TO PREVENT GROUNDWATER CONTAMINATION; THE TIMING OF THE APPLICATION TO RAINFALL TO PREVENT WASHING OF SALTS INTO SENSITIVE AREAS SUCH AS WETLANDS AND WATERCOURSES; AND PROXIMITY TO SENSITIVE AREAS SUCH AS WATERCOURSES, PONDS, ESTABLISHED OR SOON TO BE ESTABLISHED AREA OF PLANTINGS, WHERE SALTS COULD IMPAIR OR DESTROY PLANT AND ANIMAL LIFE. ADDITIONALLY, SOME MATERIALS USED FOR DUST CONTROL MAY BE RENDERED INEFFECTIVE BY DEGRADED WATER QUALITY IF IT IS USED FOR MIXING.

CONSIDER USING DUST CONTROL MEASURES ONLY AFTER IT IS DETERMINED THAT OTHER MEASURES FOR SOIL STABILIZATION CANNOT BE PRACTICALLY APPLIED.

5. SPECIFICATIONS
A. MECHANICAL SWEEPING

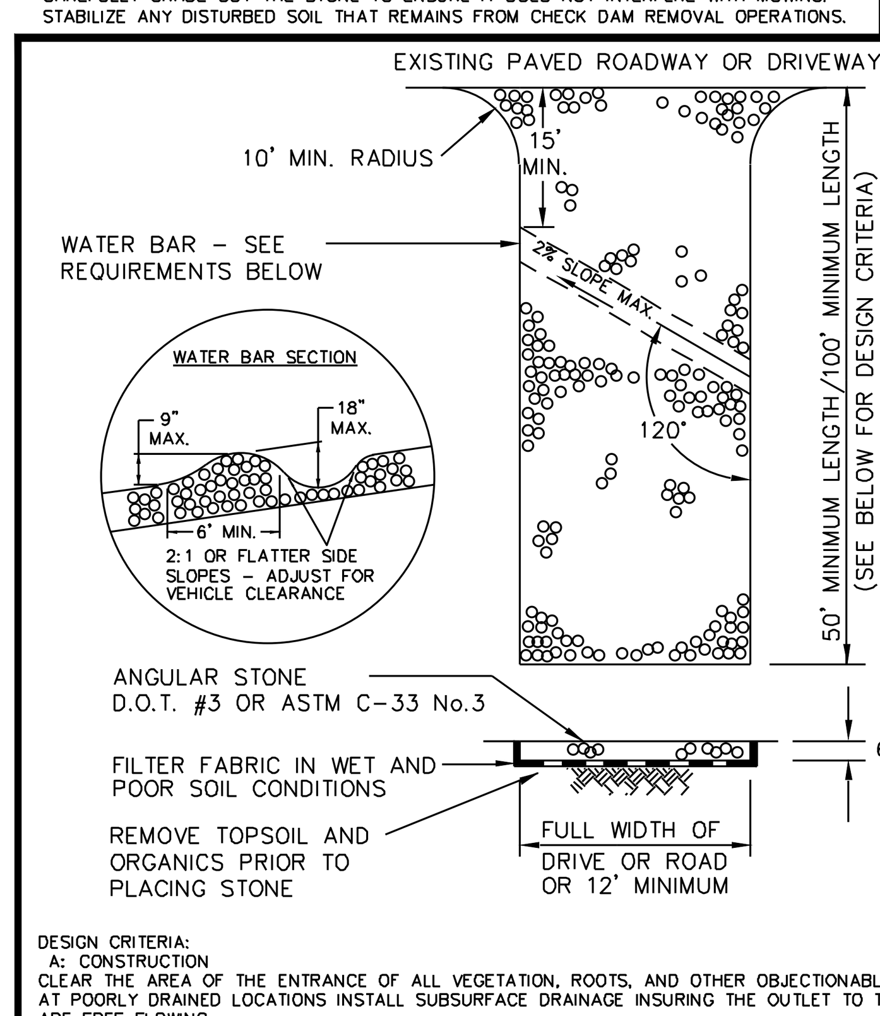
USE MECHANICAL SWEEPING ON PAVED AREAS WHERE DUST AND FINE MATERIALS ACCUMULATE AS A RESULT OF TRUCK TRAFFIC, PAVEMENT SAW CUTTING SPILLAGE, AND WIND OR WATER DEPOSITION FROM ADJACENT DISTURBED AREAS. SWEEP DAILY IN HEAVILY TRAFFICKED AREAS.

B. WATER
PERIODICALLY MOISTEN EXPOSED SOIL SURFACES ON UNPAVED TRAVEL WAYS TO KEEP THE TRAVEL WAY DAMP.

C. NON-ASPHALTIC SOIL TACKIFIER
NON-ASPHALTIC SOIL TACKIFIER CONSISTS OF AN EMULSIFIED LIQUID SOIL STABILIZER OF ORGANIC, INORGANIC OR MINERAL ORIGIN, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: MODIFIED RESINS, CALCIUM CHLORIDE, COMPLEX SURFACTANT, COPOLYMERS OR HIGH GRADE LATEX ACRYLICS. THE SOLUTIONS SHALL BE NON-ASPHALTIC, NON TOXIC TO HUMAN, ANIMAL AND PLANT LIFE, NON-CORROSIVE AND NONFLAMMABLE. MATERIALS USED SHALL MEET LOCAL, STATE AND FEDERAL GUIDELINES FOR INTENDED USE. ALL MATERIALS ARE TO BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND ALL SAFETY GUIDELINES SHALL BE FOLLOWED IN STORING, HANDLING AND APPLYING MATERIALS.

MAINTENANCE

REPEAT APPLICATION OF DUST CONTROL MEASURES WHEN FUGITIVE DUST BECOMES EVIDENT.



DESIGN CRITERIA:
A: CONSTRUCTION
CLEAR THE AREA OF THE ENTRANCE OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. AT POORLY DRAINED LOCATIONS INSTALL SUBSURFACE DRAINAGE INSURING THE OUTLET TO THE DRAINS ARE FREE FLOWING.
IF USING A GEOTEXTILE IN PLACE OF FREE DRAINING MATERIAL, UNROLL THE GEOTEXTILE IN A DIRECTION PARALLEL TO THE ROADWAY CENTERLINE IN A LOOSE MANNER PERMITTING IT TO CONFORM TOO THE SURFACE IRREGULARITIES WHEN THE STONE IS PLACED. UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER, THE MINIMUM OVERLAP OF GEOTEXTILE PANELS JOINED WITHOUT SEWING ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. THE GEOTEXTILE MAY BE TEMPORARILY SECURED WITH PINS RECOMMENDED OR PROVIDED BY THE MANUFACTURER BUT THEY SHALL BE REMOVED PRIOR TO PLACEMENT OF THE STONE.
PLACE THE STONE TO THE SPECIFIED DIMENSION. KEEP ADDITIONAL STONE AVAILABLE OR STOCKPILE FOR FUTURE USE. IF THE GRADE OF THE CONSTRUCTION ENTRANCE DRAINS TO THE PAVED SURFACE AND IT EXCEEDS 2%, CONSTRUCT A WATER BAR WITHIN THE CONSTRUCTION ENTRANCE AT LEAST 15 FEET FROM ITS ENTRANCE ON THE PAVED SURFACE DIVERTING RUNOFF WATER TO A SETTLING OR FILTERING AREA. CONSTRUCT ANY DRAINAGE AND SETTLING FACILITIES NEEDED FOR WASHING OPERATIONS. IF WASH RACKS ARE USED, INSTALL ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

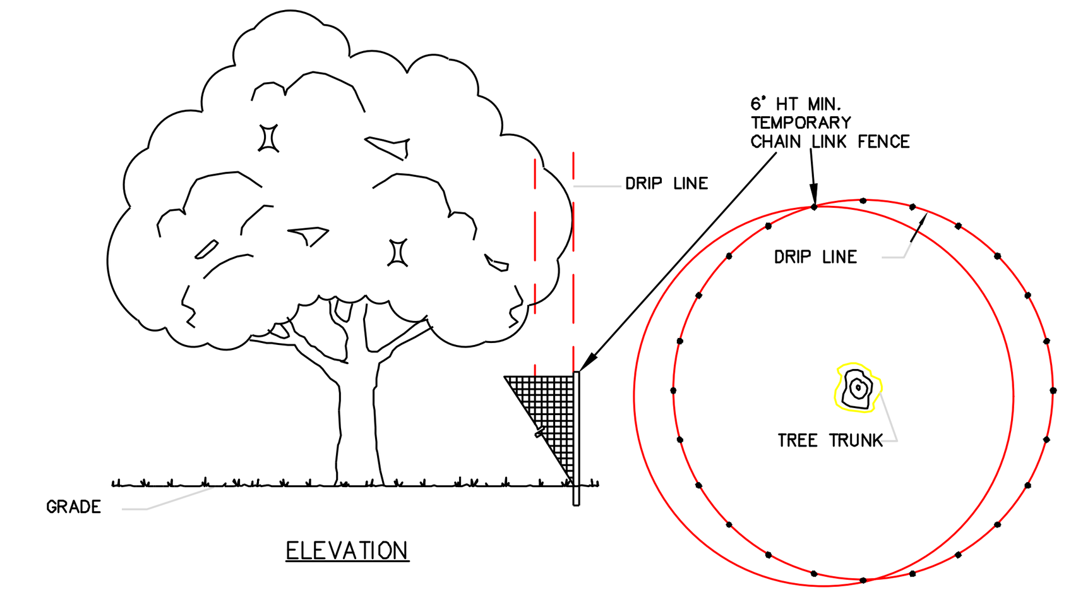
B. WASHING
IF MOST OF THE SEDIMENT IS NOT REMOVED BY TRAVEL OVER THE STONE, WASH TIRES BEFORE VEHICLES ENTER A PUBLIC ROAD. DIVERT WASH WATER AWAY FROM THE ENTRANCE TO A SETTLING AREA TO REMOVE SEDIMENT. SIZE SETTLING AREA TO HOLD THE VOLUME OF WATER USED DURING ANY 2-HOUR PERIOD. USING A WASH RACK MAY MAKE WASHING MORE CONVENIENT AND EFFECTIVE.

MAINTENANCE
MAINTAIN THE ENTRANCE IN A CONDITION WHICH WILL PREVENT TRACKING AND WASHING OF SEDIMENT ONTO PAVED SURFACES. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND. REPAIR ANY MEASURES USED TO TRAP SEDIMENT AS NEEDED. IMMEDIATELY REMOVE ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PAVED SURFACES. ROADS ADJACENT TO A CONSTRUCTION SITE SHALL BE LEFT CLEAN AT THE END OF EACH DAY.
IF THE CONSTRUCTION ENTRANCE IS BEING PROPERLY MAINTAINED AND THE ACTION OF A VEHICLE TRAVELING OVER THE STONE PAD IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF THE SEDIMENT, THEN EITHER (1) INCREASE THE LENGTH OF THE CONSTRUCTION ENTRANCE, (2) MODIFY THE CONSTRUCTION ACCESS ROAD SURFACE, OR (3) INSTALL WASHING RACKS AND ASSOCIATED SETTLING AREA OR SIMILAR DEVICES BEFORE THE VEHICLE ENTERS A PAVED SURFACE.

ANTI-TRACKING PAD CONSTRUCTION ENTRANCE (CE)

N.T.S.

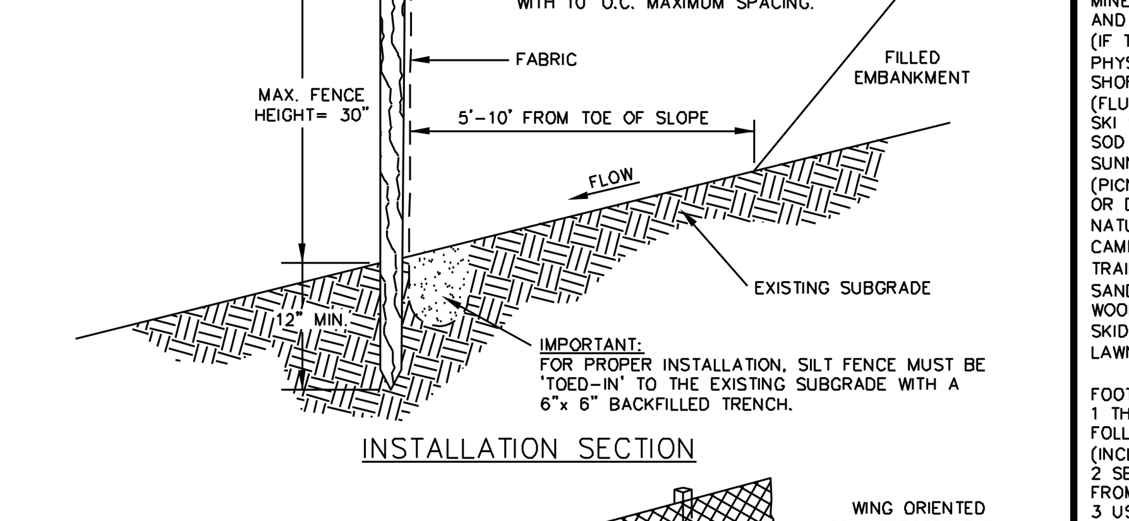
REFERENCE: 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.

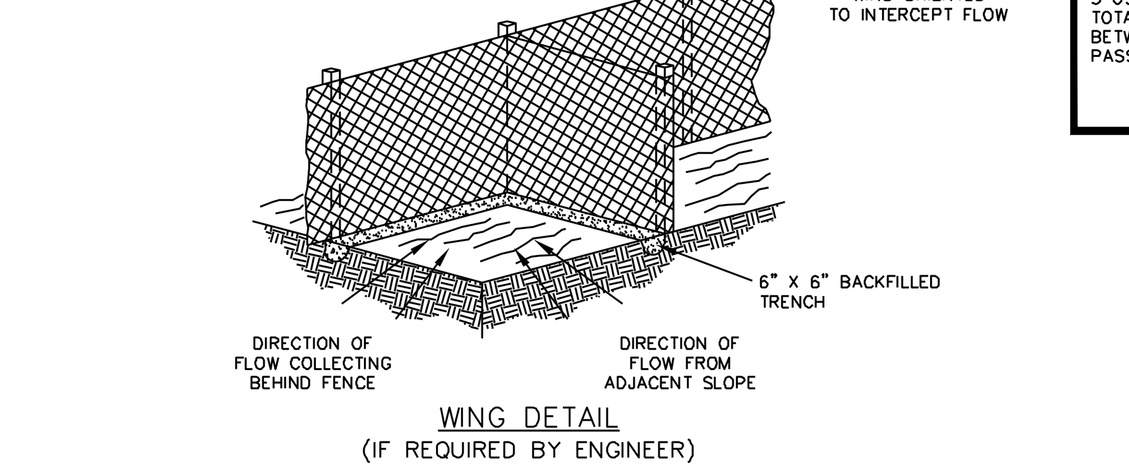


TREE PROTECTION (TP)

N.T.S.

- POSITION POSTS TO OVERLAP AS SHOWN MAKING CERTAIN THAT THE FABRIC FOLDS AROUND EACH POST ONE FULL TURN
- DRIVE POSTS TIGHTLY TOGETHER AND SECURE TOPS OF POSTS BY TYING OFF WITH CORD OR WIRE TO PREVENT FLOW-THROUGH OF BUILT-UP SEDIMENT AT JOINT.

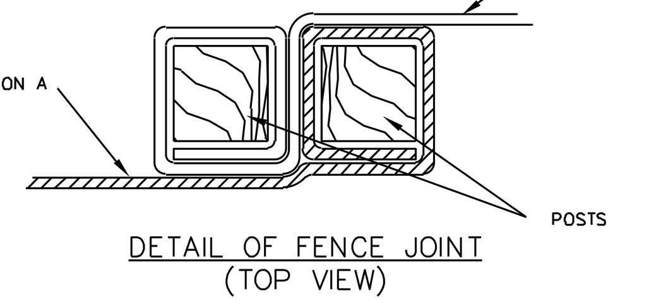




GEOTEXTILE SILT FENCE (GSF)

N.T.S.

REFERENCE: 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.



REFER TO 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL INFORMATION

SEDIMENTATION & EROSION CONTROL DETAILS

Date:	8-27-19
Scale:	AS NOTED
Proj. No.:	2002E+S
File No.:	3734
Acad No.:	2002E+S
Sheet:	ES1
Drawn by:	NY

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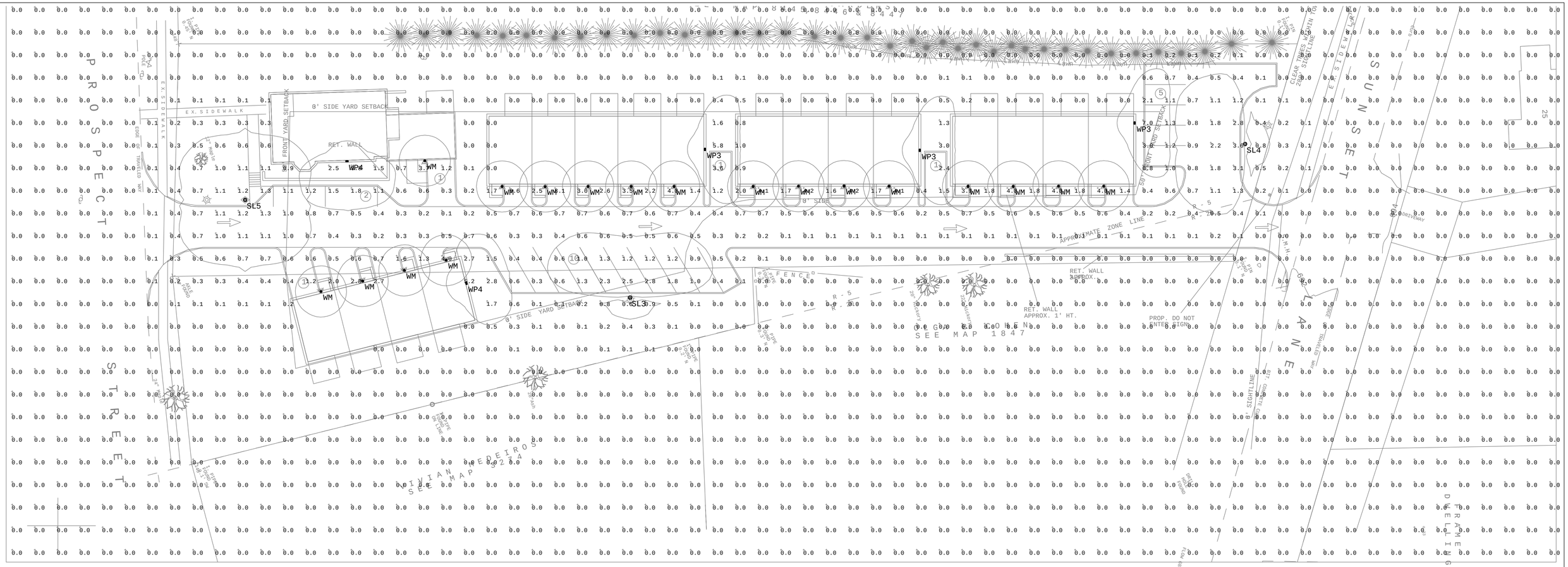

JOB NAME: 63-67 PROSPECT STREET - RIDGEFIELD, CT
APEX LIGHTING SOLUTIONS
WORKPLANE/CALC PLANE: AT FINISH GRADE
MOUNTING HEIGHT: SEE LUMINAIRE SCHEDULE
APPS: LED
SALES: SP

Luminaire Schedule							
Qty	Label	Arrangement	Lumens	Input Watts	LLF	BUG Rating	Description
1	SL3	SINGLE	3739	54.4	0.850	B1-U0-G1	LUMEC MPTR-55W48LED3K-G2-LE3W-VOLT-DMG-HS-APR4F-10.5-B104-COLTX
1	SL4	SINGLE	3802	54.4	0.850	B1-U0-G1	LUMEC MPTR-55W48LED3K-G2-LE4-VOLT-DMG-HS-APR4F-10.5-B104-COLTX
1	SL5	SINGLE	4661	54.4	0.850	B3-U0-G1	LUMEC MPTR-55W48LED3K-G2-LE5-VOLT-DMG-APR4F-10.5-B104-COLTX
18	WM	SINGLE	814	14	1.080	B1-U0-G0	SUNPARK 3-4081D-05-3000K / WALL MOUNTED @ 8FT AFG TO TOF
3	WP3	SINGLE	2132	22.3	0.850	B1-U0-G0	STONCO LPW16-20-WW-G3-3-UNV-FINISH / WALL MOUNTED @ 8FT AFG TO BOF
2	WP4	SINGLE	2065	22.3	0.850	B1-U0-G1	STONCO LPW16-20-WW-G3-4-UNV-FINISH / WALL MOUNTED @ 8FT AFG TO BOF

Calculation Summary						
Label	Grid Height	Avg	Max	Min	Avg/Min	Max/Min
CalcPts_1	0	0.16	7.0	0.0	N.A.	N.A.
PARKING & DRIVE AISLES		0.69	3.6	0.0	N.A.	N.A.

GENERAL DISCLAIMER:

Calculations have been performed according to IES standards and good practice Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.

* LLF Determined Using Current Published Lamp Data

NOTE TO REVIEWER:

Total Light Loss Factor (LLF) applied at time of design is determined by applying the Lamp Lumen Depreciation (LLD) from current lamp manufacturer's catalog, a Luminaire Dirt Depreciation Factor (LDD) based on IES recommended values and a Ballast Factor (BF) from current ballast specification sheets. Application of an incorrect Light Loss Factor (LLF) will result in forecasts of performance that will not accurately depict actual results.

For proper comparison of photometric layouts, it is essential that you insist all designers use correct Light Loss Factors.

APEX
LIGHTING SOLUTIONS
THE POINT WHERE ALL ASCENDING LINES CONVERGE
telephone 860.632.8766
www.apexlightingsolutions.com

PROJECT TITLE:

63-67 PROSPECT STREET
RIDGEFIELD, CT

DRAWING TITLE:

SITE LIGHTING
PHOTOMETRIC CALCULATION

FILE NAME: SL-1A 63-67 PROSPECT STREET - RIDGEFIELD, CT 2-18-2021 LED.dwg

SCALE : 1"=20'-0"

DATE: 2/18/21

DRAWN BY: LED

SHEET:

SL-1A