

**LOCUS MAP**  
NOT TO SCALE

# SITE DEVELOPMENT PLANS FOR ORION STUDENT HOUSING 25, 27, 29 & 35 MAIN STREET DURHAM, NH

**OWNER/APPLICANT:**  
ORION UNH LLC  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

**SITE ENGINEERS:**  
ALLEN & MAJOR ASSOCIATES, INC.  
250 COMMERCIAL STREET  
SUITE 1001  
MANCHESTER, NH 03101

**ARCHITECT:**  
DESTEFANO ARCHITECTS  
23 HIGH STREET  
PORTSMOUTH, NH 03801

**ABUTTERS:**  
TAX MAP 5 LOT 1-5  
37 MAIN STREET DURHAM LLC  
6 PARK STREET  
NEWBURYPORT, MA 01950

TAX MAP 5 LOT 1-9  
KYREAGES INC  
P O BOX 174  
ELIOT, ME 03903

TAX MAP 5 LOT 1-15  
KYREAGES INC  
P O BOX 174  
ELIOT, ME 03903

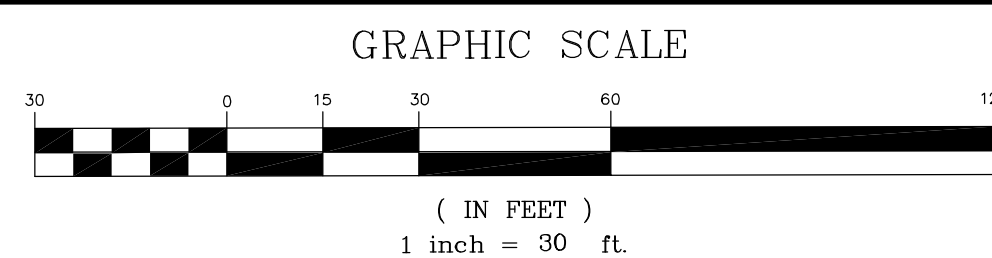
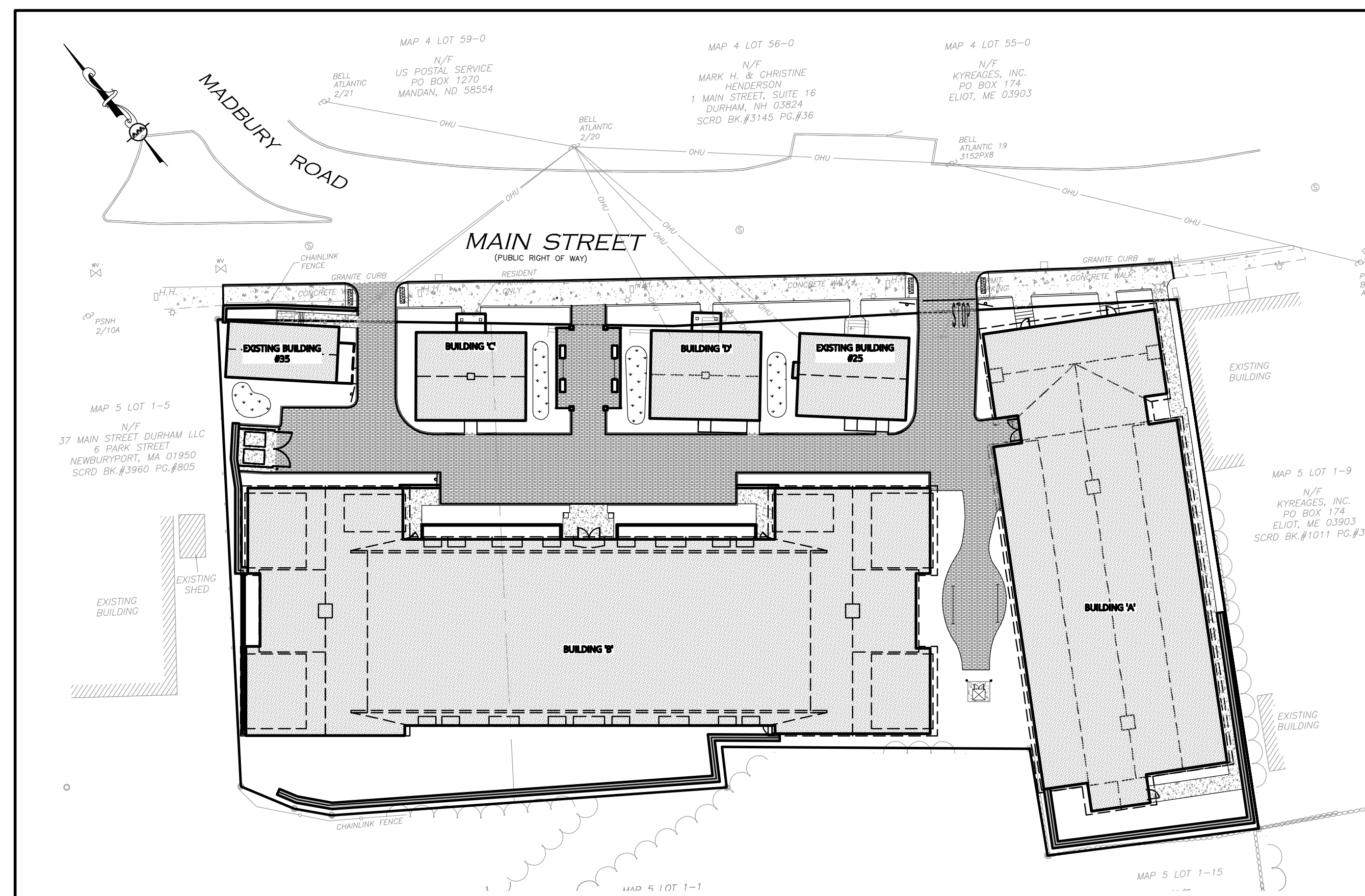
TAX MAP 5 LOT 1-1A/1B  
COLONIAL DURHAM ASSOCIATES  
ADMINISTRATIVE OFFICES  
7 MILL ROAD UNIT C  
DURHAM, NH 03824

TAX MAP 4 LOT 55-0  
KYREAGES INC  
P O BOX 174  
ELIOT, ME 03903

TAX MAP 4 LOT 56-0  
HENDERSON, CHRISTINE &  
HENDERSON, MARK H  
1 MAIN STREET, SUITE 16  
DURHAM, NH 03824

TAX MAP 4 LOT 59-0  
US POSTAL SERVICE  
P.O. BOX 1270  
MANDAN, ND 58554

TAX MAP 4 LOT 1-0  
HENDERSON, EARLE H & MARK H  
1 MAIN STREET, SUITE 16  
DURHAM, NH 03824



PREPARED BY:

**ALLEN & MAJOR ASSOCIATES, INC.**  
civil & structural engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com  
250 COMMERCIAL STREET  
SUITE 1001  
MANCHESTER, NH 03101  
TEL: (603) 627-5500  
FAX: (603) 627-5501  
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## LIST OF DRAWINGS

DRAWING TITLE	SHEET NO.	ISSUED	REVISED
EXISTING CONDITIONS PLAN	EX-1	02-02-12	-
LAYOUT & MATERIALS PLAN	C-1	09-04-13	12-20-13
GRADING & DRAINAGE PLAN	C-2	09-04-13	12-20-13
UTILITY PLAN	C-3	09-04-13	12-20-13
LANDSCAPE PLAN	C-4	09-04-13	12-20-13
CONSTRUCTION MANAGEMENT PLAN	C-5	10-25-13	12-20-13
STORMWATER POLLUTION PREVENTION PLAN	SWPPP1	09-04-13	-
STORMWATER POLLUTION PREVENTION PLAN	SWPPP2	09-04-13	12-20-13
STORMWATER POLLUTION PREVENTION DETAILS	SWPPP3	09-04-13	-
DETAILS	D-1	09-04-13	-
DETAILS	D-2	09-04-13	-
DETAILS	D-3	09-04-13	-
DETAILS	D-4	09-04-13	12-20-13
DETAILS	D-5	09-04-13	10-25-13
EXIST. WATERSHED PLAN	EWP	09-04-13	-
PROP. WATERSHED PLAN	PWP	09-04-13	-
BUILDING A ELEVATIONS	A-2.1	09-04-13	12-20-13
BUILDING A&B ELEVATIONS	A-2.2	09-04-13	12-20-13
BUILDING B ELEVATIONS	A-2.3	09-04-13	12-20-13
BUILDING B ELEVATIONS	A-2.4	09-04-13	12-20-13
BUILDING C&D ELEVATIONS	A-2.5	09-04-13	12-20-13
LIGHTING PLAN	L-1	10-25-13	12-20-13
TRAFFIC RECOMMENDATION PLAN	TR-1	12-20-13	-



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

ISSUED FOR PLANNING BOARD REVIEW: SEPTEMBER 4, 2013  
ISSUED FOR ZONING BOARD REVIEW: OCTOBER 25, 2013

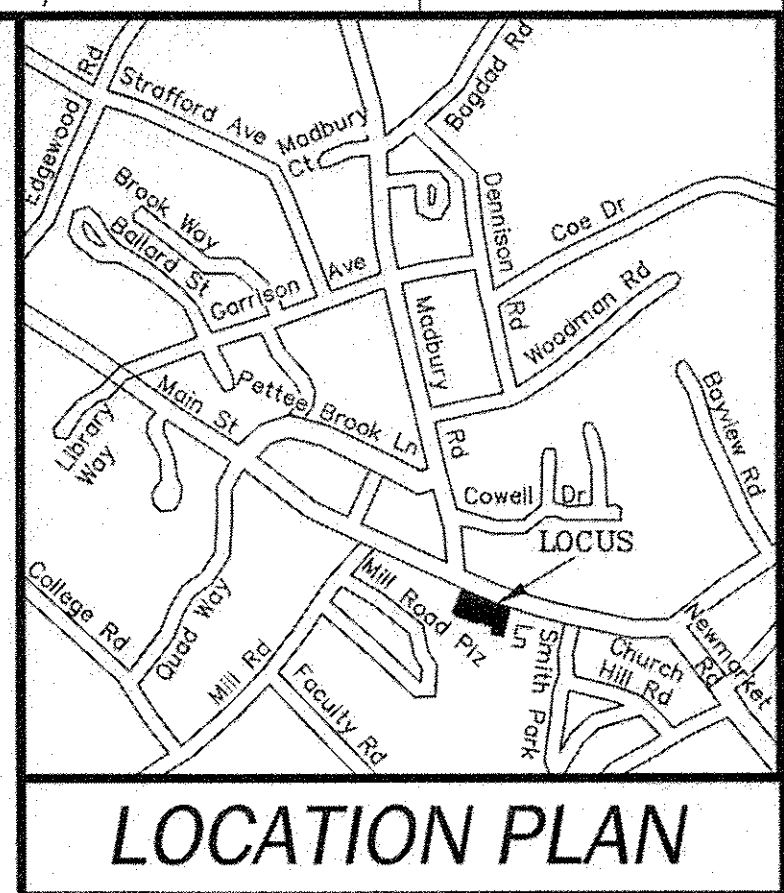


LEGEND

- BK.2562/PG.2783 BOOK NO./PAGE NO.
N/F NOW OR FORMERLY
POB POINT OF BEGINNING
PSNH PUBLIC SERVICE COMPANY OF NEW ENGLAND
SCRD STRAFFORD COUNTY REGISTRY OF DEEDS
S.F. SQUARE FEET
OHU OVERHEAD UTILITIES
FREE STANDING SIGN
WATER VALVE
WATER VALVE
MAP/LOT ASSESSORS MAP & PARCEL NUMBER
PROPERTY LINE
STONE WALL
UTILITY POLE
CATCH BASIN
HYDRANT
LIGHT
WATER SHUTOFF
HANDICAPPED

PLAN REFERENCES:

- 1. "RIGHT-OF-WAY PLANS, STATE OF NH, NHDOT ROW PLANS, TOWN OF DURHAM, COUNTY OF STRAFFORD". SCRD PLAN #018177.
2. "RIGHT-OF-WAY PLANS OF PROPOSED FEDERAL AID PROJECT, OSO-STP-14-X-5133(003), N.H. PROJECT NO. C-2424-C, MAIN STREET/NEWMARKET ROAD/N.H. ROUTE 108" BY NHDOT, DATED 10-19-00. SCRD PLAN #018173.
3. "MILL ROAD, LAND SAMUEL A. TAMPOSI AND EDWARD N. LEHOULLIER, DURHAM, N.H." BY G.L. DAVIS & ASSOCIATES, CIVIL ENGINEERS, DATED APRIL 1975, REVISED 5/30/75. SCRD POCKET #15-FOLDER #1-PLAN #38.



NOTES:

- 1. THE PARCELS ARE LOCATED IN THE CENTRAL BUSINESS (CB) ZONE AND THE HISTORIC OVERLAY DISTRICT (HOD).
2. THE PARCELS ARE AS SHOWN ON THE TOWN OF DURHAM ASSESSOR'S MAP 5 AS LOTS 1-6, 1-7 & 1-8.
3. THE PARCEL IS LOCATED IN FLOOD ZONE X (AREAS OF MINIMAL FLOODING) AS SHOWN ON INSURANCE RATE MAP COMMUNITY - PANEL NUMBER 33017C0318D WITH EFFECTIVE DATE MAY 17, 2005.
4. OWNER OF RECORD: VARSITY DURHAM, LLC
24 PARK COURT
DURHAM, NH 03824
SCRD BK.3510 PG.416
5. ZONING REQUIREMENTS:
MINIMUM LOT SIZE: 5,000 S.F./900 S.F. PER DWELLING UNIT
MINIMUM FRONTAGE: 50'
MINIMUM SETBACKS:
FRONT YARD: N/A
SIDE YARD: N/A
REAR YARD: N/A
MAXIMUM BUILDING HEIGHT: 30'
6. MAP 5 LOT 1-6 IS SUBJECT TO THE RIGHTS OF THE STATE ON NEW HAMPSHIRE TO EXTEND AND MAINTAIN SLOPES AND EMBANKMENTS AS DESCRIBED IN SCRD BK.#862 PG.#489.
7. MAP 5 LOT 1-7 IS SUBJECT TO COVENANTS CONTAINED IN A SEWERAGE ENTRY APPLICATION AS DESCRIBED IN SCRD BK.#853 PG.#317.
8. MAP 5 LOT 1-7 IS SUBJECT TO AN EASEMENT TO NEW HAMPSHIRE ELECTRIC COMPANY & NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY AS DESCRIBED IN SCRD BK.#817 PG.#396.
9. FIELD SURVEY COMPLETED IN JANUARY 2012 UNDER SNOW COVER. EXISTING FEATURES SHOWN ON THIS PLAN WERE LOCATED AS ACCURATE AS POSSIBLE UNDER THOSE CONDITIONS. MSC, INC. RESERVES THE RIGHT TO FIELD INSPECT THESE PREMISES IN THE SPRING AND MODIFY THIS PLAN AS NECESSARY.

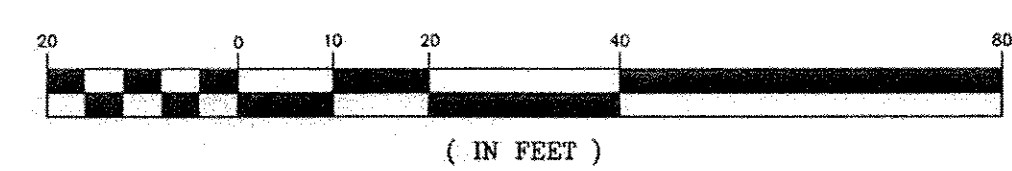
ENCROACHMENTS:

- 1 STEPS AND WALKWAY ENCROACH ONTO MAIN STREET - PUBLIC RIGHT OF WAY.
2 PAVED AREA ENCROACHES ONTO MAIN STREET - PUBLIC RIGHT OF WAY.
3 STEPS AND WALKWAY ENCROACH ONTO MAIN STREET - PUBLIC RIGHT OF WAY.
4 DUMPSTER ENCROACHES ONTO ADJOINING PROPERTY.

SURVEYOR'S CERTIFICATION

THE UNDERSIGNED HEREBY CERTIFIES TO ORION, UNH, LLC, ROCKLAND TRUST COMPANY AND STEWART TITLE GUARANTY COMPANY THAT THIS MAP OR PLAT OF SURVEY AND THE SURVEY ON WHICH IT WAS BASED WAS PREPARED BY ME AND WAS ACTUALLY MADE UPON THE GROUND. IN ADDITION, THE UNDERSIGNED HEREBY CERTIFIES THAT (1) THE INFORMATION, COURSES AND DISTANCES SHOWN ON THIS SURVEY ARE CORRECT, (2) THE SIZE, LOCATION AND TYPE OF IMPROVEMENTS ARE SHOWN HEREON AND ALL ARE LOCATED WITHIN THE BOUNDARIES OF THE PROPERTIES AND SET BACK FROM THE PROPERTIES LINES THE DISTANCES INDICATED, UNLESS SHOWN OTHERWISE, (3) THE PROPERTIES ARE CONTIGUOUS TO AND HAVE ACCESS TO AND FROM MAIN STREET, A PUBLIC ROADWAY, (4) THERE ARE NO EASEMENTS OR ENCUMBRANCES (INCLUDING UTILITY LINES) AFFECTING THE PROPERTIES OTHER THAN AS SHOWN OR NOTED ON THIS SURVEY, (5) THERE ARE NO ENCROACHMENTS OF ANY IMPROVEMENTS ON THESE PROPERTIES OVER ANY EASEMENTS OR ENCUMBRANCES, OR ONTO ADJOINING PROPERTY OTHER THAN AS SHOWN ON THIS SURVEY, (6) THERE ARE NO ENCROACHMENTS OF ANY IMPROVEMENTS ON ADJOINING PROPERTY ONTO THE PROPERTIES OTHER THAN AS SHOWN AND NOTED HEREON, (7) ALL RECORDED EASEMENTS AND OTHER EXCEPTIONS, AS NOTED IN THE STEWART TITLE GUARANTY COMPANY'S COMMITMENT FOR TITLE INSURANCE, DATED 01/18/2011 HAVE BEEN CORRECTLY PLATTED AND/OR NOTED HEREON; (8) ALL ZONING, USE AND DENSITY CLASSIFICATIONS ARE SHOWN HEREON, (9) THE PROPERTIES CONSTITUTE THREE SEPARATE CONTIGUOUS PARCELS WITHOUT GAPS OR GORES, AND (10) THE PROPERTIES ARE NOT LOCATED IN A 100-YEAR FLOOD PLAIN OR IN AN IDENTIFIED "FLOOD PRONE AREA", AS DEFINED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, PURSUANT TO THE FLOOD DISASTER PROTECTION ACT OF 1973, AS AMENDED, AS REFLECTED BY FLOOD INSURANCE RATE MAP PANEL #33017C0318D, DATED MAY 17, 2005, WHICH SUCH MAP PANELS COVERS THE AREA IN WHICH PROPERTIES ARE SITUATED AND (11) THERE ARE NO MOBILE HOME PADS LOCATED ON THE PROPERTIES.

Signature of J. Corey Colwell, Licensed Land Surveyor, dated FEB 02 2012.



LEGAL DESCRIPTIONS

MAP 5 LOT 1-6 BEGINNING AT A FOUND BRASS PIPE IN THE SOUTHERLY SIDELINE OF MAIN STREET AT LAND NOW OR FORMERLY OF 37 MAIN STREET DURHAM, LLC, THENCE PROCEEDING ALONG SAID SOUTHERLY SIDELINE OF MAIN STREET S 47°20'30" E A DISTANCE OF 87.00 FEET TO A POINT AT LAND NOW OR FORMERLY OF VARSITY DURHAM, LLC; THENCE TURNING AND PROCEEDING ALONG LAND OF SAID VARSITY DURHAM, LLC S 39°02'13" W A DISTANCE OF 152.69 FEET TO A SET IRON ROD AT LAND NOW OR FORMERLY OF COLONIAL DURHAM ASSOCIATES; THENCE TURNING AND PROCEEDING ALONG LAND OF SAID COLONIAL DURHAM ASSOCIATES N 52°12'12" W A DISTANCE OF 58.30 FEET TO A FOUND IRON PIN; THENCE TURNING AND PROCEEDING ALONG LAND OF SAID COLONIAL DURHAM ASSOCIATES N 38°12'24" W A DISTANCE OF 12.07 FEET TO A FOUND IRON PIN; THENCE TURNING AND PROCEEDING ALONG LAND OF SAID COLONIAL DURHAM ASSOCIATES N 25°30'26" W A DISTANCE OF 18.47 FEET TO A FOUND IRON PIN AT LAND OF SAID 37 MAIN STREET DURHAM, LLC; THENCE TURNING AND PROCEEDING ALONG LAND OF SAID 37 MAIN STREET DURHAM, LLC N 39°00'00" E A DISTANCE OF 148.84 FEET TO THE POINT OF BEGINNING. CONTAINING: 13,434 SQUARE FEET (0.308 ACRES), MORE OR LESS.

EXISTING FEATURES PLAN FOR ORION UNH, LLC

Table with columns: REV, DATE, DESCRIPTION. Includes revision history for the plan.

TAX MAP 5 LOTS 1-6, 1-7 & 1-8 PROPERTY OF VARSITY DURHAM, LLC

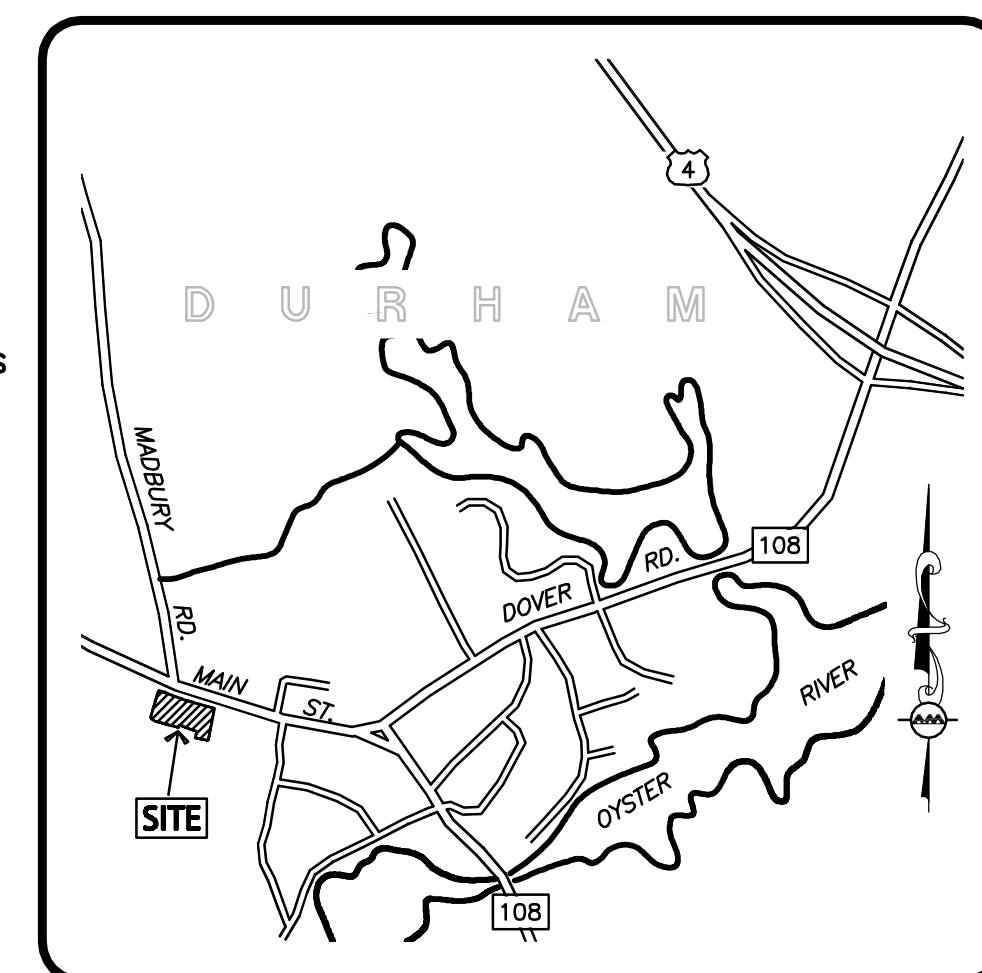
35, 29 & 25-27 MAIN STREET COUNTY OF STRAFFORD NEW HAMPSHIRE

DATE: JANUARY 20, 2012

PROJECT NO. 11082 SCALE: 1" = 20'

MSC CIVIL ENGINEERS & LAND SURVEYORS, INC. 170 COMMERCE WAY SUITE 102 PORTSMOUTH, NH 03801

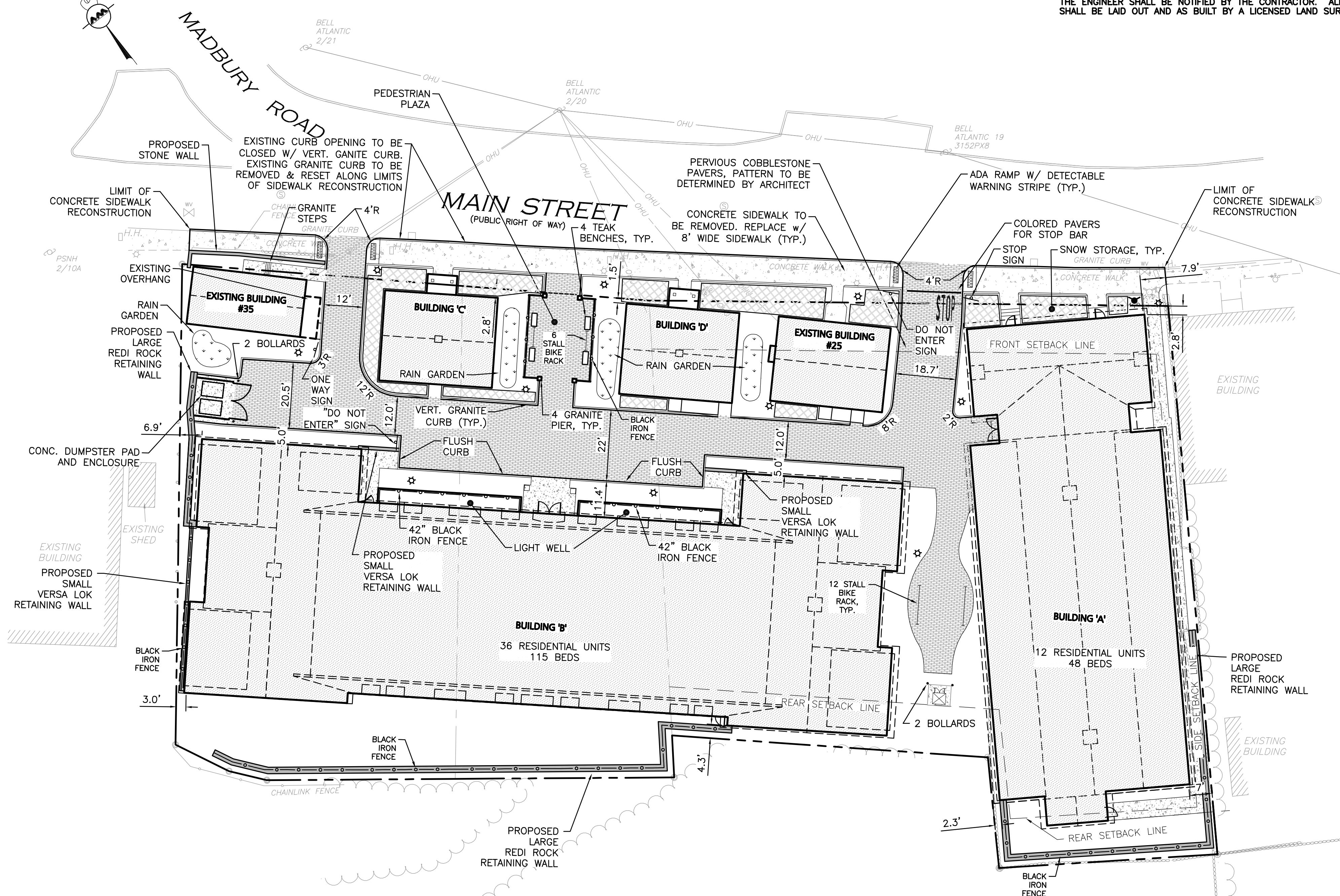




**LOCUS MAP**  
SCALE: 1"=1,000'

**LAYOUT NOTES:**

1. CURB RADII SHALL BE AS SHOWN ON THE PLAN.
2. ALL DIMENSIONS AND RADII ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
3. WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS OR CONDITIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR. ALL SITE ITEMS SHALL BE LAID OUT AND AS BUILT BY A LICENSED LAND SURVEYOR.



**GENERAL NOTES:**

1. EXISTING CONDITIONS BY MSC, DATED 2-2-2012, WERE COMPILED FROM AN ON THE GROUND SURVEY PERFORMED BY ALLEN & MAJOR ASSOCIATES, 2013.
2. THIS PROJECT WILL BE SERVED BY PUBLIC SEWER, WATER, NATURAL GAS, TELEPHONE, CABLE AND ELECTRIC. ALL UTILITY LINES WILL BE INSTALLED UNDERGROUND.
3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK. THE CONTRACTOR SHALL ALSO CONTACT THE TOWN OF DURHAM DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF LOCAL UTILITIES. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
4. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTIES DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
5. ALL PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AND RESTORED BY A SURVEYOR REGISTERED IN THE STATE OF NEW HAMPSHIRE AT THE CONTRACTOR'S EXPENSE.
6. ALL APPLICABLE PERMITS AND AN APPROVED SET OF PLANS SHALL BE AILABLE AT THE CONSTRUCTION SITE.
7. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRECONSTRUCTION MEETING WITH THE TOWN/CITY, THE APPROPRIATE UTILITY COMPANIES, THE OWNER AND OWNER'S REPRESENTATIVE. THE MEETING SHALL TAKE PLACE PRIOR TO THE START OF CONSTRUCTION AND THE CONTRACTOR MUST PROVIDE 48 HOURS NOTICE TO ALL ATTENDEES PRIOR TO THE START OF THE MEETING.
8. APPROPRIATE WARNING SIGNS, MARKERS, BARRICADES AND/OR FLAGMEN SHALL BE PROVIDED TO REGULATE TRAFFIC. CONSTRUCTION TRAFFIC CONTROL SHALL BE IMPLEMENTED PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE LOCAL AUTHORITY.
9. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ADDITIONAL BENCHMARK INFORMATION IF REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING BENCHMARKS. IF IT IS NECESSARY TO RELOCATE A BENCHMARK, IT SHALL BE RELOCATED BY A NEW HAMPSHIRE PROFESSIONAL LAND SURVEYOR AND DONE SO AT THE CONTRACTOR'S EXPENSE.
10. ALL PERMITS AND APPROVALS NECESSARY FROM AGENCIES GOVERNING THE WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
11. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DETERMINED NECESSARY BY ON SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES, OR REGULATORY AGENCIES HAVING JURISDICTION AT NO ADDITIONAL COST TO THE OWNER.
12. CONSTRUCTION DURING WET WEATHER OR WINTER CONDITIONS IS TO BE ANTICIPATED AND PROVISIONS TO ADEQUATELY ADDRESS THESE CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
13. SNOW STORAGE SHOWN FOR CONCEPTUAL PURPOSES ONLY. SNOW SHALL BE TAKEN OFF-SITE ONCE SNOW STORAGE AREAS ON SITE BECOME INADEQUATE, AND BEGINS TO BLOCK ACCESS TO AND FROM THE SITE OR BLOCKS THE USE OF ON-SITE PARKING. ANY EXCESS SNOW TO BE TRUCKED OFF-SITE & DISPOSED OF IN ACCORDANCE WITH TOWN OF DURHAM AND NHDES GUIDELINES.
14. PERMEABLE PAVERS TO BE ECO-PRIORA (STYLE) SIERRA AND GRANITE (COLORS) BY UNILOCK, UXBRIDGE, MA, 35 COMMERCE DRIVE (508-278-4536).

**\*NOTE:**  
175-41. CENTRAL BUSINESS DISTRICT (CB) SECTION F:

BUILDING SETBACK - THE FRONT WALL OF THE PRINCIPAL BUILDING SHALL BE LOCATED WITHIN FIFTEEN (15) FEET OF THE FRONT PROPERTY LINE. FOR CORNER LOTS, THIS REQUIREMENT SHALL APPLY TO ALL FRONTAGES ABUTTING A PUBLIC STREET. UP TO FIFTY PERCENT (50%) OF THE FRONT FAÇADE MAY BE RECESSED BEYOND THE MAXIMUM SETBACK DISTANCE IF THE SPACE BETWEEN THE FRONT WALL AND THE FRONT PROPERTY LINE IS USED AS PEDESTRIAN AREA IN ACCORDANCE WITH PARAGRAPH 4. BELOW. THE EXPANSION OR MODIFICATION OF AN EXISTING BUILDING SHALL BE EXEMPT FROM THIS REQUIREMENT IF THE PLANNING BOARD FINDS THAT CONFORMANCE WITH THIS REQUIREMENT WOULD NOT BE CONSISTENT WITH THE CHARACTER OF THE EXISTING BUILDING.

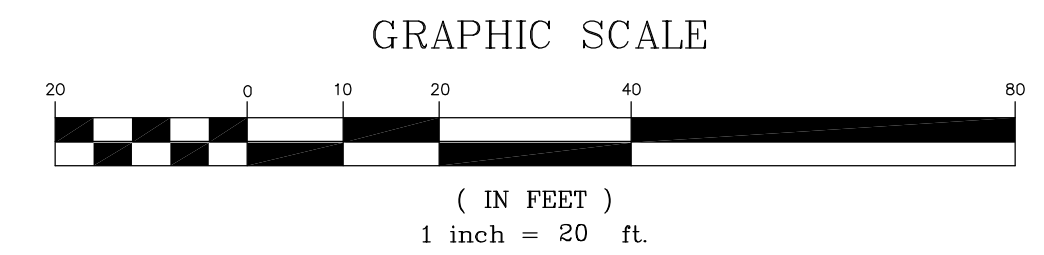
**\*\*NOTE:**  
175-54. DIMENSIONAL STANDARDS TABLE  
CENTRAL BUSINESS(CB) 50' MAX ALLOWED W/  
PLANNING BOARD APPROVAL  
CHURCH HILL(CH) 35' MAX ALLOWED W/  
PLANNING BOARD APPROVAL

**DURHAM ZONING SUMMARY TABLE**  
CENTRAL BUSINESS(CB) & CHURCH HILL(CH) ZONES WITHIN HISTORIC DISTRICT

ITEM	REQUIRED	PROPOSED
LOT AREA (MIN.)	5,000 SF	47,676 SF
FRONTAGE (MIN.)	50'	305.68'
FRONT YARD SETBACK (MIN.)	15'(CB)* 15'(CH)	1.51'(CB) 2.78'(CH)
SIDE YARD SETBACK (MIN.)	NA(CB) 5'(CH)	2.31'(CH)
REAR YARD SETBACK (MIN.)	NA(CB) 15'(CH)	20.38'(CB) 4.28'(CH)
BUILDING HEIGHT (MAX.)	30'**	36.6'(CB) 34.6'(CH)
TOTAL ON-SITE IMPERVIOUS AREA	NA	28,312 SF

**LEGEND:**

PROP. PROPERTY LINE	---	SIDEWALK	▬▬▬
SIGN	+	COBBLESTONE PAVERS	▨▨▨
BOLLARD	•	ADA ACCESSIBLE RAMP	▬▬▬
BUILDING	▭	ADA DET. WARNING SURFACE	▨▨▨
BUILDING ARCHITECTURE	▭	SNOW STORAGE	▨▨▨
BUILDING INTERIOR WALLS	▭	SETBACK LINE	---
CURB	▬	WOOD FENCE	▬▬▬
RETAINING WALL	▬▬▬	TRANSFORMER	T
LIGHT POLE	☆		



**ISSUED FOR REVIEW**  
DECEMBER 20, 2013

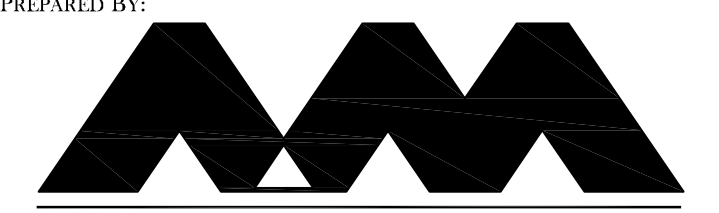
PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
**ORION UNH LLC**  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	LAYOUT
DRAFTED BY:	WBL	CHECKED BY:	RPC



**ALLEN & MAJOR ASSOCIATES, INC.**

civil & structural engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com  
250 COMMERCIAL STREET  
SUITE 1001  
MANCHESTER, NH 03101  
TEL: (603) 627-5500  
FAX: (603) 627-5501  
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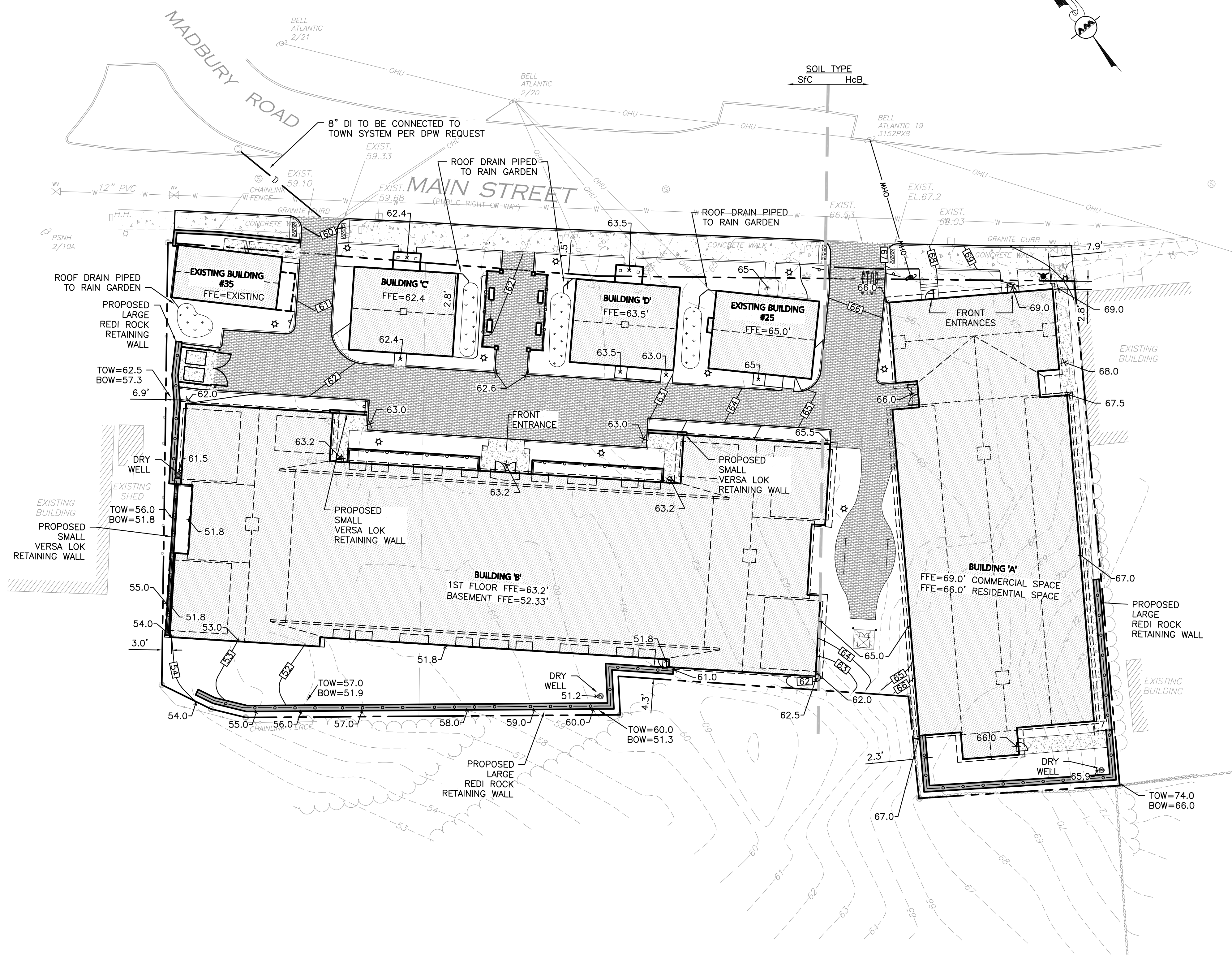
DRAWING TITLE:  
**LAYOUT & MATERIALS PLAN**

SHEET No.  
**C-1**



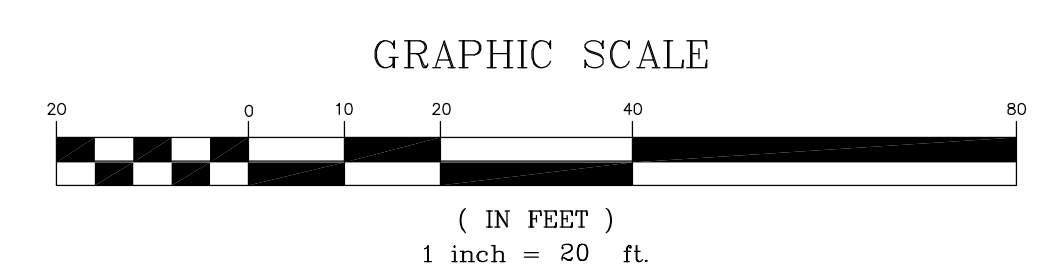
**LEGEND:**

- DRAIN MANHOLE
- CATCH BASIN
- CATCH BASIN - DOUBLE GRATE
- FLARED END SECTION
- DRAIN LINE
- RIPRAP OUTFALL
- HEADWALL
- 10' CONTOUR
- 2' CONTOUR
- SPOT GRADE
- TOP OF BERM
- DETENTION BASIN
- SAW-CUT LINE
- INFILTRATION SYSTEM
- INFILTRATION PIPE
- UNDERDRAIN
- SCS SOILS BOUNDARY



- GRADING & DRAINAGE NOTES:**
- VERTICAL DATUM IS NAVD88.
  - 8 FOOT DIAMETER DRAIN MANHOLES AND CATCH BASINS MAY BE NECESSARY DURING STORM DRAINAGE INSTALLATION.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCH MARKS NECESSARY FOR THE WORK.
  - ALL PROPOSED CATCH BASINS ON-SITE SHALL BE EQUIPPED WITH HOODS AND 4 FOOT SUMPS AND SHALL CONFORM TO THE TOWN OF DURHAM STANDARDS. EXISTING CATCH BASINS TO REMAIN SHALL BE EQUIPPED WITH HOODS.
  - ALL NEW ROOF DRAINAGE PIPES SHALL BE SDR 35 PVC, SIZED AS NOTED ON THE PLANS, TURNED UP ABOVE GRADE AND BE TERMINATED WITH A FITTING SPECIFICALLY DESIGNED TO RECEIVE A RECTANGULAR DOWNSPOUT.
  - A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER SERVICES CROSS STORM DRAIN LINES. WATER SERVICES SHALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE WHEN PASSING BELOW STORM DRAIN LINES. ENCASEMENT SHALL EXTEND ALONG WATER SERVICE A MINIMUM DISTANCE OF 8 FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
  - ALL PROPOSED DRAINAGE SHALL CONFORM TO TOWN OF DURHAM STANDARDS.
  - ALL SERVICE CONNECTIONS (I.E., ROOF DRAINS) SHALL BE INSTALLED TO THE BUILDING WALL AND TURNED UP ABOVE GRADE UNLESS OTHERWISE NOTED OR DETAILED.
  - ALL GRAVITY DRAINAGE PIPE SYSTEMS ARE TO BE CONSTRUCTED BEGINNING AT THE LOWEST POINT IN THE SYSTEM AND PROCEEDING TO THE HIGHEST POINT.
  - UNLESS OTHERWISE NOTED, ALL EXISTING DRAINAGE STRUCTURES AND PIPES SHALL BE REMOVED.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ALL DRAINAGE STRUCTURES ON SITE PRIOR TO COMPLETION OF PROJECT.
  - ALL DRAIN, WATER AND SANITARY SEWER PIPES INSTALLED WITHIN 10 FEET OF THE FOUNDATION SLAB MUST BE PERMITTED AND INSTALLED BY A NEW HAMPSHIRE LICENSED PLUMBER.

**NOTE:**  
 CONTRACTOR/OWNER TO OBTAIN TEMPORARY CONSTRUCTION EASEMENT IN ORDER TO CONSTRUCT PROPOSED WALLS ON WEST, SOUTH, AND EAST PROPERTY LINES.



**ISSUED FOR REVIEW**  
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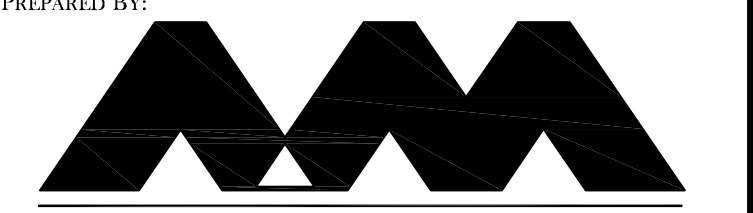
PROFESSIONAL ENGINEER FOR  
 ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
 ORION UNH LLC  
 225 FRANKLIN STREET, 26TH FLOOR  
 BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
 25/35 MAIN STREET  
 DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	GRADING
DRAFTED BY:	WBL	CHECKED BY:	RPC



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 environmental consulting • landscape architecture  
 www.allenmajor.com  
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 SUITE 1001  
 MANCHESTER, NH 03101  
 TEL: (603) 627-5500  
 FAX: (603) 627-5501  
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DRAWING TITLE: **GRADING & DRAINAGE PLAN** SHEET No. **C-2**



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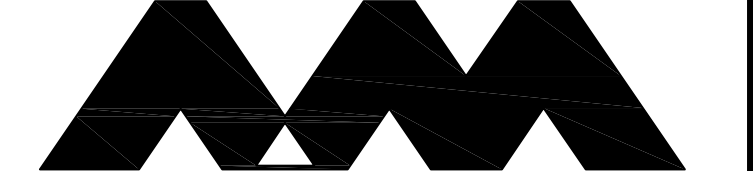
PROFESSIONAL ENGINEER FOR  
 ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
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1	10-25-13	LIGHT WELLS / SIDEWALK

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 225 FRANKLIN STREET, 26TH FLOOR  
 BOSTON, MA 02110

PROJECT:  
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 DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	UTILITIES
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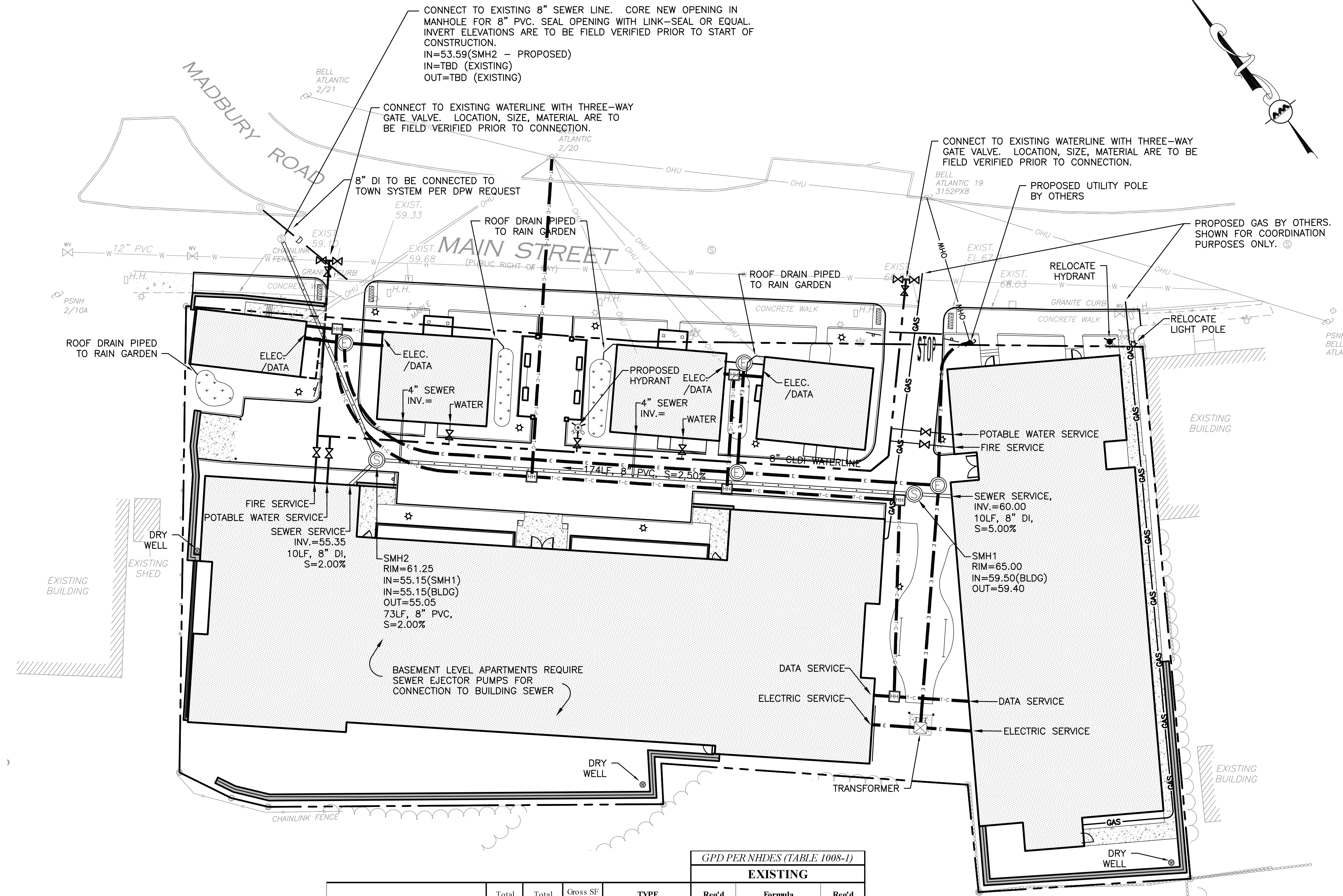
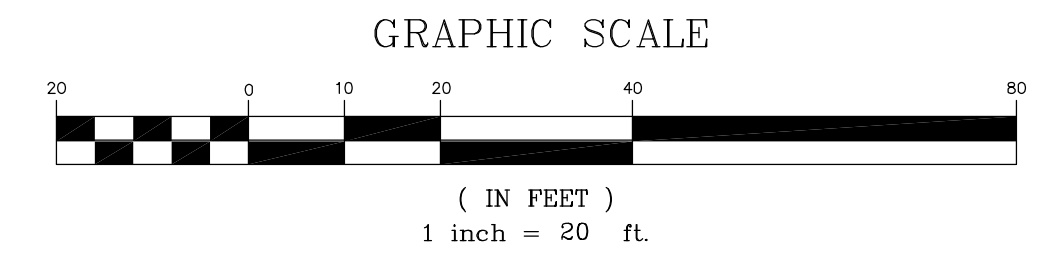
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DRAWING TITLE: **UTILITY PLAN** SHEET No. **C-3**

**UTILITY NOTES:**

- A MINIMUM OF 10 FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN WATER MAINS AND SANITARY SEWER MAINS AND/OR STORM DRAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER MAIN, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE DIFFERENCE IN ELEVATION BETWEEN THE WATER MAIN AND THE SEWER MAIN SHALL BE AT LEAST 18 INCHES.
- IN THE CASE THAT WATER MAINS CROSS SANITARY SEWER MAINS AND/OR STORM DRAINS AND ARE SEPARATED BY LESS THAN 18" OF VERTICAL CLEARANCE, THE CROSSING SHALL BE ENCASED IN CONCRETE FOR THE ENTIRE WIDTH OF THE TRENCH AND FOR A DISTANCE OF 8 LINEAR FEET CENTERED ON THE CROSSING.
- THE LATEST STANDARDS OF THE TOWN OF DURHAM, DEPARTMENT OF PUBLIC WORKS, WASTEWATER DIVISION SHALL BE FOLLOWED WHEN PERFORMING ANY SANITARY SEWER WORK. SEWER WORK WILL BE INSPECTED BY TOWN OF DURHAM PERSONNEL AND ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE LATEST STANDARDS OF THE TOWN OF DURHAM AND DEPARTMENT OF PUBLIC WORKS SHALL BE FOLLOWED WHEN INSTALLING ANY WATER LINES, AND ALL WATER LINE WORK WILL BE INSPECTED BY TOWN OF DURHAM PERSONNEL. ALL CONTRACTORS SHALL BE RESPONSIBLE FOR PRESSURE TESTING, DISINFECTING, AND FLUSHING OF LINES. INSPECTION COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND REMOVAL OF ALL NECESSARY DISINFECTING AND FLUSHING TAPS AS DIRECTED.
- THE CONTRACTOR SHALL REFER TO ARCHITECTS PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL ROOF DRAIN LATERALS AND UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRIC, TELEPHONE, AND GAS SERVICE. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND COORDINATE WITH THE PROPER AGENCY THE LOCATION AND SCHEDULING OF CONNECTIONS WITH THEIR FACILITIES.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION.
- ABANDONED EXISTING UTILITIES AND UTILITIES TO BE ABANDONED SHALL EITHER BE ABANDONED IN PLACE AS NOTED OR SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED. ALL UTILITIES SCHEDULED FOR ABANDONMENT OR REMOVAL AND DISPOSAL MUST BE COORDINATED BY THE CONTRACTOR WITH THE RESPECTIVE UTILITY OWNER. WHEN ABANDONED UTILITIES ARE TO BE LEFT IN PLACE, PLUG OR CAP THE ENDS OF THE CONDUITS AND PIPES. REMOVE ABANDONED UTILITY MANHOLES, JUNCTION BOXES AND SIMILAR STRUCTURES TO A MINIMUM DEPTH OF 4 FEET BELOW FINISHED GRADE AND PUNCTURE OR BREAK THE BOTTOM SLABS OF MANHOLES AND SIMILAR STRUCTURE TO ALLOW DRAINAGE. BACKFILL AND COMPACT EXCAVATIONS RESULTING FROM REMOVAL OF UTILITY FACILITIES, AS REQUIRED TO RESTORE THE ORIGINAL GRADE.
- THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENTS OF NATURAL GAS, ELECTRIC, TELEPHONE AND ANY OTHER UTILITY BY THE UTILITY OWNER.
- THE CONTRACTOR SHALL USE THE FOLLOWING PIPE MATERIALS:  
 SEWER: PVC (POLYVINYL CHLORIDE), SCHEDULE 35  
 DRAIN: HDPE (HIGH DENSITY CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INNER WALL), ASTM D2321 (UNLESS OTHERWISE SPECIFIED ON PLAN) RCP CLASS IV (REINFORCED CONCRETE PIPE, WHERE SPECIFIED ON PLAN)  
 WATER: CLDI (CEMENT LINED DUCTILE IRON) CLASS 52 AND SHALL BE RESTRAINED AT ALL JOINTS WITH MEGALUG TYPE
- ALL UTILITY CONNECTIONS THROUGH THE BUILDING WALL SHALL BE BY MEANS OF FLEXIBLE JOINTS.
- ALL WATER GATES TO PROPOSED HYDRANTS ARE 6" DIAMETER UNLESS OTHERWISE NOTED.
- ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 4.5 FEET OF COVER AND A MAXIMUM OF 8 FEET OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE.
- ALL HYDRANTS SHALL BE INSTALLED WITH A 6 INCH CLDI RUNOUT AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED GATE VALVE, BOX, AND TEE FITTING. ALL HYDRANTS SHALL MEET LOCAL MUNICIPAL SPECIFICATION REQUIREMENTS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- ALL WATER MAINS 3 INCHES AND LARGER SHALL BE CEMENT LINED DUCTILE IRON - CLASS 52, AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED FITTINGS AND GATE VALVES.
- DOMESTIC WATER SERVICES SHALL BE INSTALLED WITH APPROPRIATELY SIZED GATE, BOX AND TEE FITTINGS.
- ALL WATER MAIN APPURTENANCES, MATERIALS, METHODS OF INSTALLATION AND TESTING REQUIREMENTS SHALL MEET OR EXCEED THE TOWN OF DURHAM REQUIREMENTS.
- GENERALLY, WATER MAIN FITTINGS, VALVES AND HYDRANTS SHOWN ON THIS DRAWING ARE FOR INSTALLATION LOCATION PURPOSES. THE CONTRACTOR SHALL NOTE THAT NOT ALL FITTINGS, VALVES AND HYDRANTS ARE NOTED, SHOWN OR INDICATED.
- ALL WATER MAIN FITTINGS, VALVES AND TEES ETC. SHALL BE RESTRAINED WITH THRUST BLOCKS AS REQUIRED BY THE TOWN OF DURHAM WHERE ADEQUATE RESTRAINT CANNOT BE OBTAINED WITH THRUST BLOCKS, USE OF RETAINER GLANDS IS RECOMMENDED.
- EXISTING LIGHTPOLES TO BE RELOCATED AS NECESSARY.
- 19. THE CONTRACTOR SHALL FIELD VERIFY/LOCATE EXISTING WATER MAINS AND WATER SERVICES.
- 20. VALVES 8 INCHES AND SMALLER SHALL BE GATE VALVES AND SHALL BE RESILIENT SEAT, MODIFIED WEDGE DISK CONFORMING TO AWWA C-509, AND BE APPROVED BY THE MUNICIPALITY.
- 21. PRESSURE AND LEAKAGE TEST, DISINFECTING AND FLUSHING SHALL BE IN ACCORDANCE WITH ALL LOCAL MUNICIPAL STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTION WITH UTILITY TESTS, FLUSHING AND INSPECTIONS AS REQUIRED BY THE LOCAL MUNICIPALITY.
- 22. SEWER FOREMAIN SHALL BE TESTED AT TWO TIMES THE WORKING PRESSURE OR 150 PSI, WHICH EVER IS GREATER. THE PRESSURE SHALL BE MAINTAINED FOR TWO HOURS WITH NO MORE THAN A 5 PSI OR 5% DROP IN PRESSURE, WHICH EVER IS GREATER.



**LEGEND:**

- SEWER MANHOLE
- SEWER CLEANOUT
- SEWER VENT
- SEWER LINE
- CONCRETE PIPE ENCASUREMENT
- WATER LINE
- OVERHEAD WIRE
- WATER (DOMESTIC SERVICE)
- WATER VALVE
- HYDRANT
- WATER LINE REDUCER
- TELE/CABLE CONDUIT
- ELECTRIC MANHOLE/SPLICE BOX
- ELECTRICAL CONDUIT
- HAND HOLE

GPD PER NHDES (TABLE 1008-1)

EXISTING				Req'd Rate	Formula	Req'd GPD
Building A	4 Bathroom	14	56	150	Rate per bed	8,400
Building A		-	-	15	Rate per 100SF	495
Total Proposed =						8,895

GPD PER NHDES (TABLE 1008-1)

PROPOSED				Req'd Rate	Formula	Req'd GPD
Building B	1 Bathroom	7	7	225	Rate per bed	1,575
	3 Bathroom	8	24	150	Rate per bed	3,600
	4 Bathroom	21	84	150	Rate per bed	12,600
Building A	4 Bathroom	12	48	150	Rate per bed	7,200
25 Main Street	4 Bathroom	2	8	150	Rate per bed	1,200
35 Main Street	4 Bathroom	2	8	150	Rate per bed	1,200
Building A		-	-	15	Rate per 100SF	442
Building B		-	-	16	Rate per 100SF	470
Buildind D		-	-	17	Rate per 100SF	500
Total Proposed =						28,787

Net Difference = 19,892



"I, ROBERT P. CLARKE, HEREBY CERTIFY THAT I AM THE DESIGNER OF THIS LANDSCAPE PLAN. THAT I AM A PROFESSIONAL LANDSCAPE ARCHITECT LICENSED BY THE STATE OF NEW HAMPSHIRE AND/OR I AM A MEMBER OF THE GRANITE STATE LANDSCAPE ARCHITECTS".

**ISSUED FOR REVIEW**  
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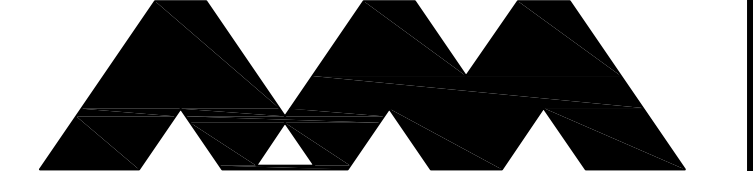
REGISTERED LANDSCAPE ARCHITECT, A.S.L.A FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

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 225 FRANKLIN STREET, 26TH FLOOR  
 BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
 25/35 MAIN STREET  
 DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	LANDSCAPE
DRAFTED BY:	WBL	CHECKED BY:	RPC



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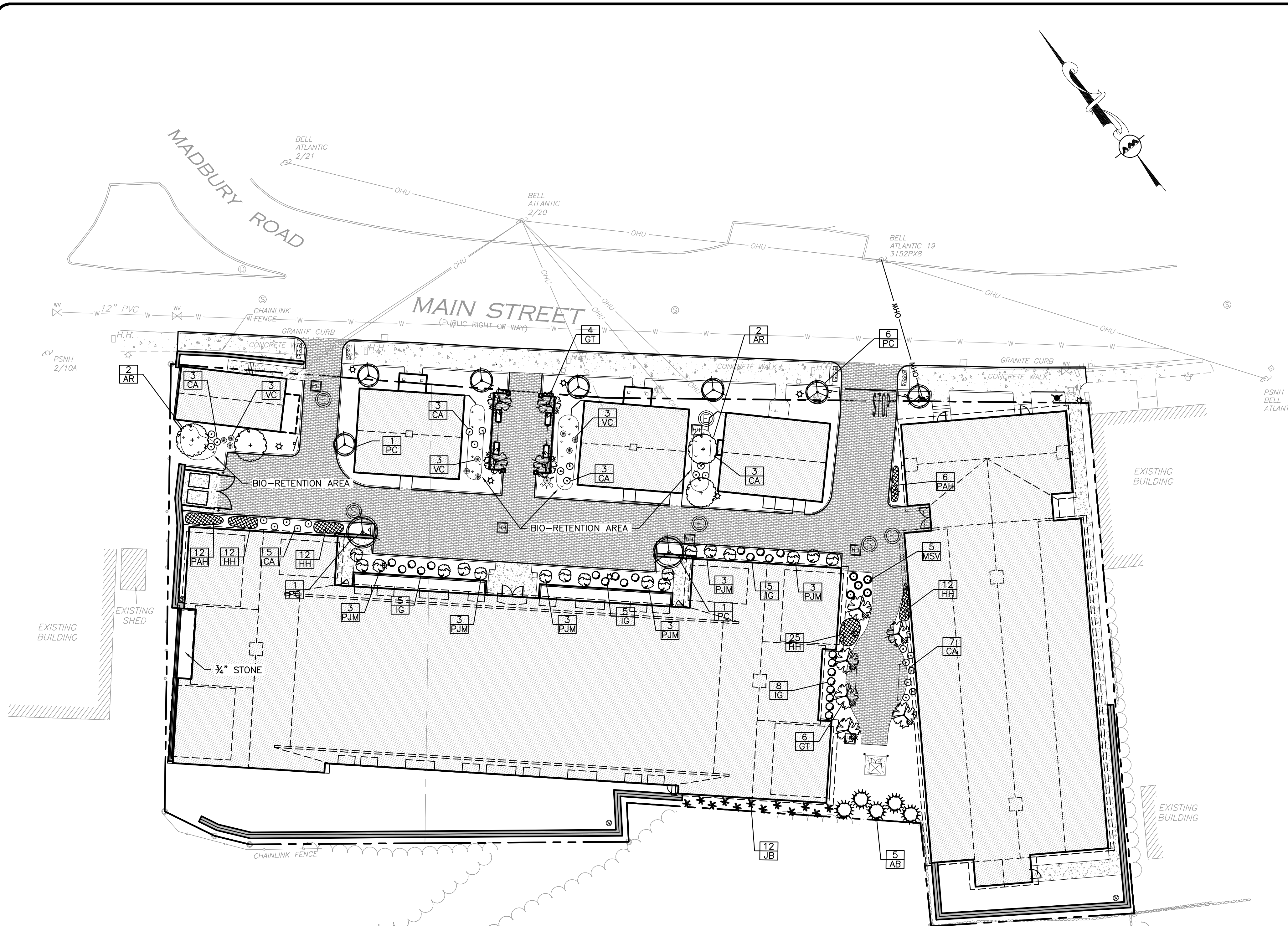
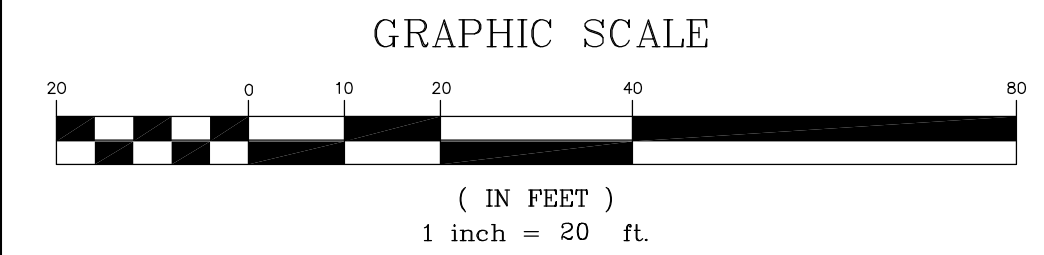
DRAWING TITLE: **LANDSCAPE PLAN** SHEET No. **C-4**

**LANDSCAPE NOTES:**

- ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF DURHAM.
- PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF ANY CONFLICTS IN WRITING.
- NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA, ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.
- ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER PLANT LIST.
- ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.
- ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED. LAWNS WITH OVER 3:1 SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.
- ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR SPRING PLANTING.
- TREES SHALL HAVE A MINIMUM CALIPER OF 2.5" ONE FOOT ABOVE THE ROOT CROWN.
- ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH, AND GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH.
- ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.
- ALL TREE STAKES SHALL BE STAINED DARK BROWN.
- CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.
- ALL PARKING ISLANDS PLANTED WITH SHRUBS SHALL HAVE 24" OF TOP SOIL. FINISH GRADE SHALL BE EQUAL TO THE TOP OF CURB.
- SOIL SAMPLES AND TESTS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT OR THE OWNER.
- ALL LANDSCAPE AREAS INCLUDING LAWNS SHALL BE PROVIDED WITH UNDERGROUND IRRIGATION. SCOPE OF IRRIGATION TO BE DETERMINED BY OWNER. DESIGN AND INSTALLATION OF IRRIGATION SYSTEM TO BE PERFORMED BY AN APPROVED IRRIGATION DESIGN BUILD CONTRACTOR OR BY AN APPROVED EQUAL, TO BE DETERMINED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT.

**LEGEND:**

- DECIDUOUS TREE
- FLOWERING TREE
- EVERGREEN TREE
- EVERGREEN SHRUB
- LARGE SHRUB
- MEDIUM SHRUB
- SMALL SHRUB
- PERENNIALS
- LIMIT OF PLANT BED
- PLANT KEY



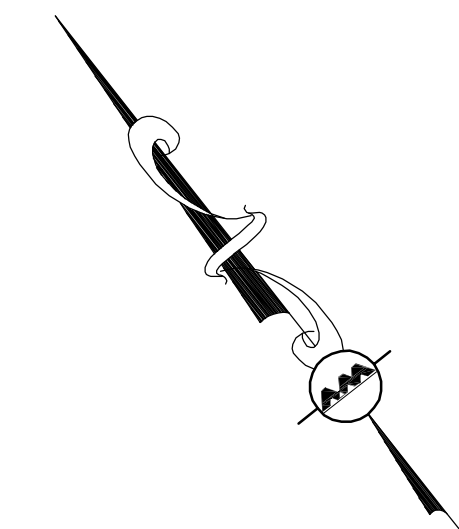
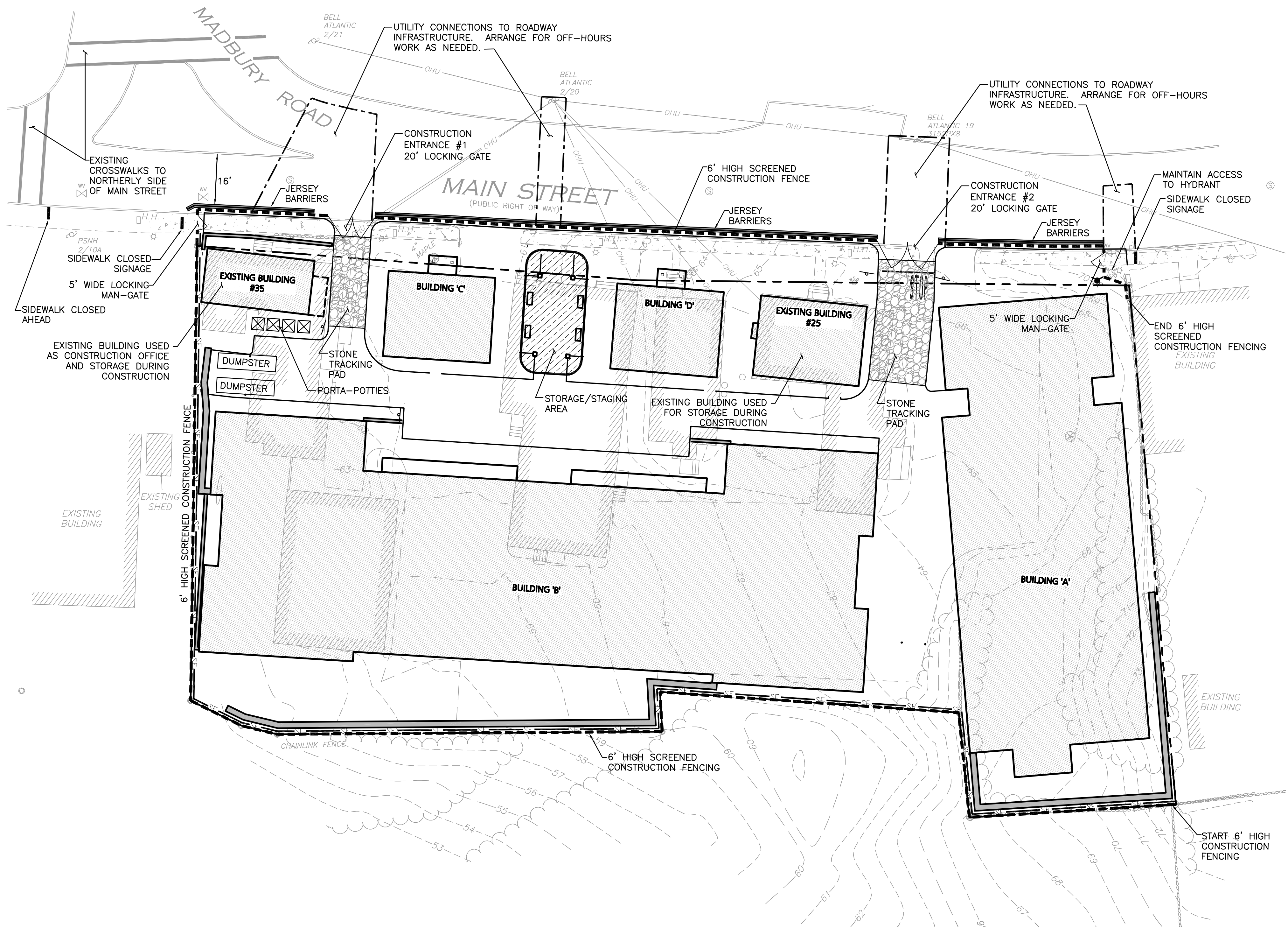
**PLANTING SCHEDULE-TREES & SHRUBS**

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	NURSERY SIZE	SPACING	COMMENTS
<b>DECIDUOUS TREES</b>						
AR	4	ACER RUBRUM	RED MAPLE	2½" CAL.	AS SHOWN	B&B
GT	10	GLEDITSIA TRIACANTHOS	HONEY LOCUST	2½" CAL.	AS SHOWN	B&B
<b>EVERGREEN &amp; FLOWERING TREES</b>						
AB	5	ABIES BALSAMEA	BALSAM FIR	8"-10'	AS SHOWN	B&B
PC	9	PYRUS CALLERY 'CHANTICLEER'	CLEVELAND SELECT PEAR	2½" CAL.	AS SHOWN	B&B

**PLANTING SCHEDULE-SHRUBS, GROUNDCOVERS, PERENNIALS & GRASSES**

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	NURSERY SIZE	SPACING	COMMENTS
<b>SHRUBS</b>						
CA	24	CORNUS ALBA	RED TWIG DOGWOOD	3"-4"	AS SHOWN	B&B
JB	12	JUNIPERUS H. 'BAR HARBOR'	BAR HARBOR JUNIPER	2 GAL.	AS SHOWN	CONT.
IG	23	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	18" TO 24"	AS SHOWN	B&B
PJM	18	P.J.M. RHODENDRON	RHODENDRON	2'-2½'	AS SHOWN	B&B
VC	9	VACCINIUM CORYMBOSUM 'NORTHLAND'	HIGHBUSH BLUEBERRY	2'-2½'	AS SHOWN	#3 POT
<b>GROUND COVERS, PERENNIALS, AND GRASSES</b>						
HH	61	HEMEROCALLIS 'HAPPY RETURNS'	DAYLILLIES	1 GAL.	18" O.C.	STAGGERED
MSV	5	MISCANTHUS SINENSIS 'ZEBRINUS'	ZEBRA GRASS	2 GAL.	AS SHOWN	STAGGERED
PAH	18	PENNISETUM ALOPECUROIDES 'HAMELIN'	DWARF FOUNTAIN GRASS	1 GAL.	18" O.C.	STAGGERED





**LEGEND:**

CONSTRUCTION FENCING	---
SILT FENCE	—SF—
JERSEY BARRIERS	—
STABILIZED CONST. ENTRANCE	▨
STOCKPILE/CONSTRUCTION STAGING AREA	▨

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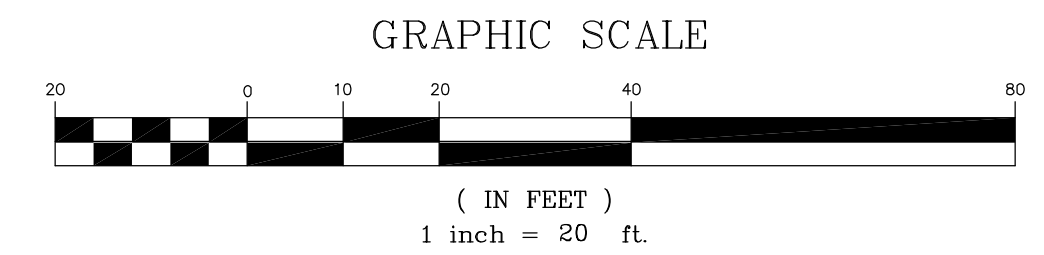
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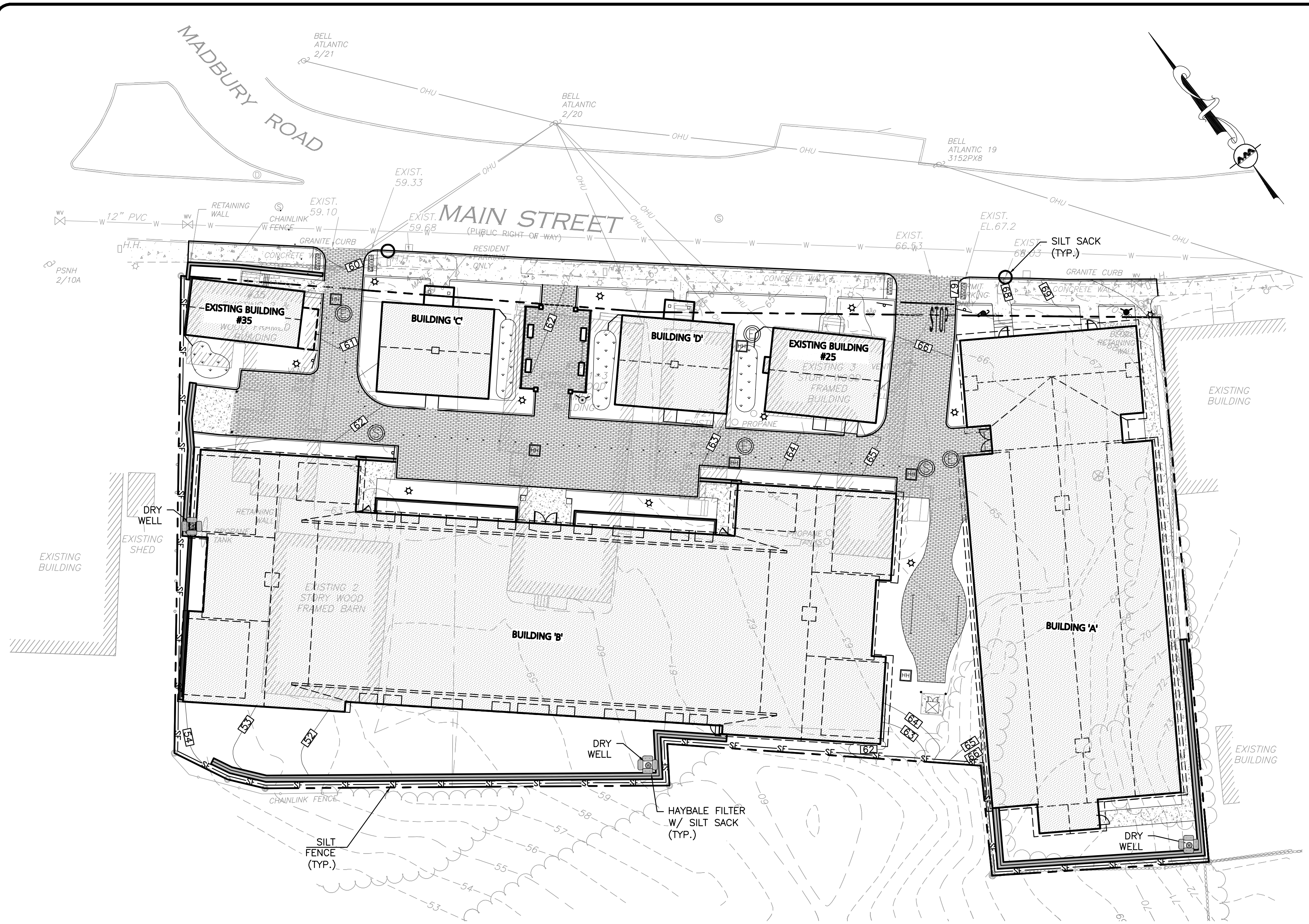
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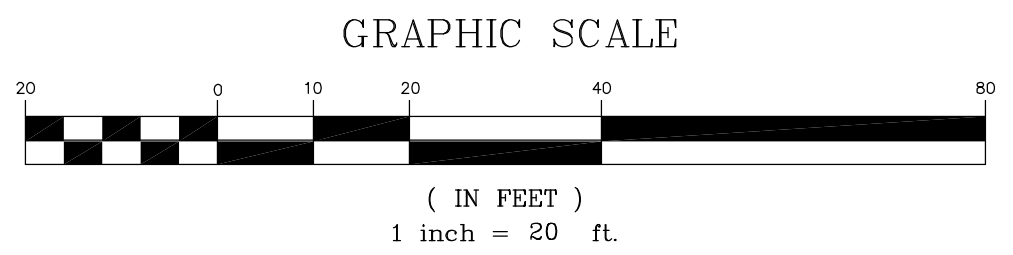






**LEGEND:**

SILT FENCE	— SF —
SILT SACK	○
HAYBALE FILTER W/ SILT SACK	⊕
STABILIZED CONST. ENTRANCE	▨
PROPOSED GRADING	125
STOCKPILE/CONSTRUCTION STAGING AREA	▨



**D|A**  
DeStefano Architects

23 High Street  
Portsmouth, NH 03801

P: 603.431.8701  
F: 603.422.8707

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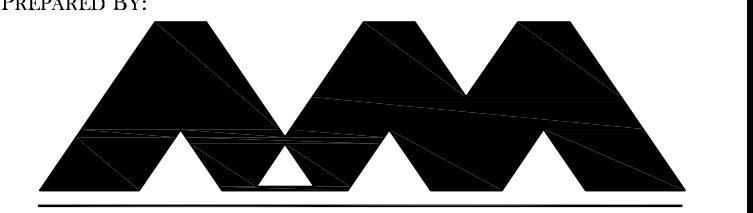
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BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	GRADING
DRAFTED BY:	WBL	CHECKED BY:	RPC



**ALLEN & MAJOR ASSOCIATES, INC.**  
civil & structural engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com  
250 COMMERCIAL STREET  
SUITE 1001  
MANCHESTER, NH 03101  
TEL: (603) 627-5500  
FAX: (603) 627-5501  
WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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DRAWING TITLE: **STORMWATER POLLUTION PREVENTION PLAN** SHEET No. **SWPPP 1**



**CONSTRUCTION GENERAL PERMIT**

1. THE OWNER, IN CONJUNCTION WITH THE CONTRACTOR (OPERATORS), NEEDS TO OBTAIN A CONSTRUCTION GENERAL PERMIT (CGP) FOR LARGE CONSTRUCTION ACTIVITIES (FIVE OR MORE ACRES) OR SMALL CONSTRUCTION ACTIVITIES (GREATER THAN ONE ACRE BUT LESS THAN FIVE ACRES) FROM THE ENVIRONMENTAL PROTECTION AGENCY (EPA). AS PART OF THE CGP, A STORM WATER NOTICE OF INTENT (NOI) WILL NEED TO BE SUBMITTED TO THE EPA AT LEAST 7 DAYS PRIOR TO COMMENCING CONSTRUCTION. THE NOI WILL NEED TO BE SUBMITTED TO STORM WATER NOTICE OF INTENT (4203M), USEPA, 1200 PENNSYLVANIA AVE. NW, WASHINGTON, DC 20460.
2. THE CGP OUTLINES A SET OF PROVISIONS MANDATING THE OWNER AND CONTRACTOR TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER REGULATIONS, INCLUDING, BUT NOT LIMITED TO, STORM WATER POLLUTION PREVENTION PLANS (SWPPP'S), IMPLEMENTATION OF EROSION AND SEDIMENTATION CONTROLS, EQUIPMENT MAINTENANCE GUIDELINES, ETC. PLEASE CONTACT USEPA OFFICE OF WASTEWATER MANAGEMENT AT 202-584-9545 OR AT WWW.EPA.GOV/NPDES/STORMWATER FOR ADDITIONAL INFORMATION. IN ADDITION, ONE CAN CONTACT ABBY SWAINE OF NEW ENGLAND'S EPA REGION 1 AT 617-918-1841.

**NOTES**

1. IT IS BEING PROPOSED TO CONSTRUCT 4 BUILDINGS AND REHAB 2 EXISTING WITH ASSOCIATED PARKING.
2. TOTAL SITE AREA: 47,676 S.F. / 1.09 AC.  
TOTAL AREA OF DISTURBANCE: 51,900 S.F. / 1.19 AC.
3. SOILS SHOWN ARE FROM THE SOIL SURVEY OF STRAFFORD COUNTY, NH, PREPARED BY USDA-SOIL CONSERVATION SERVICES.  
S1C - SUFFIELD SILT LOAM  
HcB - HOLLIS - CHARLTON FINE SANDY LOAM
4. STORM WATER DRAINAGE SYSTEM IS SHOWN ON THE PLAN. SEE SHEET x OF xx FOR RIM, INVERT, PIPE LENGTH AND SLOPE INFORMATION.  
POST-CONSTRUCTION RUNOFF COEFFICIENT: C=0.xx  
TOTAL SITE AREA: 47,676 S.F. / 1.09 AC.  
TOTAL AREA OF DISTURBANCE: 51,900 S.F. / 1.19 AC.  
IMPERVIOUS SURFACE AREA: 28,692 S.F. / 0.73 AC.
5. **STABILIZATION PRACTICES** FOR EROSION AND SEDIMENTATION CONTROLS:  
TEMPORARY STABILIZATION - TOPSOIL STOCKPILES AND DISTURBED AREAS OF THE CONSTRUCTION SITE THAT WILL NOT BE REDISTURBED FOR 21 DAYS OR MORE MUST BE STABILIZED BY THE 14TH DAY AFTER THE LAST DISTURBANCE. THE TEMPORARY SEED SHALL BE ANNUAL RYE APPLIED AT THE RATE OF 1.1 LBS PER 1,000 SQUARE FEET. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY. AREAS OF THE SITE THAT WILL BE PAVED WILL TEMPORARILY BE STABILIZED BY APPLYING GEOTEXTILES AND A STONE SUB-BASE UNTIL BITUMINOUS PAVEMENT CAN BE APPLIED. CALCIUM CHLORIDE SHALL BE USED FOR DUST CONTROL IF NEEDED.  
PERMANENT STABILIZATION - DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. THE PERMANENT SEED MIX SHALL CONSIST OF 0.45 LBS/1,000 S.F. TALL FESCUE, 0.20 LBS/1,000 S.F. CREEPING RED FESCUE, AND 0.20 LBS/1,000 S.F. BIRDSFOOT TREFLOIL. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE IF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY.
6. **STRUCTURAL PRACTICES** FOR EROSION AND SEDIMENTATION CONTROL  
SILT FENCE - WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE DISTURBED AREAS AND WILL DELINEATE THE LIMITS OF WORK FOR THE PROPOSED CONSTRUCTION. THE SILT FENCE WILL BE INSTALLED BY STRETCHING REINFORCED FILTER FABRIC BETWEEN POSTS WITH AT LEAST 6 INCHES OF THE FABRIC BURIED BELOW THE GROUND SURFACE TO PREVENT GAPS FROM FORMING NEAR THE GROUND SURFACE. RUNOFF WILL FLOW THROUGH THE OPENINGS IN THE FILTER FABRIC WHILE RETAINING THE SEDIMENT WITHIN THE CONSTRUCTION AREA.  
STABILIZED CONSTRUCTION ENTRANCE - WILL BE INSTALLED AT THE ENTRANCE TO THE CONSTRUCTION SITE TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS OFF THE SITE. THE STABILIZED ENTRANCE WILL BE 10 FEET WIDE AND FLARE AT THE ENTRANCE TO THE PAVED ROAD AND HAVE A DEPTH OF 6 INCHES OF STONE. THE STABILIZED ENTRANCE SHALL BE MAINTAINED UNTIL THE REMAINDER OF THE CONSTRUCTION SITE HAS BEEN FULLY STABILIZED.
7. **STORM WATER MANAGEMENT**  
STORM WATER DRAINAGE FOR THE MAJORITY OF DEVELOPED AREAS WILL BE COLLECTED VIA SHEET FLOW TO PERMEABLE BRICK PAVERS WITH SUBSURFACE STORAGE CAPACITY TO ATTENUATE PEAK FLOWS AND INFILTRATE. ADDITIONAL STORAGE, ATTENUATION, AND INFILTRATION WILL BE PROVIDED THROUGH THE CONSTRUCTION OF SEVERAL RAIN GARDENS WHICH WILL INTERCEPT ROOF RUNOFF.  
ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURE DUMPSTERS OR APPROVED ENCLOSURE AND REMOVED FROM THE SITE ON A WEEKLY BASIS. NO CONSTRUCTION WASTE SHALL BE BURIED ON SITE. PORTABLE TOILET SANITARY WASTE FACILITIES WILL BE PROVIDED DURING CONSTRUCTION AND MAINTAINED/DISPOSED OF ON A REGULAR BASIS IN ACCORDANCE WITH TOWN AND STATE REGULATIONS.  
A STABILIZED CONSTRUCTION DRIVEWAY SHALL BE INSTALLED IN THE LOCATION SHOWN ON THE PLAN IN ACCORDANCE WITH THE DETAIL IN SWPPP-3, TO MINIMIZE TRACKING OF SEDIMENT OFFSITE BY CONSTRUCTION VEHICLES. THE PAVED STREET ADJACENT TO THE SITE SHALL BE SWEEPED ON A WEEKLY BASIS TO REMOVE EXCESS MUD AND DIRT FROM BEING TRACKED FROM THE SITE. TRUCKS HAULING MATERIAL TO AND/OR FROM THE SITE SHALL BE COVERED WITH A TARPALIN

**NOTES CONTINUED**

10. A LIST OF CONSTRUCTION ITEMS AND OTHER PRODUCTS USED ON THIS PROJECT SHALL BE KEPT ON RECORD WITH THIS PLAN ONSITE. ALL CHEMICALS, PETROLEUM PRODUCTS AND OTHER MATERIALS USED DURING CONSTRUCTION SHALL BE STORED IN A SECURE AREA, AND PRECAUTIONS USED TO PREVENT POTENTIAL SOURCES OF CONTAMINATION OR POLLUTION. ANY SPILL OF THESE TYPES OF SUBSTANCES SHALL BE CLEANED UP AND DISPOSED OF IN A LEGAL MANNER AS SPECIFIED BY STATE REGULATIONS AND THE MANUFACTURER. ANY SPILL IN AMOUNTS EQUAL TO OR EXCEEDING REPORTABLE QUANTITY AS DEFINED BY THE EPA SHALL TAKE THE FOLLOWING STEPS:  
- NOTIFY THE NATIONAL RESPONSE CENTER IMMEDIATELY AT (800) 424-8802; IN WASHINGTON, D.C., CALL (202) 426-2675.  
- WITHIN 14 DAYS, SUBMIT A WRITTEN DESCRIPTION OF THE RELEASE TO THE EPA REGIONAL OFFICE PROVIDING THE DATE AND CIRCUMSTANCES OF THE RELEASE AND THE STEPS TO BE TAKEN TO PREVENT ANOTHER RELEASE.  
- MODIFY THE POLLUTION PREVENTION PLAN TO INCLUDE THE INFORMATION LISTED ABOVE.
- GOOD HOUSEKEEPING:**  
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.  
- AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB;  
- ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE;  
- PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL;  
- SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;  
- WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER;  
- MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED;  
- THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.
- HAZARDOUS PRODUCTS:**  
THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.  
- PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;  
- ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION;  
- IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.
- PRODUCT SPECIFIC PRACTICES:**  
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:  
**PETROLEUM PRODUCTS:**  
ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.  
**FERTILIZERS:**  
FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOLID TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.  
**PAINTS:**  
ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.  
**CONCRETE TRUCKS:**  
CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONTO THE SITE.  
**SPILL CONTROL PRACTICES:**  
IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:  
- MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.  
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.  
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.  
- THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.  
- SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.  
- THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.  
- THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THEY WILL DESIGNATE AT LEAST THREE OTHER SITE PERSONNEL WHO WILL EACH RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.
11. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN RECORDS OF CONSTRUCTION ACTIVITIES, INCLUDING DATES OF MAJOR GRADING ACTIVITIES, DATES WHEN CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED ON A PORTION OF THE SITE, DATES WHEN WORK IS COMPLETED ON A PORTION OF THE SITE, AND DATES WHEN STABILIZATION MEASURES ARE INITIATED ONSITE.
12. THE CONTRACTOR SHALL PERFORM INSPECTIONS OR HAVE A CONSULTING ENGINEER PERFORM INSPECTIONS EVERY SEVEN (7) DAYS OR WITHIN 24 HOURS AFTER A STORM OF 0.5 INCH OR GREATER. INSPECTIONS REPORTS ARE TO BE KEPT ON FILE AT THE SITE WITH THIS PLAN. MAINTENANCE OR MODIFICATION SHALL BE IMPLEMENTED AND ADDED TO THE PLAN AS RECOMMENDED BY THE QUALIFIED INSPECTOR.



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK
REV	DATE	DESCRIPTION

APPLICANT/OWNER:  
ORION UNH LLC  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:  
**ORION  
STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	SWPPP
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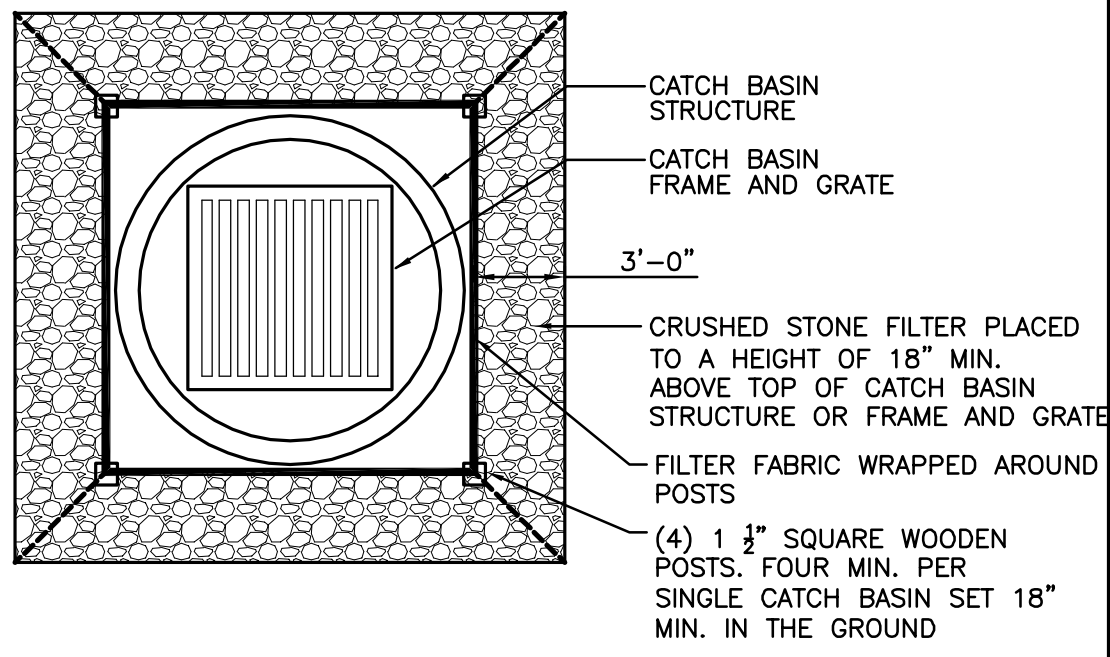
PREPARED BY:

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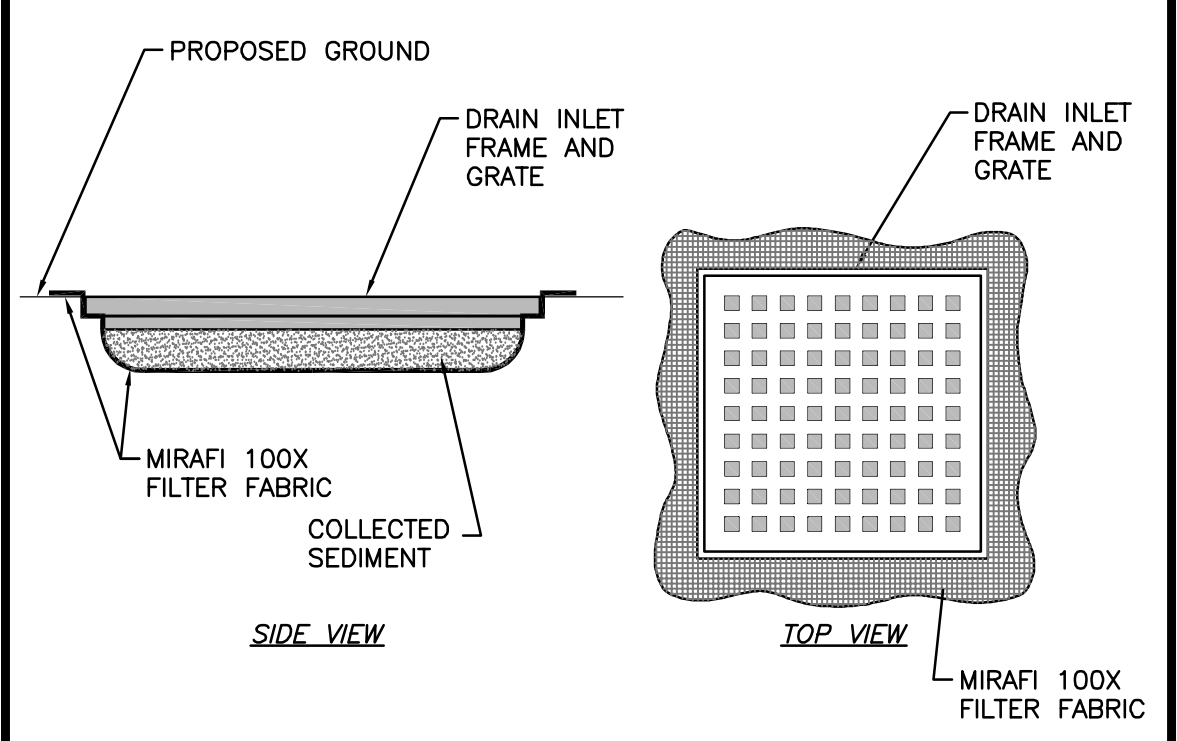
DRAWING TITLE:	SHEET No.
<b>STORMWATER POLLUTION PREVENTION NOTES</b>	<b>SWPPP</b>
	<b>2</b>





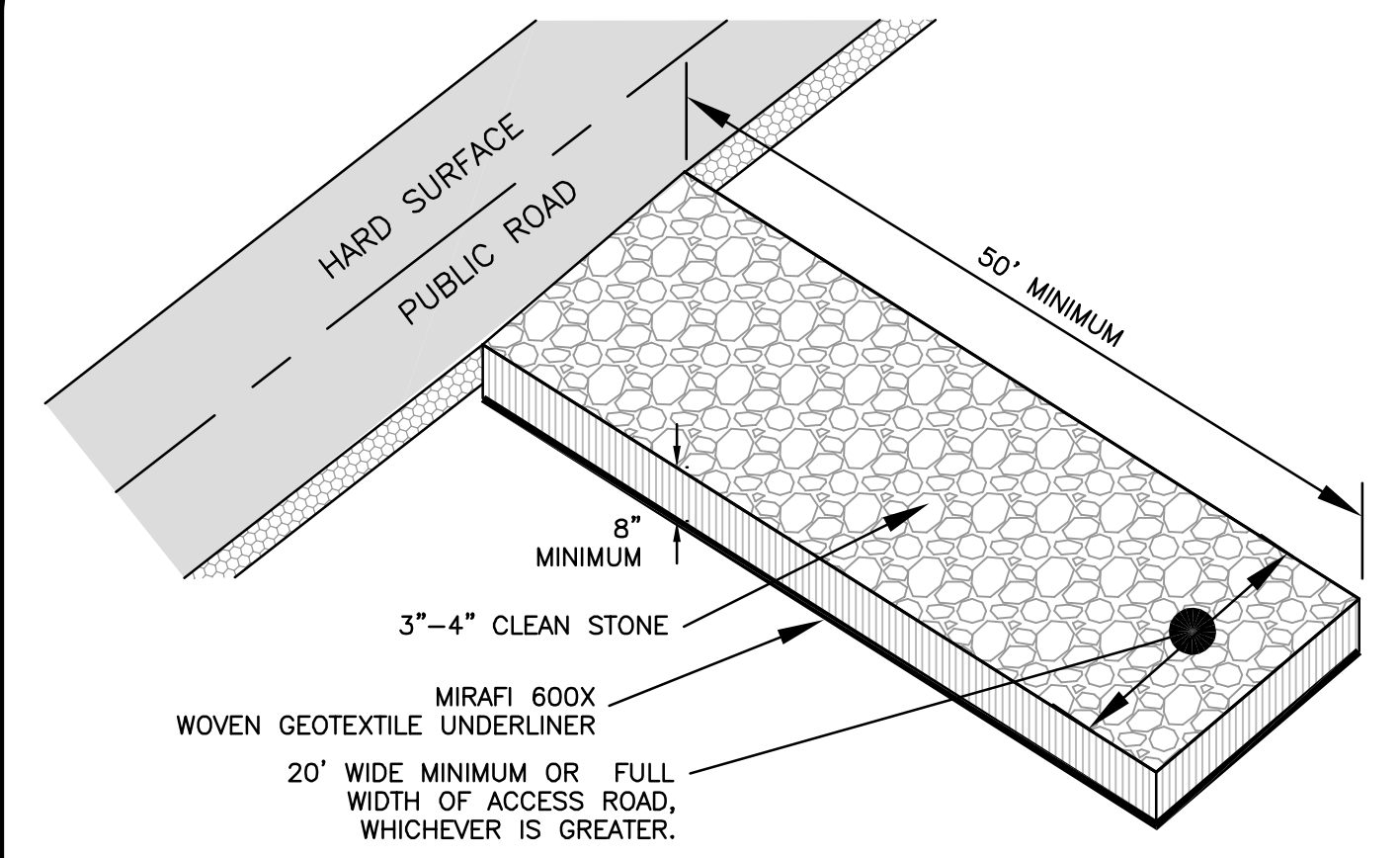
**NOTES:**  
1. INSPECT WEEKLY OR AFTER EACH 1/2" OF RAINFALL AND REPAIR OR REPLACEMENT OF STONE AND FILTER FABRIC SHALL BE MADE PROMPTLY IF DAMAGED OR AS DIRECTED.  
2. CONTRACTOR SHALL REMOVE SEDIMENT ACCUMULATION ONCE IT REACHES A DEPTH OF 6" MAX.

**CRUSHED STONE CATCH BASIN INLET PROTECTION**  
NOT TO SCALE

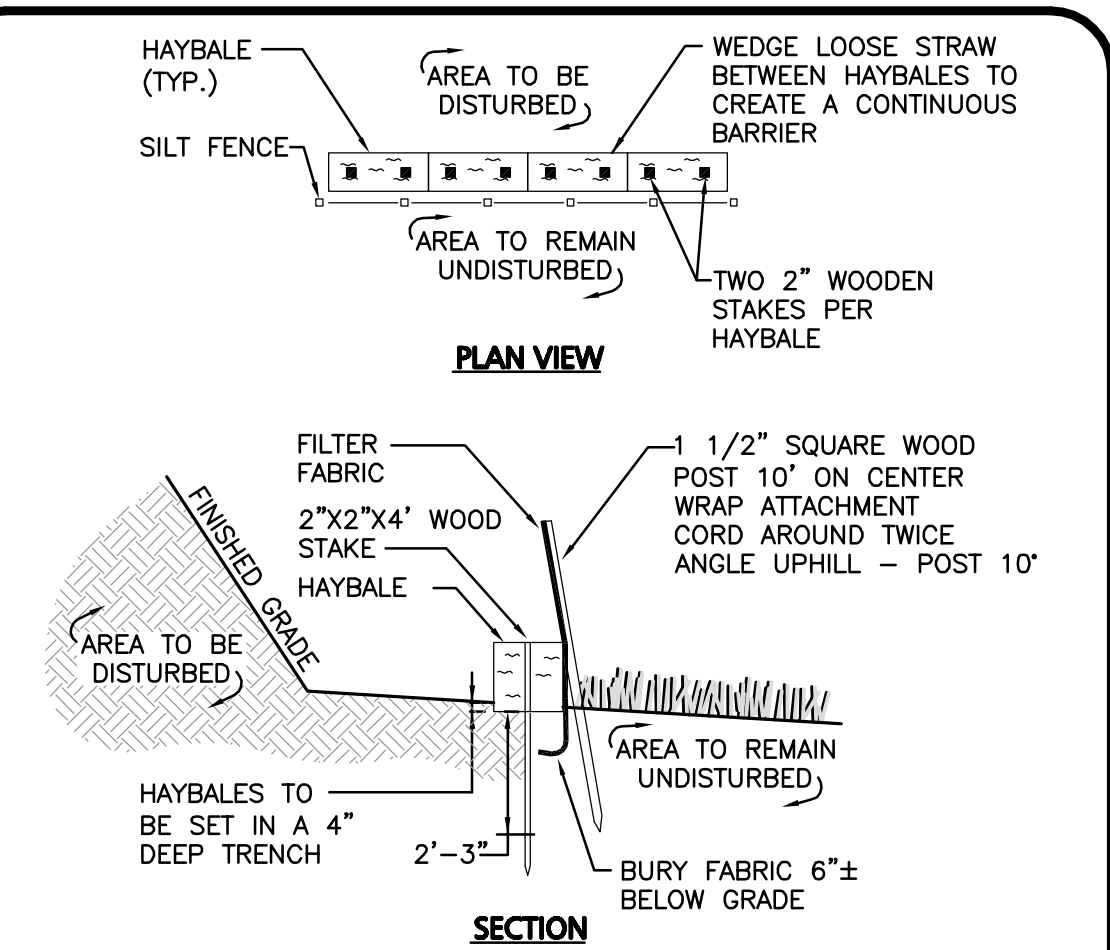


**NOTE:**  
1. FILTER FABRIC SHALL BE SECURELY IN PLACE UNDERNEATH GRATE.  
2. FREQUENT INSPECTIONS SHALL BE CONDUCTED AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY IF NECESSARY.

**TYPICAL SILT SACK DETAIL**  
NOT TO SCALE

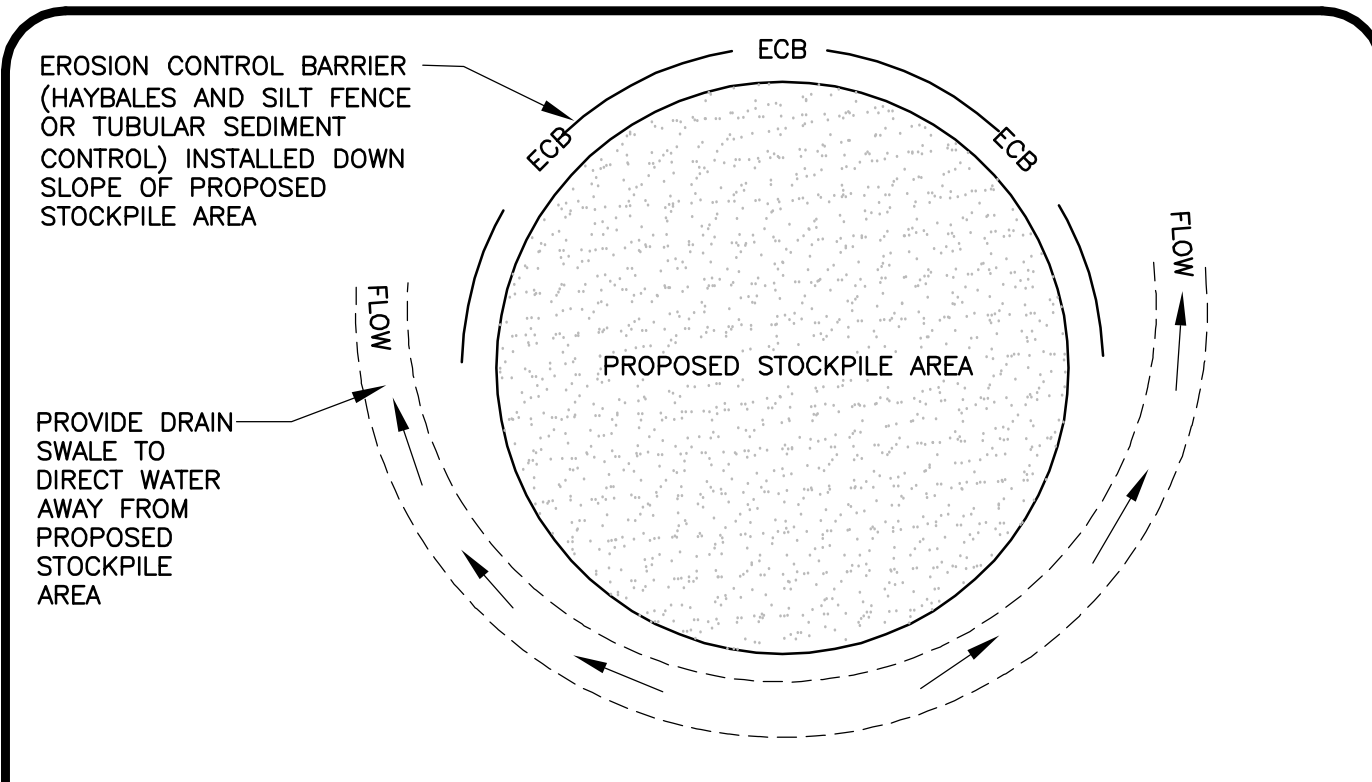


**CONSTRUCTION ENTRANCE**  
NOT TO SCALE



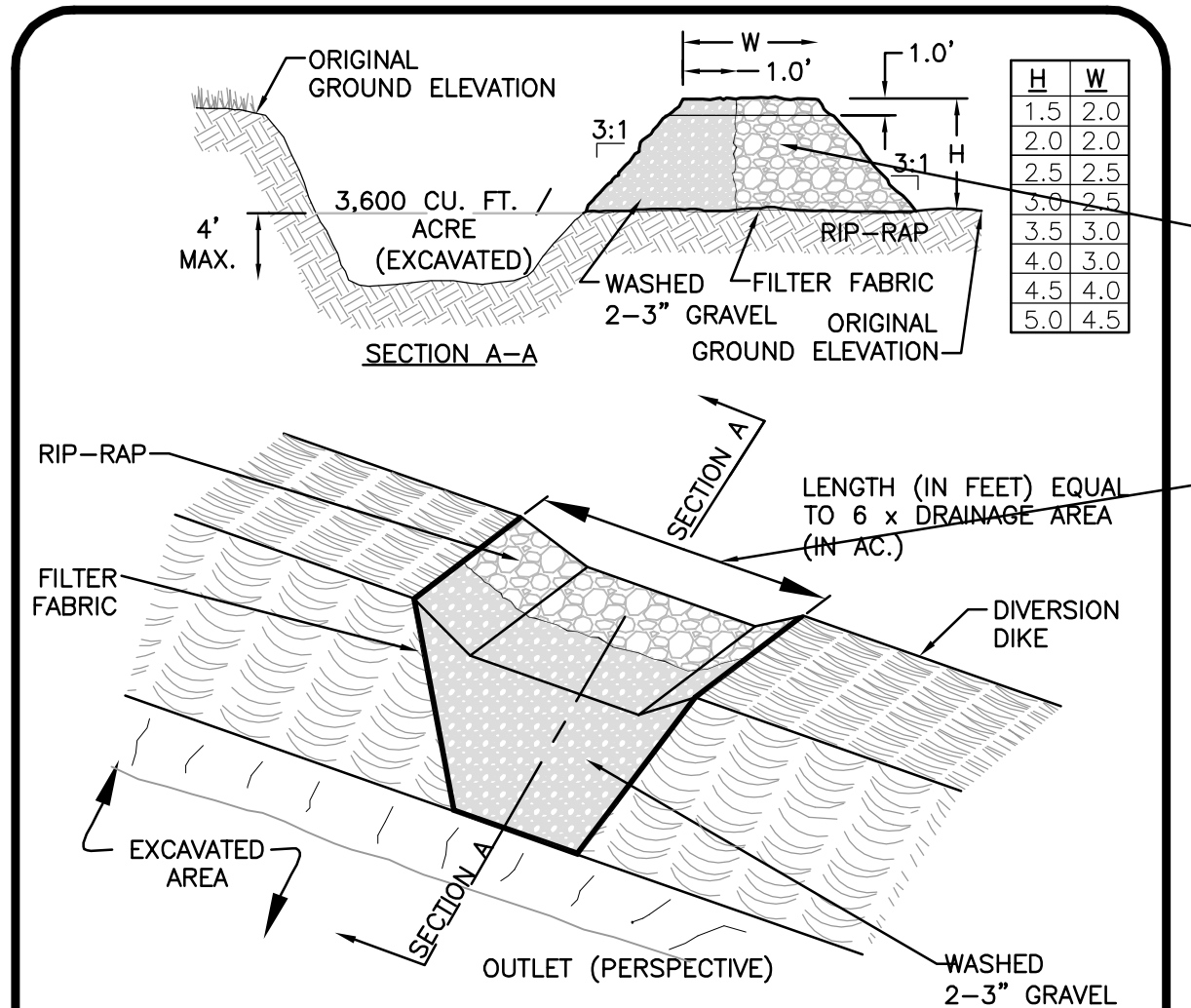
**NOTE:**  
DEPTH TO BE 2' UNLESS POST IS TO BE SET IN PEAT THEN 3' OR DEPTH POSSIBLE BY PUSHING BY HAND SHALL BE REQUIRED.

**SILT FENCE AND HAYBALE DETAIL**  
NOT TO SCALE

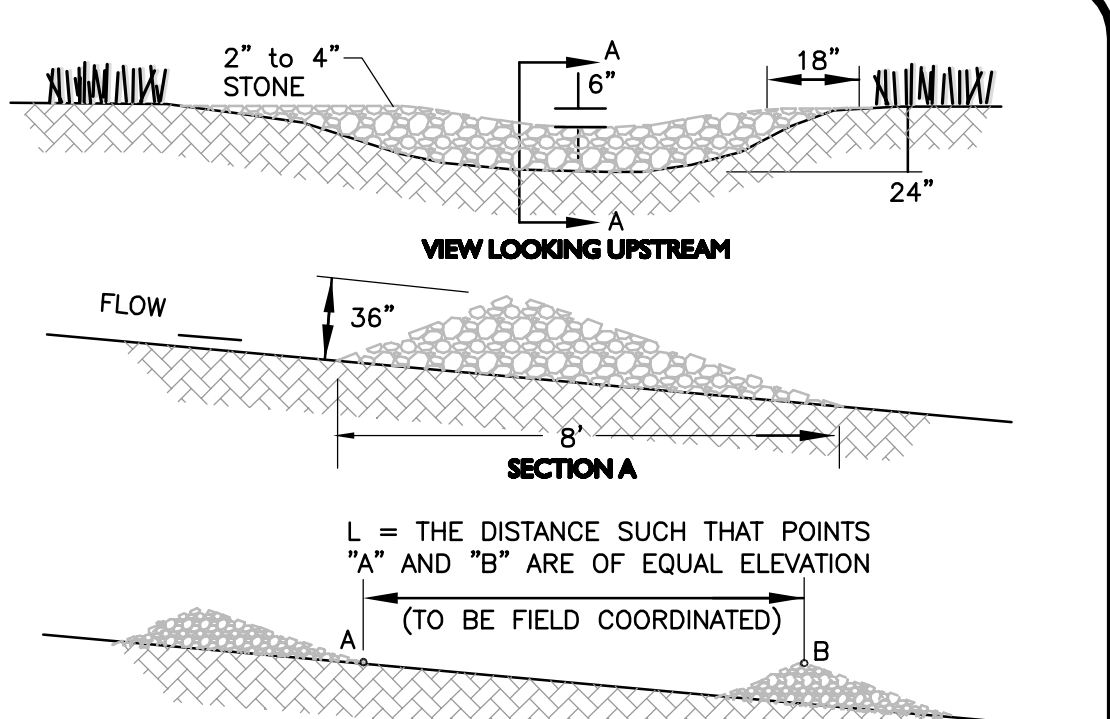


**NOTES:**  
1. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH HAY AND MULCH (AT 100LBS/1,000 SF), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.  
2. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDED WITH WINTER RYE (FOR FALL SEEDING AT 3LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH HAY MULCH (AT 100LB/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.

**STOCKPILE PROTECTION DETAIL**  
NOT TO SCALE

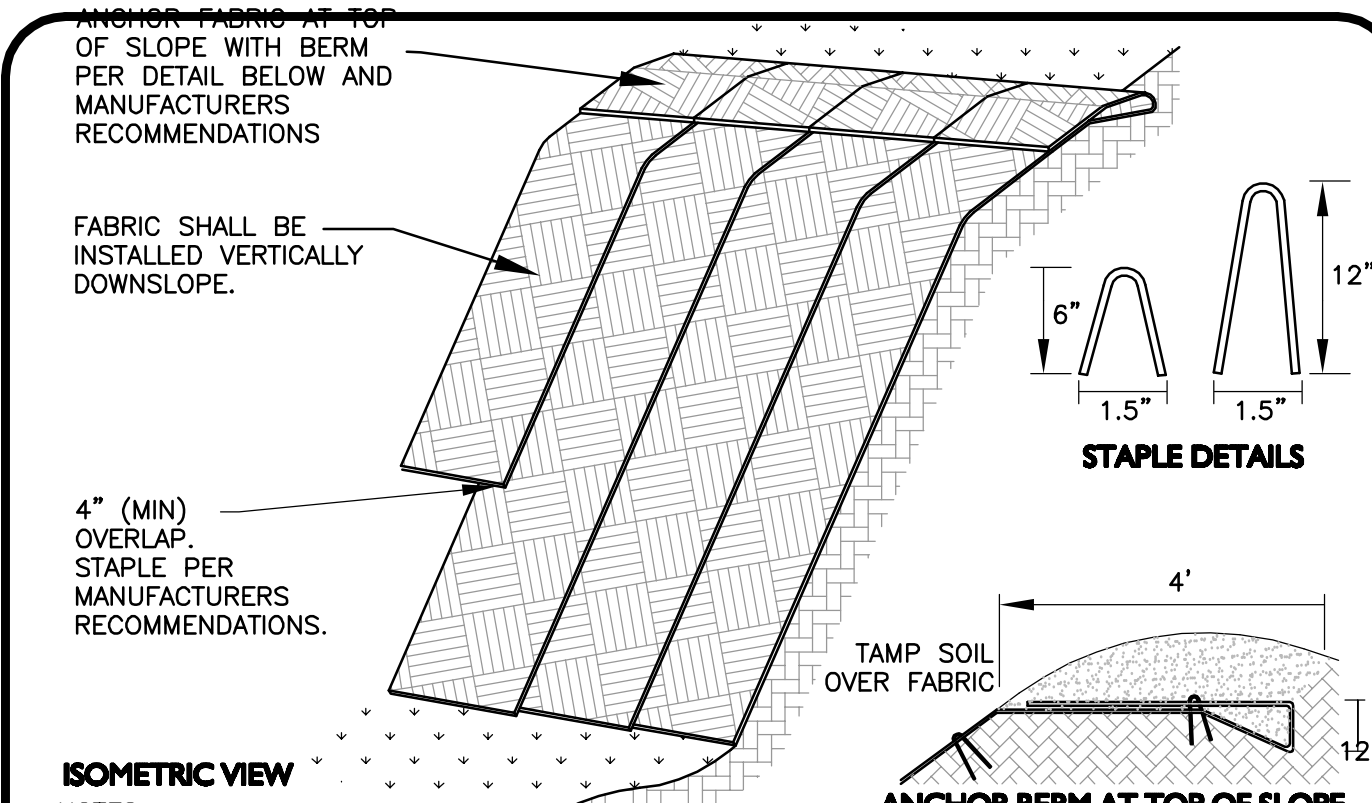


**TEMPORARY SEDIMENT AREA**  
NOT TO SCALE



**NOTE:**  
1. STONE CHECK DAM TO BE USED IF DRAINAGE AREA IS GREATER THAN 1/2 ACRE. LOCATIONS TO BE AS SHOWN ON THE PLANS AND FIELD COORDINATED.  
2. KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND THE DAM.  
3. CONTRACTOR TO INSPECT CHECK DAMS AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL EVENTS. CONTRACTOR TO REPAIR AND REPLACE THE STONE AS NECESSARY.

**STONE CHECK DAM DETAIL**  
NOT TO SCALE



**NOTES:**  
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. FABRIC SHALL HAVE GOOD SOIL CONTACT.  
2. APPLY PERMANENT SEEDING BEFORE PLACING FABRIC. PLACE FABRIC WITHIN 24 HOURS AFTER SEEDING.  
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.  
4. CHOOSE MATERIAL BASED ON SLOPE, SOILS, AND APPLICATION.  
5. EROSION CONTROL FABRIC IS REQUIRED ON ALL SLOPES GREATER THAN 3:1.  
6. PROVIDE SHOP DRAWING FOR APPROVAL PRIOR TO INSTALLATION.

**EROSION CONTROL FABRIC DETAIL**  
NOT TO SCALE

**ISSUED FOR REVIEW**  
DECEMBER 20, 2013

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

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225 FRANKLIN STREET, 26TH FLOOR  
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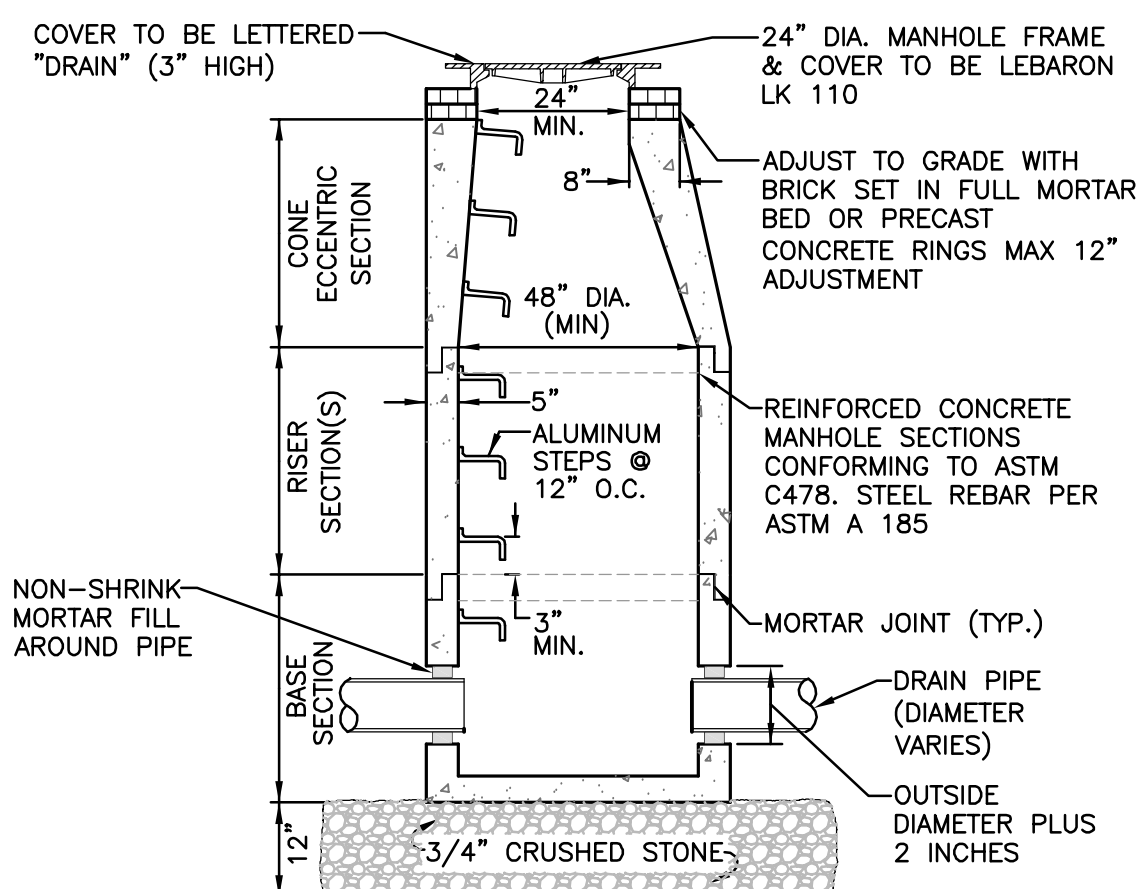
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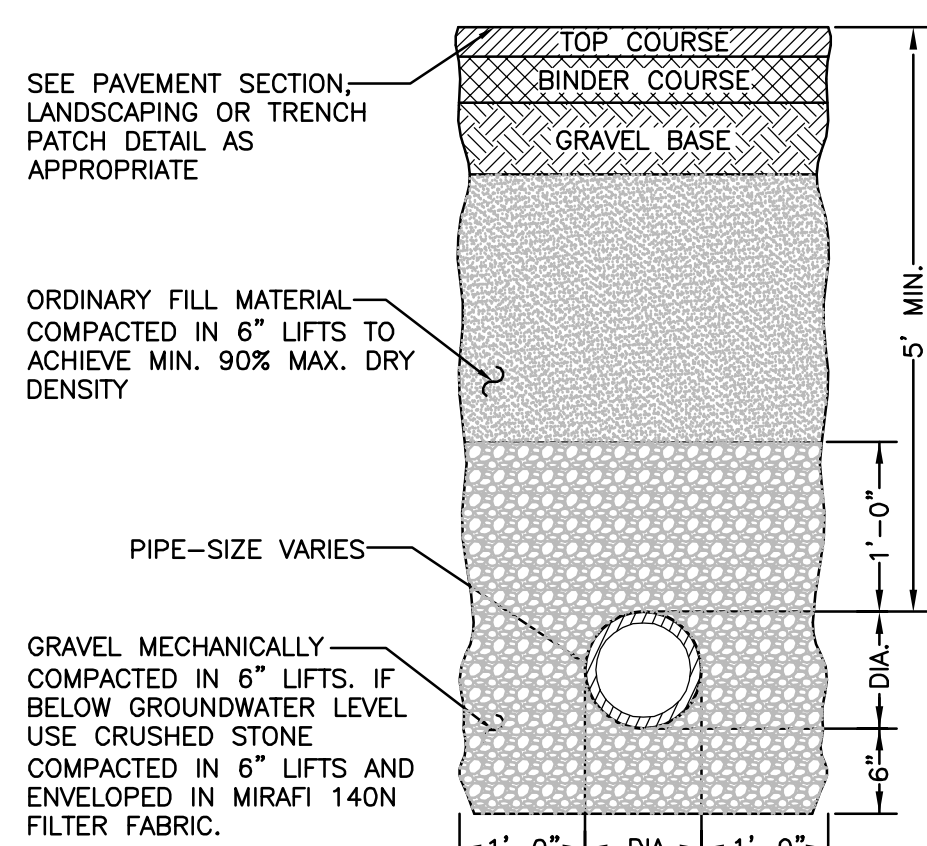
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DRAWING TITLE:	SHEET No.
<b>STORMWATER POLLUTION PREVENTION DETAILS</b>	<b>SWPPP</b>
	<b>3</b>

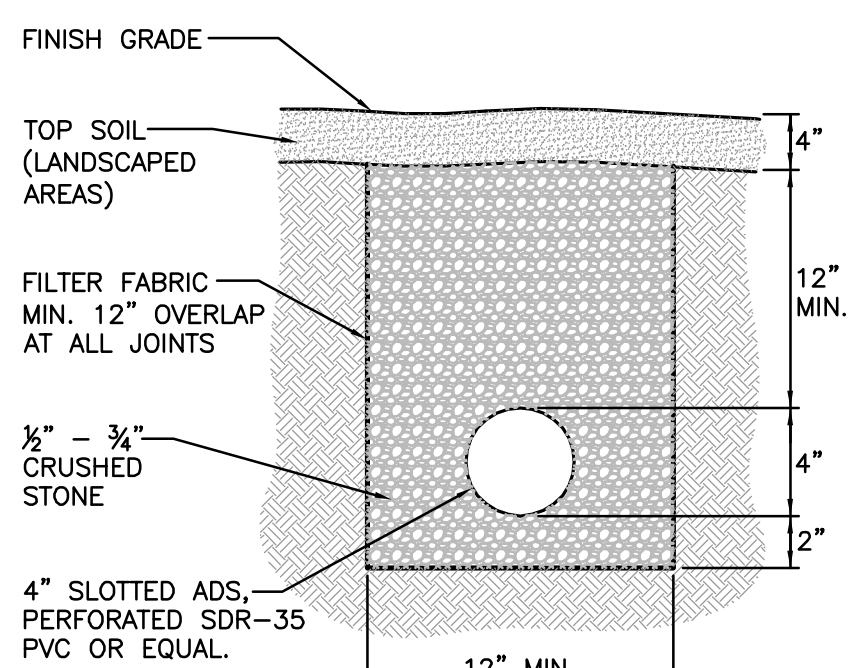




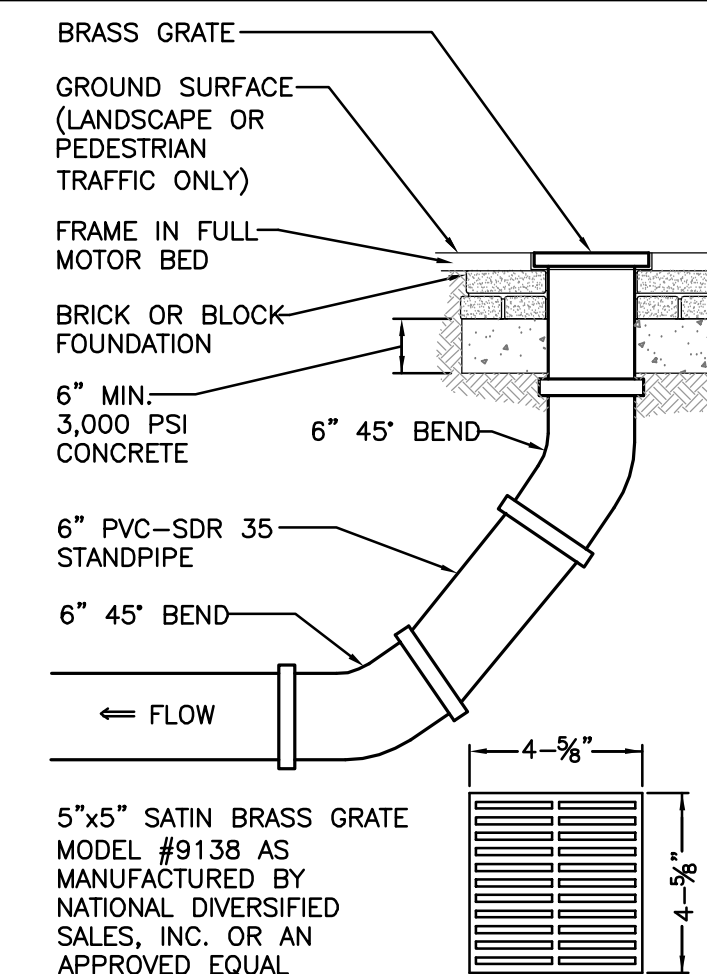
**PRECAST CONCRETE DRAIN MANHOLE**  
SCALE: N.T.S.



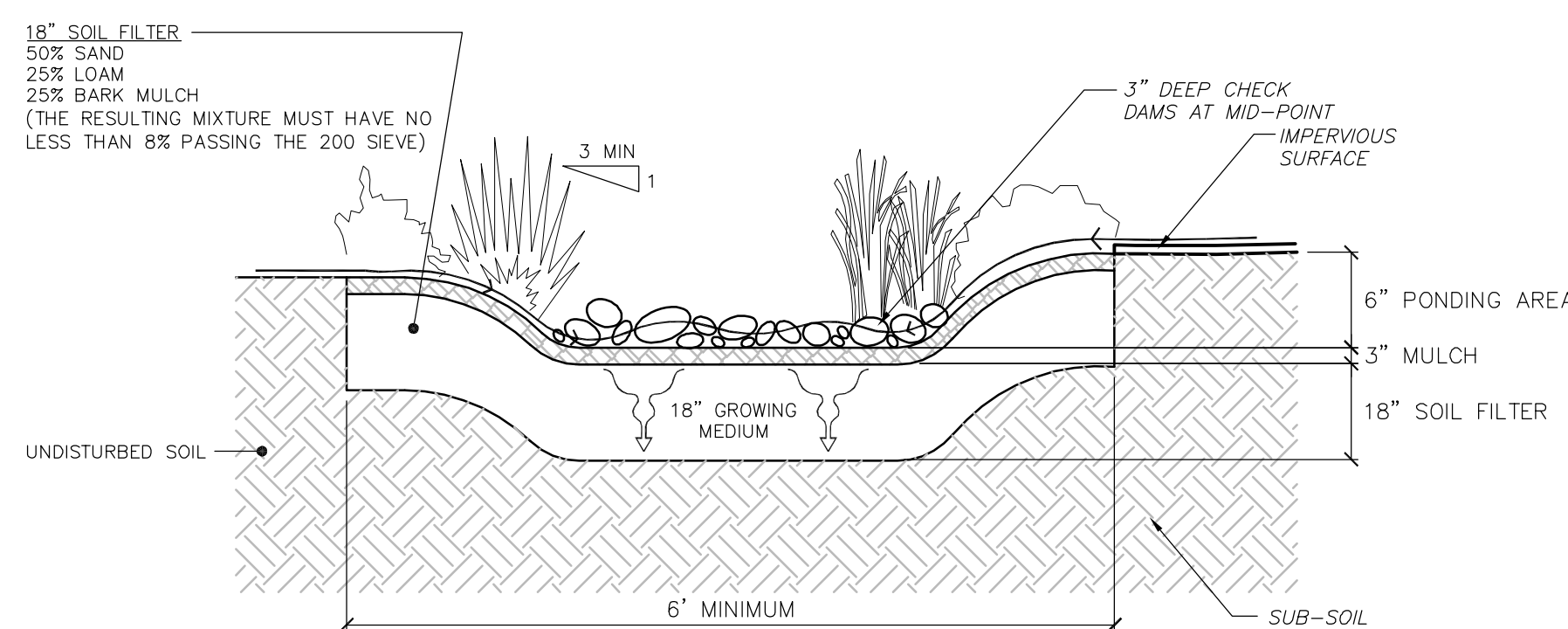
**TYPICAL DRAIN/SEWER TRENCH DETAIL**  
SCALE: N.T.S.



**UNDERDRAIN DETAIL**  
SCALE: N.T.S.



**AREA DRAIN DETAIL**  
SCALE: N.T.S.



**TYPICAL BIORETENTION AREA CROSS SECTION**  
NOT TO SCALE

**GENERAL EROSION CONTROL NOTES:**

- GRADING, AND PLANTING OF BIORETENTION SHALL BE COMPLETED IN EARLY PHASES OF CONSTRUCTION. PLANTS AND SEED ON SLOPES AND BOTTOM OF BASIN MUST BE ESTABLISHED PRIOR TO CONNECTING STORM DRAINAGE SYSTEM OUTLETS TO BIORETENTION AREA. PLANTS AND SEED MIX SHALL HAVE A MINIMUM OF 6 MONTHS GROWING, BE ESTABLISHED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO CONNECTING STORM DRAINAGE SYSTEM OUTLETS TO BIORETENTION AREA.
- EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN, SHALL BE IN PLACE PRIOR TO ANY REGRADING ACTIVITY.
- EXCAVATION, FILLING AND PLANTING SHALL OCCUR IN THE DRY. WATER LEVELS MUST BE LOWERED IN THE BIOREMEDIATION AREA BY RELYING ON DRY SEASON AND OR DRY SPELLS; OR MAY BE ACCOMPLISHED THROUGH THE USE OF DEWATERING METHODS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ANY DEWATERING METHODS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- WATER FROM ANY DEWATERING OPERATION SHALL BE TREATED TO REDUCE TOTAL SUSPENDED SOLIDS AND BE IN COMPLIANCE WITH STATE AND FEDERAL STANDARDS.

**PLANTING & SOIL NOTES:**

- A NEW ENGLAND CONSERVATION / WILDLIFE MIX WILL BE DISPERSED IN AND ADJACENT TO THE BANK OF THE BIORETENTION AREA AT A RATIO OF 1 POUND PER 1,750 SQUARE FEET AS AVAILABLE FROM NEW ENGLAND WETLAND PLANTS OR APPROVED EQUAL, INC. 820 WEST ST., AMHERST, MA, 413-548-8000.
- A NEW ENGLAND WETMIX WILL BE DISPERSED AT THE BOTTOM 6" OF THE BANK AND BELOW OF THE BIORETENTION AREA AT A RATIO OF 1 POUND PER 2,500 SQUARE FEET AS AVAILABLE FROM NEW ENGLAND WETLAND PLANTS, INC. 820 WEST ST., AMHERST, MA, 413-548-8000.
- LOAM AND SEED ALL NON-BIOREMEDIATION AREAS WITH UPLAND MIX TO PROVIDE VEGETATIVE COVER AND EROSION CONTROL.
- ALL PLANTINGS SHALL BE MONITORED AND REPLACED AS NECESSARY DURING THE TWO-YEAR ESTABLISHMENT PERIOD.
- PLANTING SOIL SHALL HAVE PH RANGE OF 5.5-6.5%, ORGANIC MATTER OF 1.5-3.0%. PLANTING SOIL SHALL HAVE A SANDY LOAM, LOAMY SAND, OR LOAM TEXTURE PER USDA TEXTURAL TRIANGLE. MAXIMUM CLAY CONTENT IS <5%, 60-70% SAND; 10% LEAF COMPOST; AND 25-30% TOPSOIL. THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN 2". LEAF COMPOST IS ESSENTIALLY COMPOSED OF AGED LEAF MULCH AND PROVIDES ADDED ORGANIC MATTER. A SIEVE ANALYSIS, PH, AND ORGANIC MATTER TEST SHALL BE SENT TO UMASS SOIL TESTING LAB OR APPROVED EQUAL FOR APPROVAL BY LANDSCAPE ARCHITECT. SOIL SHALL BE AMENDED TO MEET THESE SPECIFICATIONS FOR APPROVAL.

**WETMIX**  
(BY NEW ENGLAND WETLAND PLANTS INC.):

COMMON NAME	LATIN NAME
1. LURID SEDGE	CAREX LURIDA
2. FOWL MEADOW GRASS	GLYCERIA CANADENSIS
3. FRINGED SEDGE	CAREX CRINITA
4. JOE-PYE-WEED	EUPATORIADELPHUS MACULATUS
5. BROOM SEDGE	CAREX SPP., OVALES GROUP
6. SOFT RUSH	JUNCUS EFFUSUS
7. WOOLGRASS	SCRIPUS CYPERINUS
8. BONESSET	EUPATORIUM PEFOLIATUM
9. TUSsock	SEDGE CAREX STRICTA
10. BLUE VERVAIN	VERBENA HASTATA

**NEW ENGLAND CONSERVATION / WILDLIFE MIX**  
(BY NEW ENGLAND WETLAND PLANTS INC.):

COMMON NAME	LATIN NAME
1. BIG BLUESTEM	ANDROPOGON GERARDII
2. SWITCHGRASS	PANICUM VIRGATUM
3. LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM
4. CANADA WILD RYE	ELYMUS CANAENSIS
5. FOX SEDGE	CAREX VULPINOIDEA
6. PARTRIDGE PEA	CHAMAECRISTA FASCICULATA
7. FRINGED BROMEGRASS	BROMUS CILIATUS
8. PENNSYLVANIA SMARTWEED	POLYGONUM PENNSYLVANICUM
9. COMMON MILKWEED	ASCLEPIAS SYRIACA
10. SHOWY TICK-TREFOIL	DESMODIUM CANADENSE
11. NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE
12. FLAT-TOP ASTER	ASTER UMBELLATUS
13. NODDING BUR-MARIGOLD	BIDENS CERNUA

**ISSUED FOR REVIEW**  
DECEMBER 20, 2013

PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
**ORION UNH LLC**  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	C - DETAIL
DRAFTED BY:	WBL	CHECKED BY:	RPC

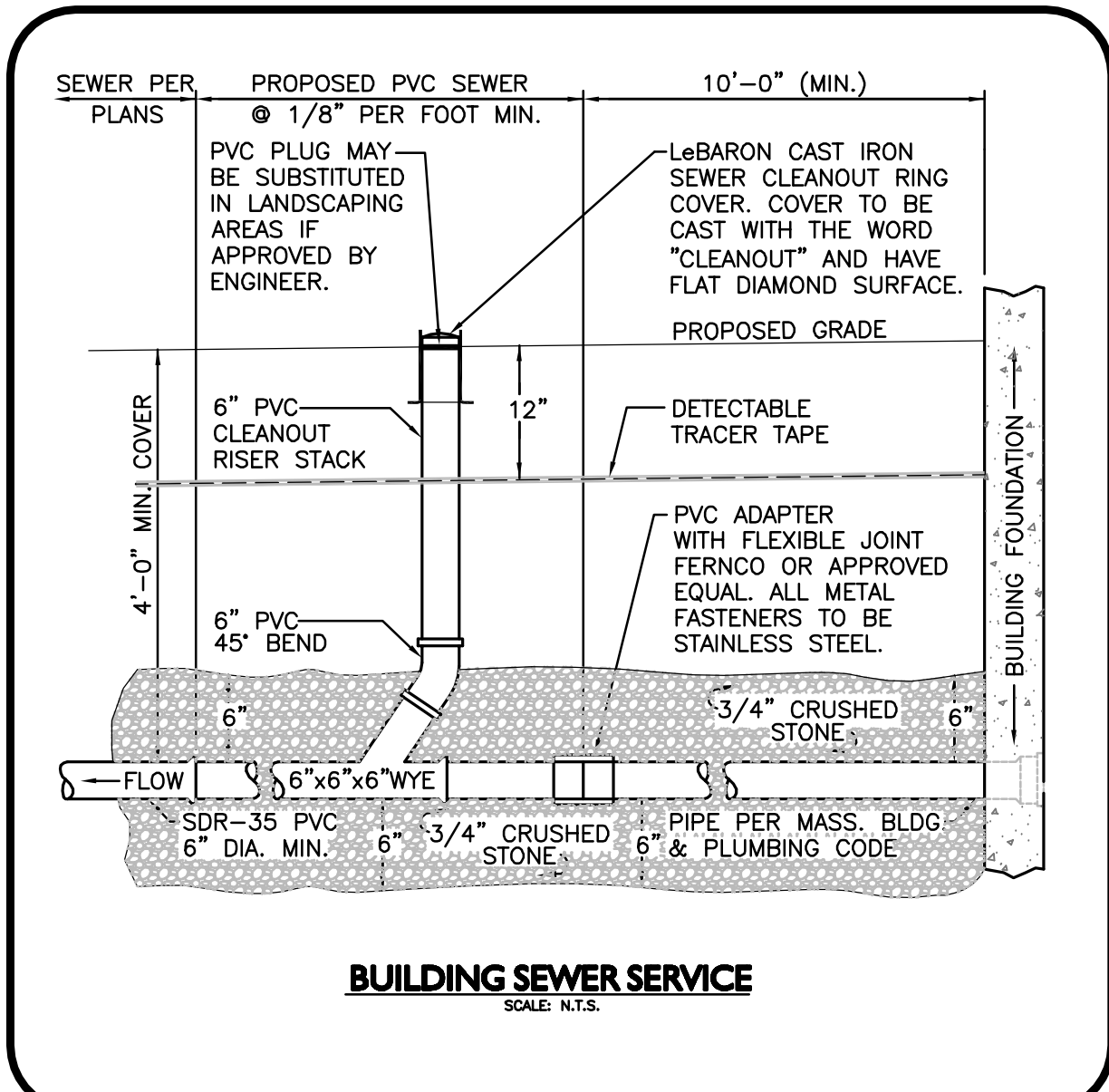
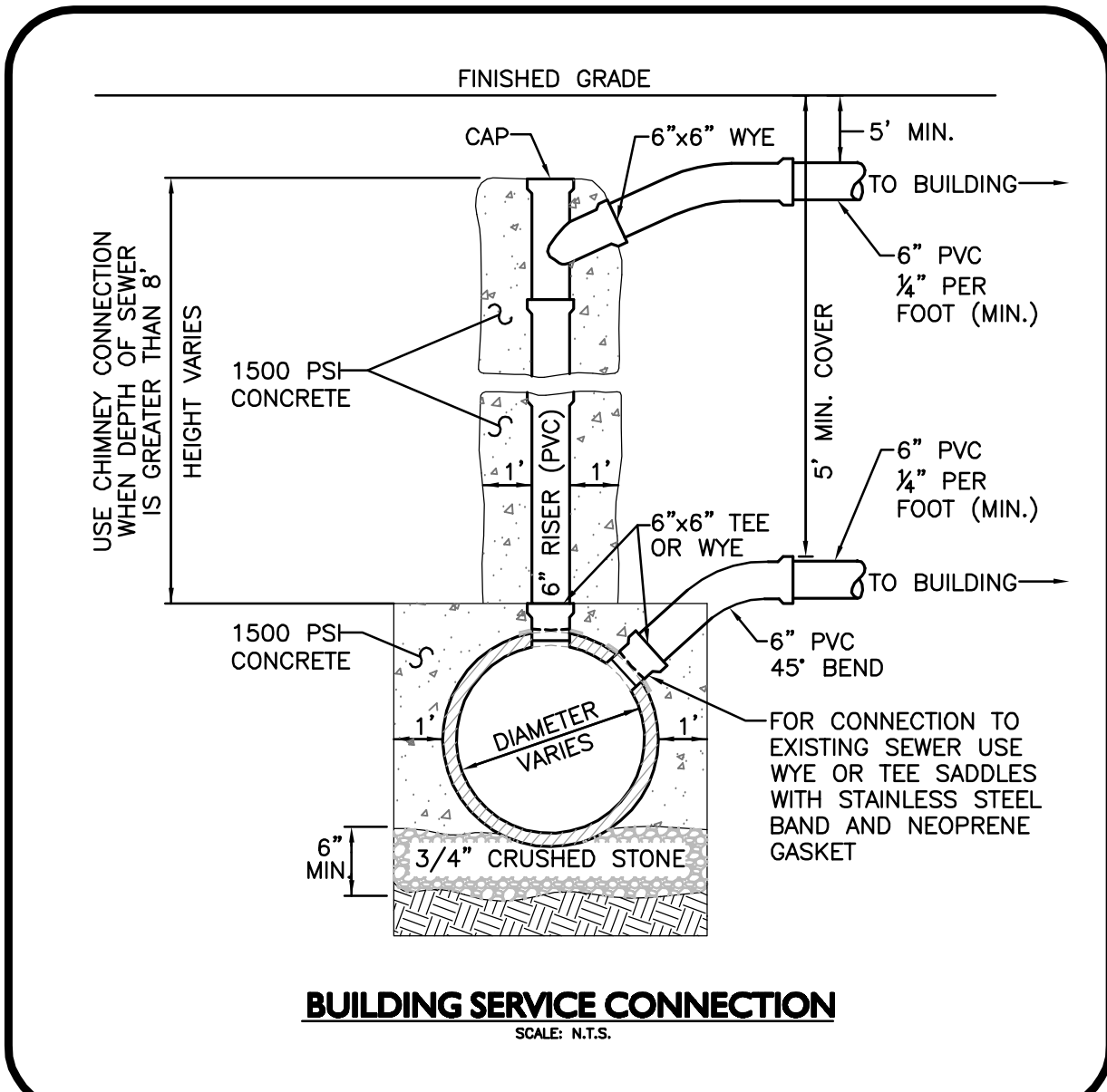
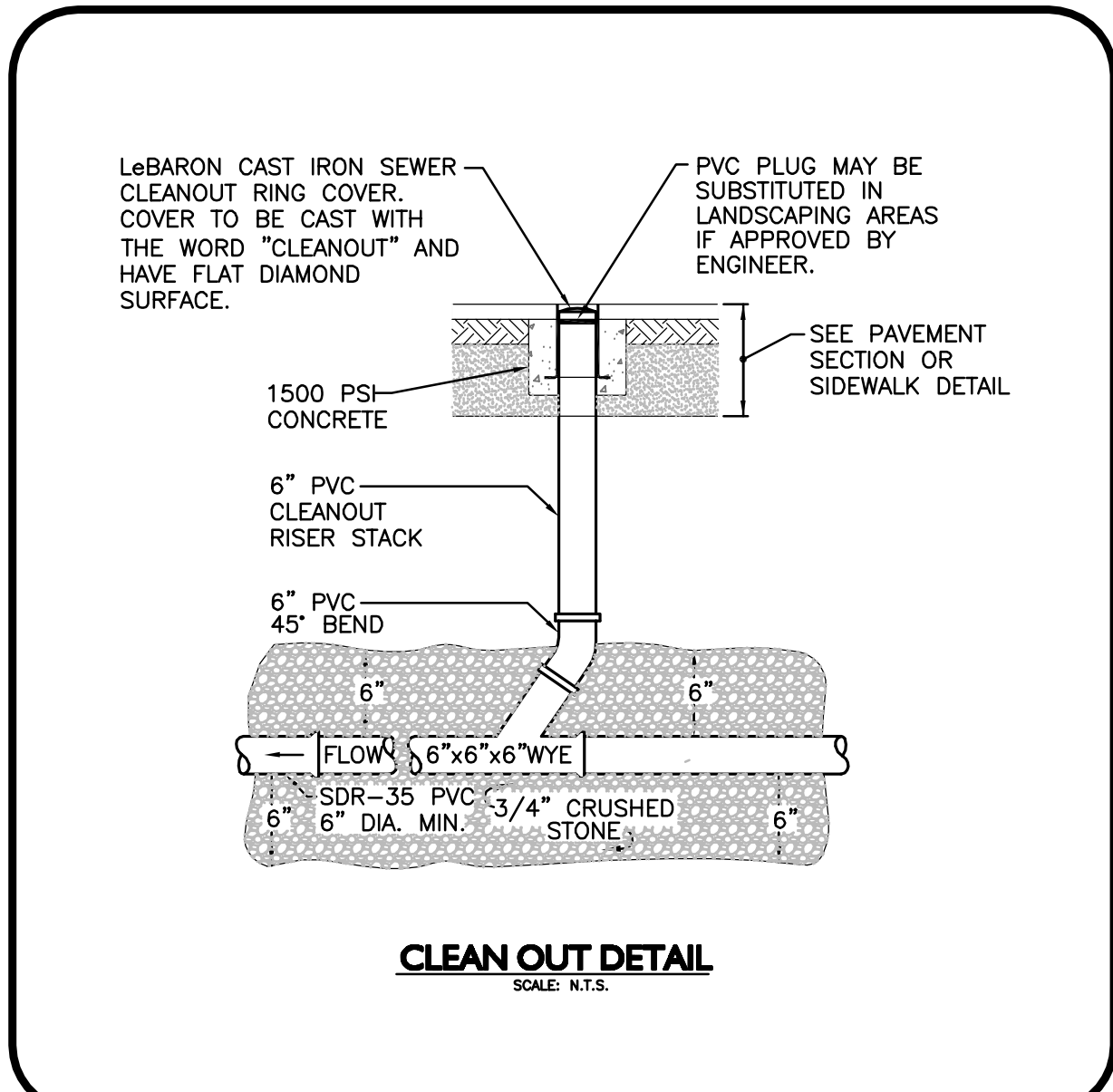
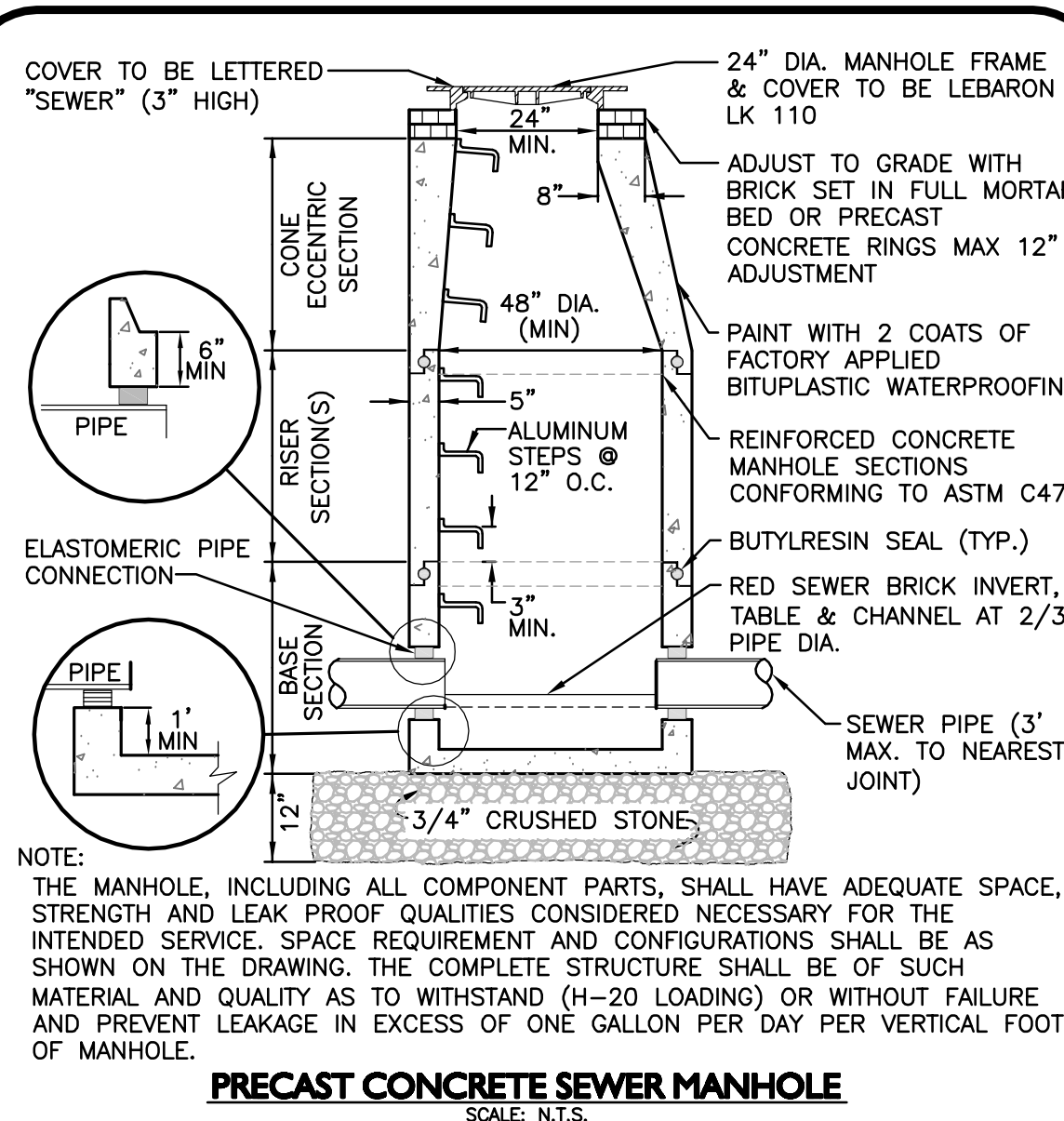
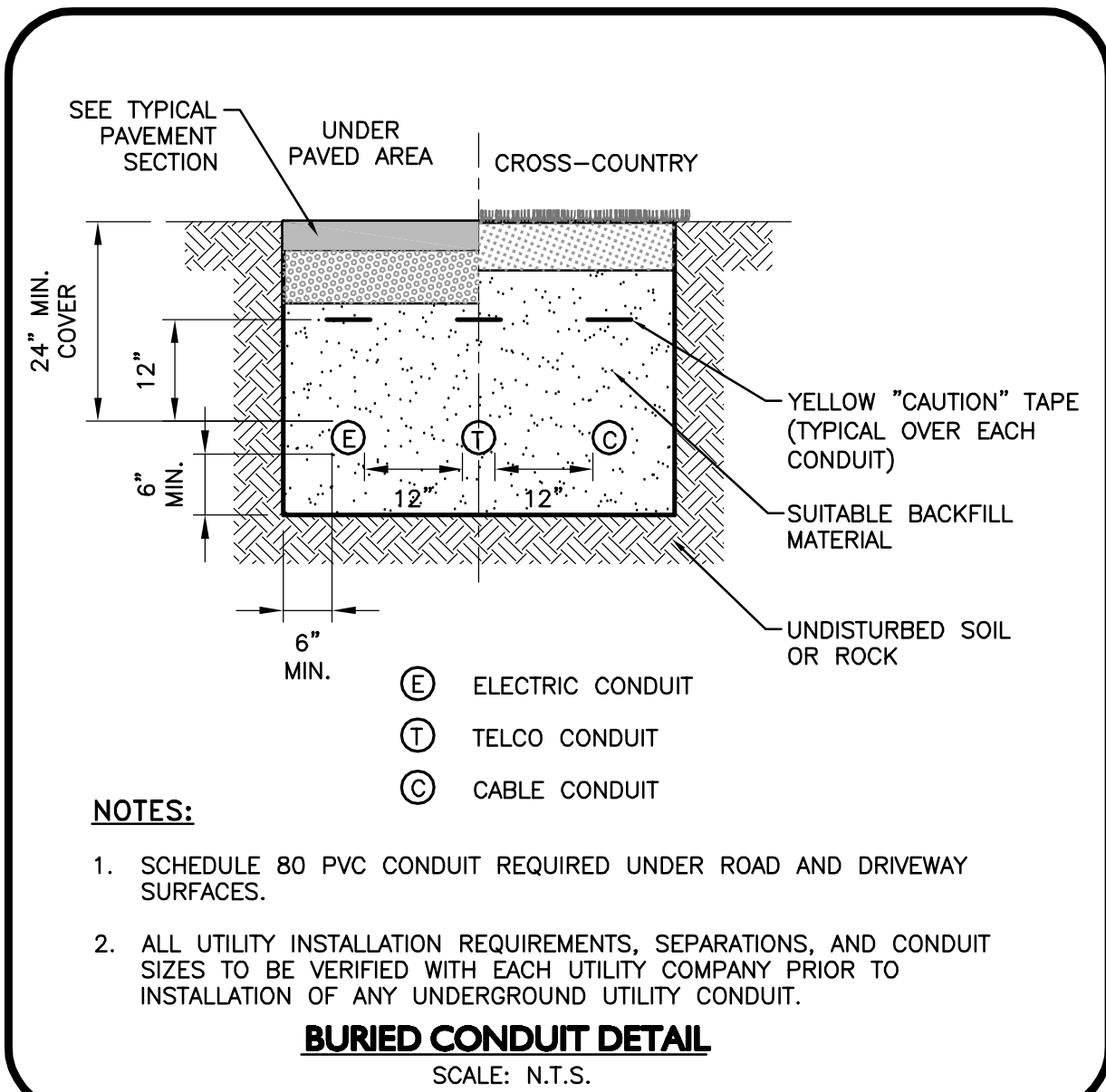
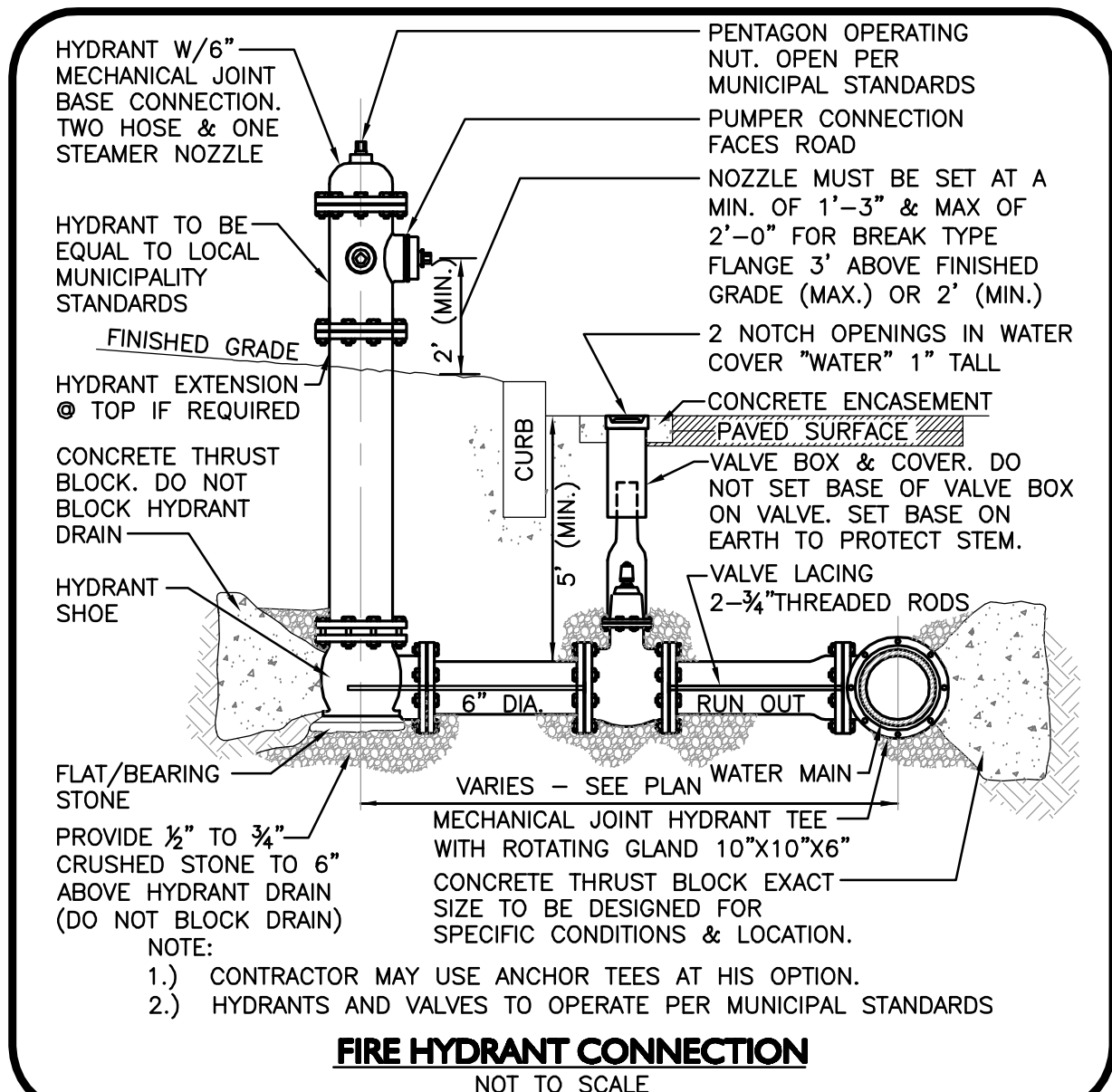
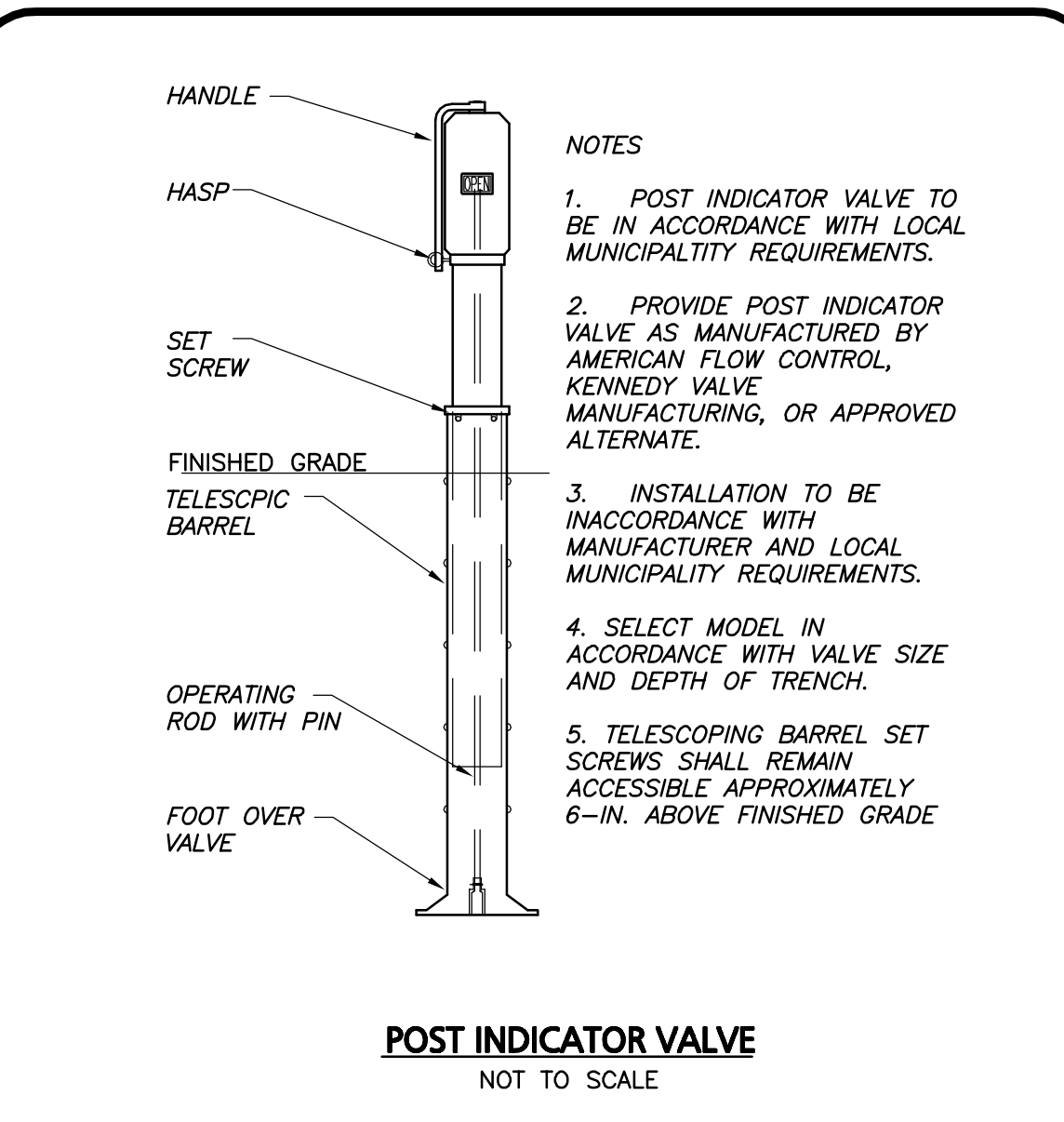
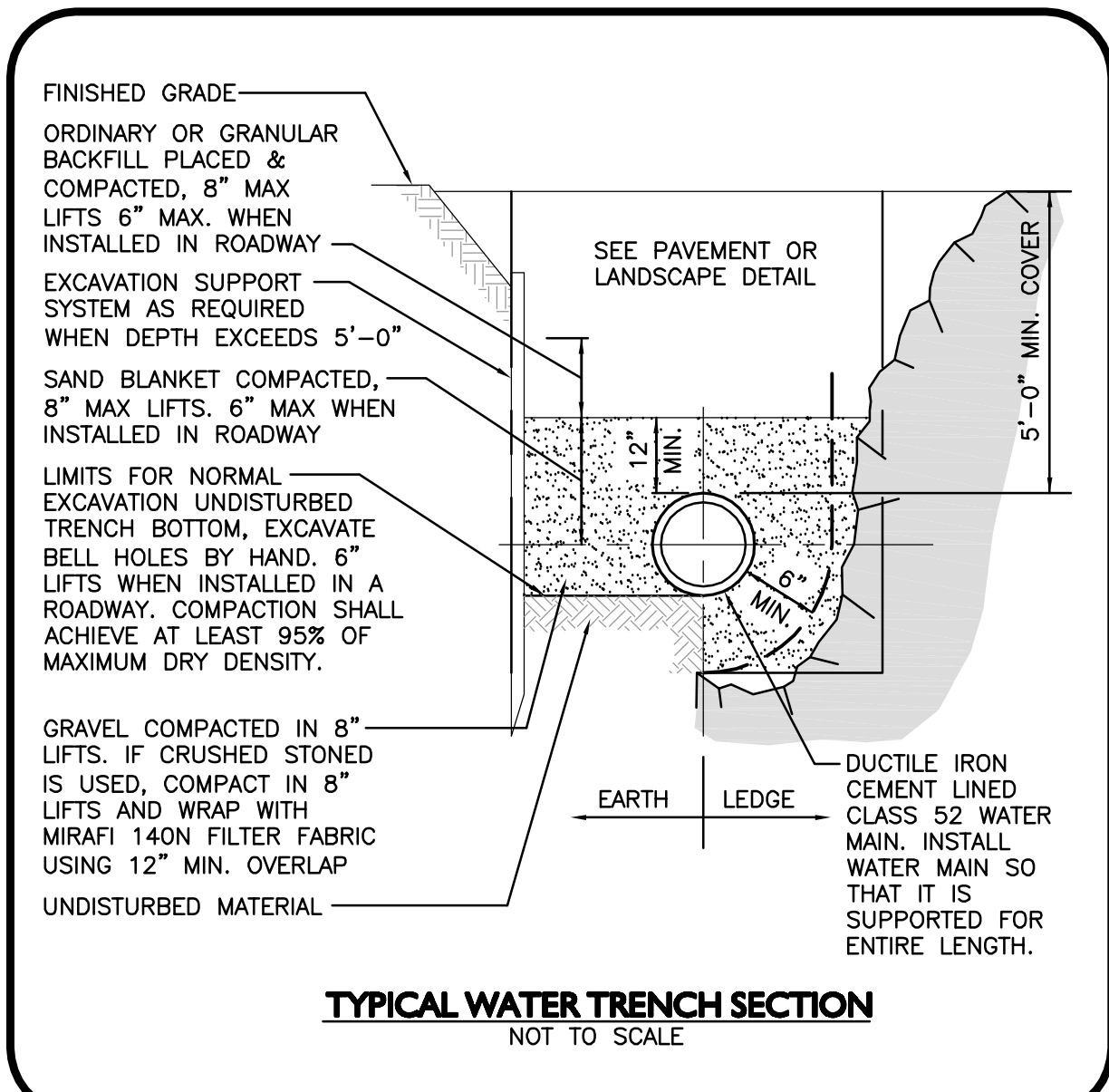
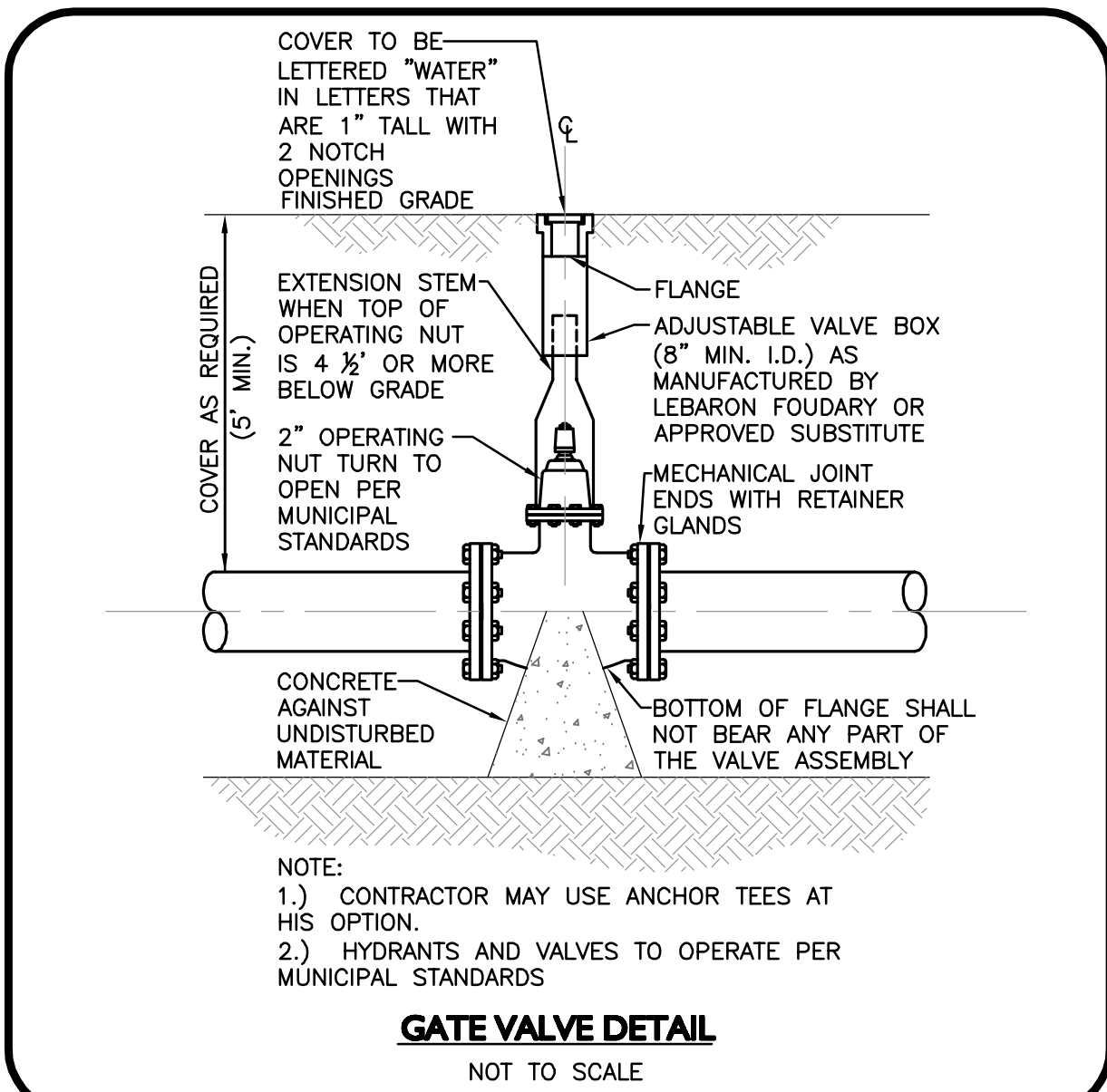
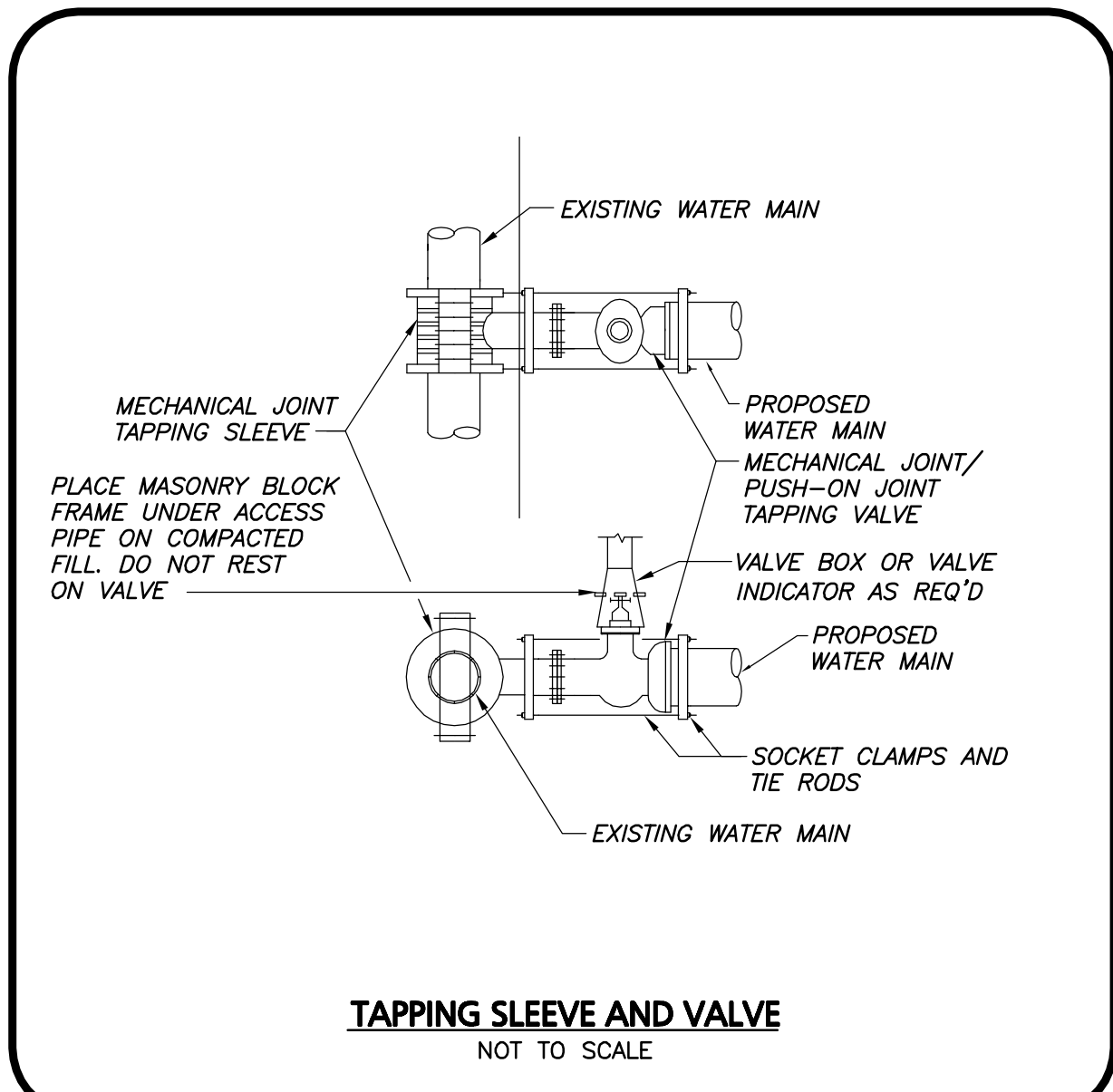
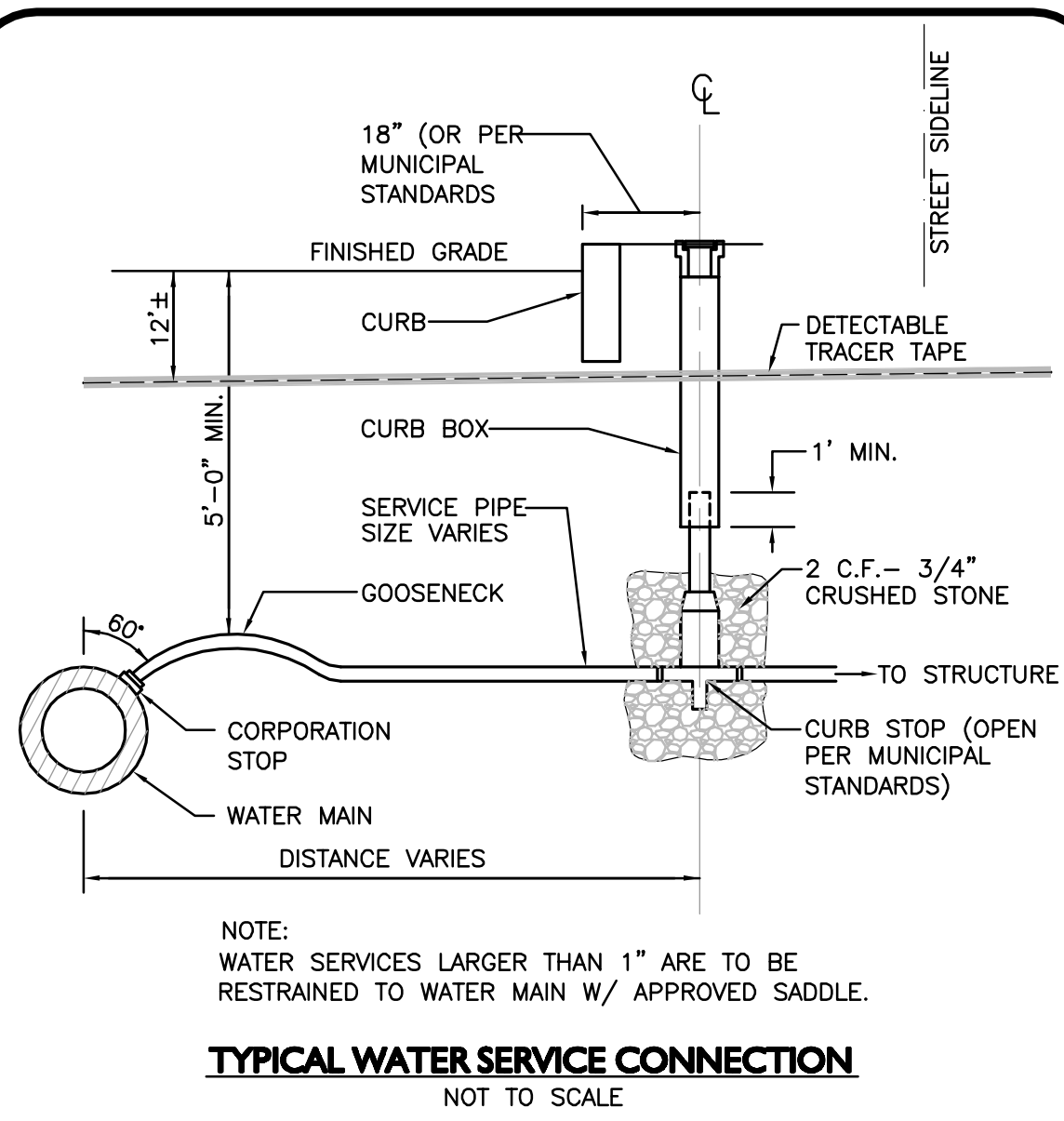
PREPARED BY:

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250 COMMERCIAL STREET  
SUITE 1001  
MANCHESTER, NH 03101  
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DRAWING TITLE:	SHEET No.
DETAILS	D-1





**ISSUED FOR REVIEW**  
DECEMBER 20, 2013

PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
**ORION UNH LLC**  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

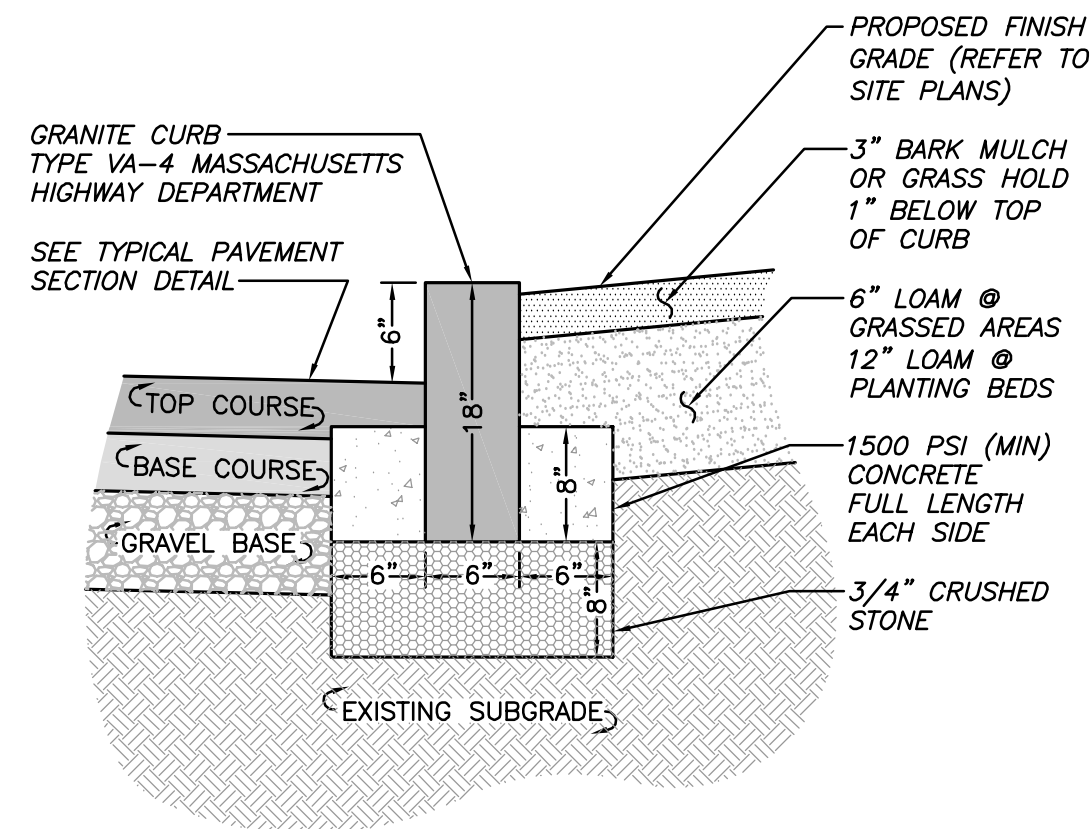
PROJECT:  
**ORION STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	C - DETAIL
DRAFTED BY:	WBL	CHECKED BY:	RPC

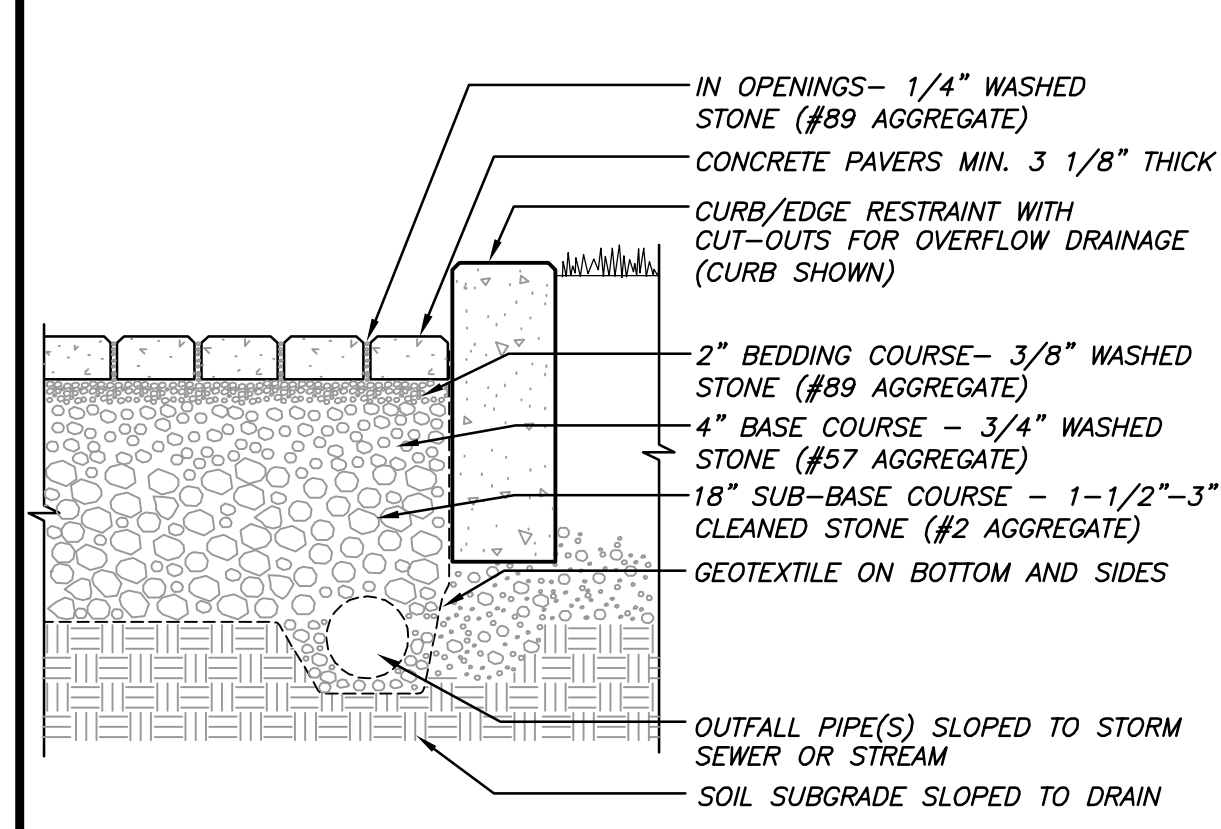
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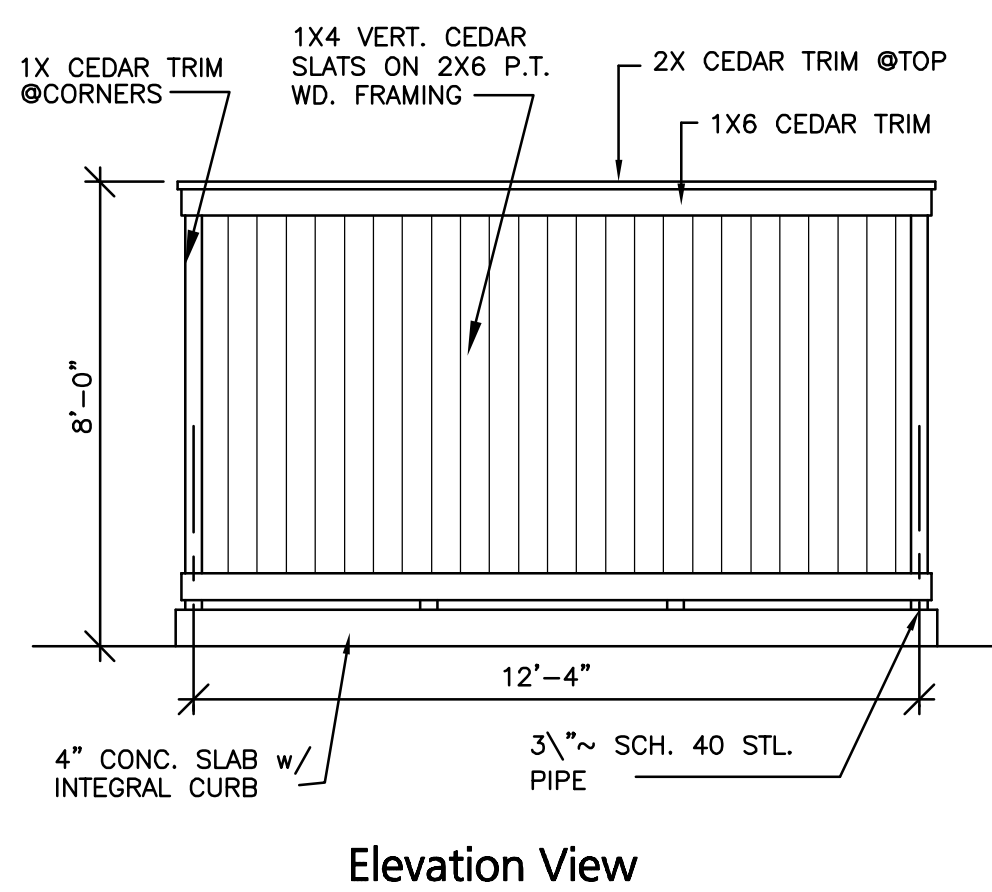
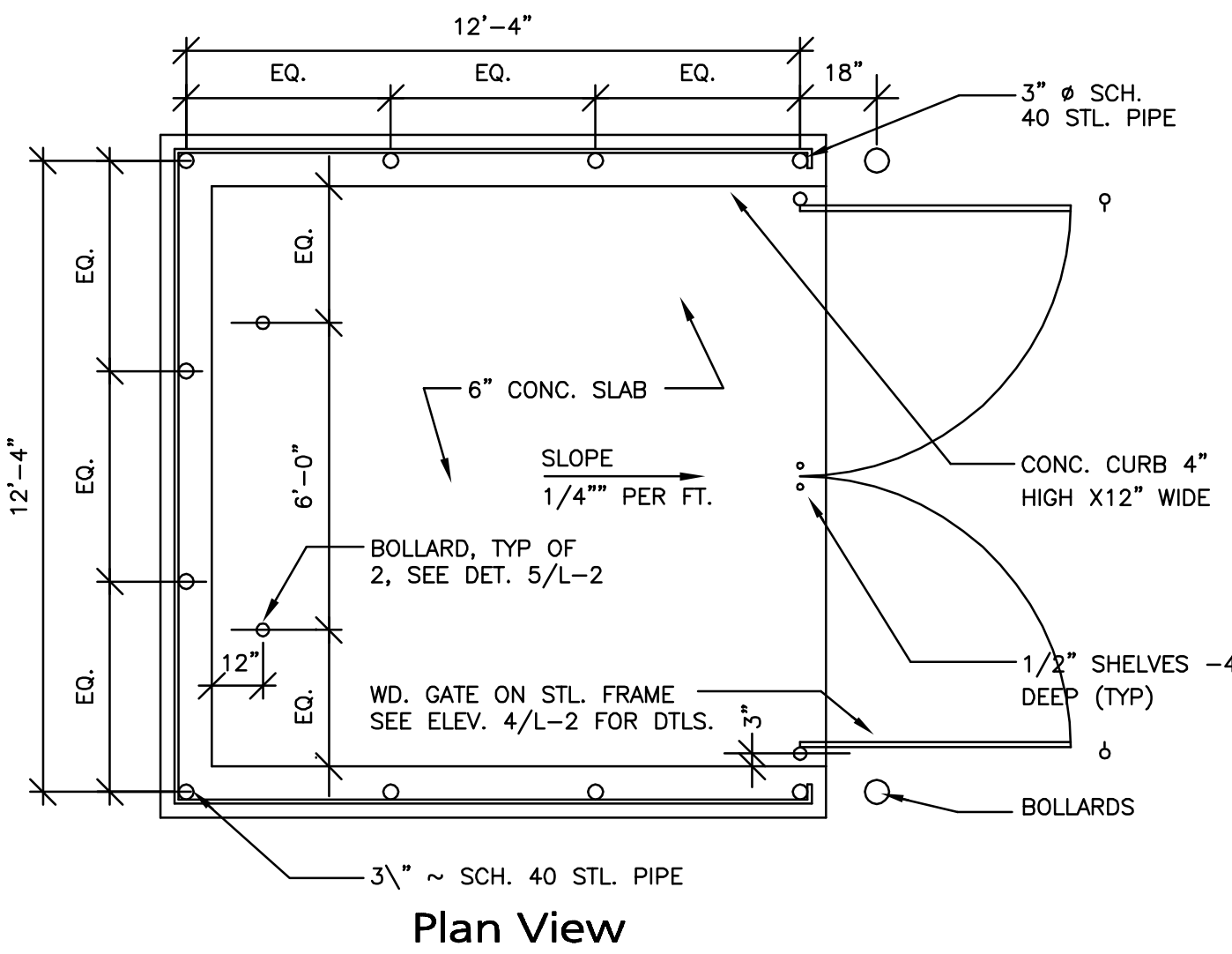




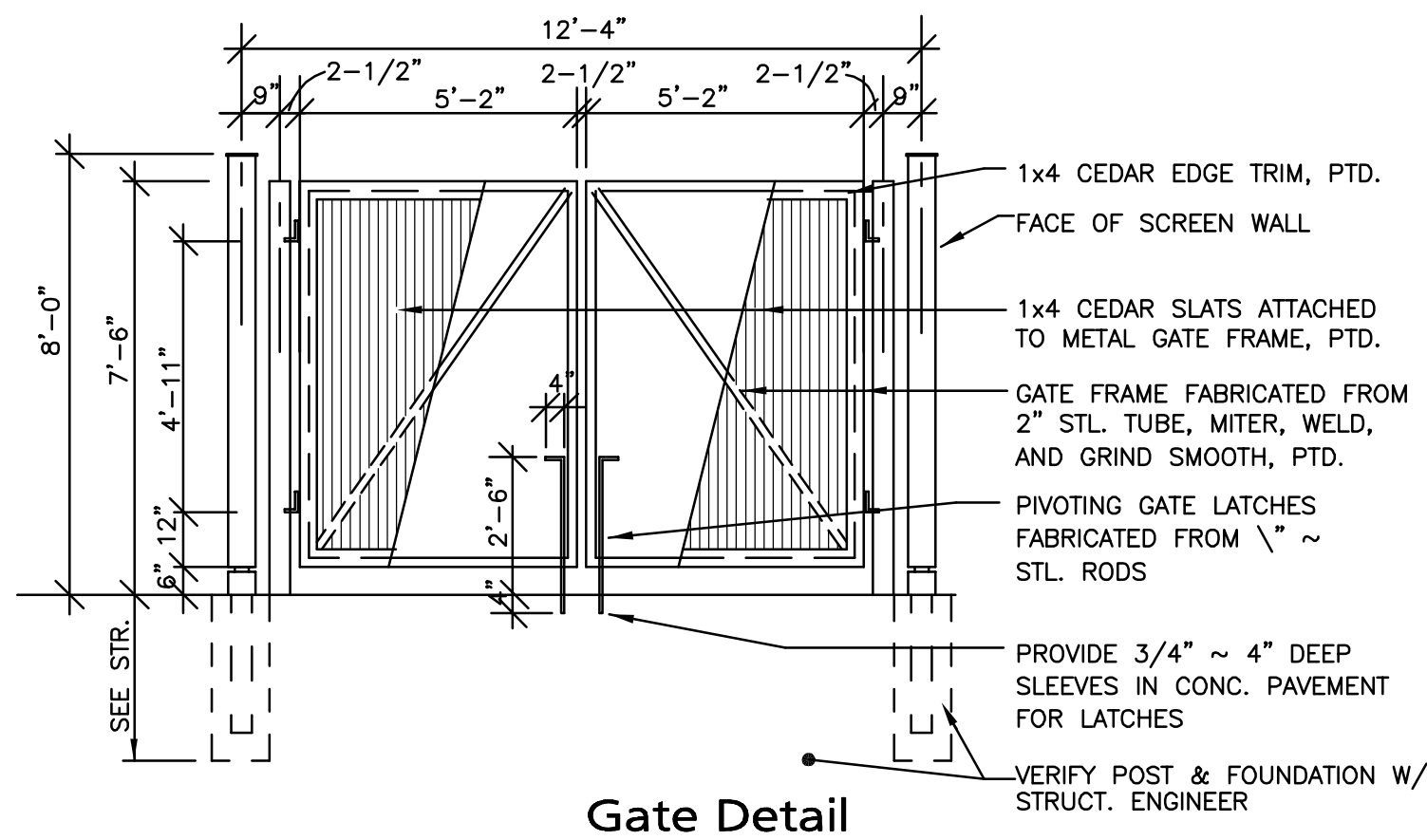
**VERTICAL GRANITE CURB DETAIL**  
NOT TO SCALE



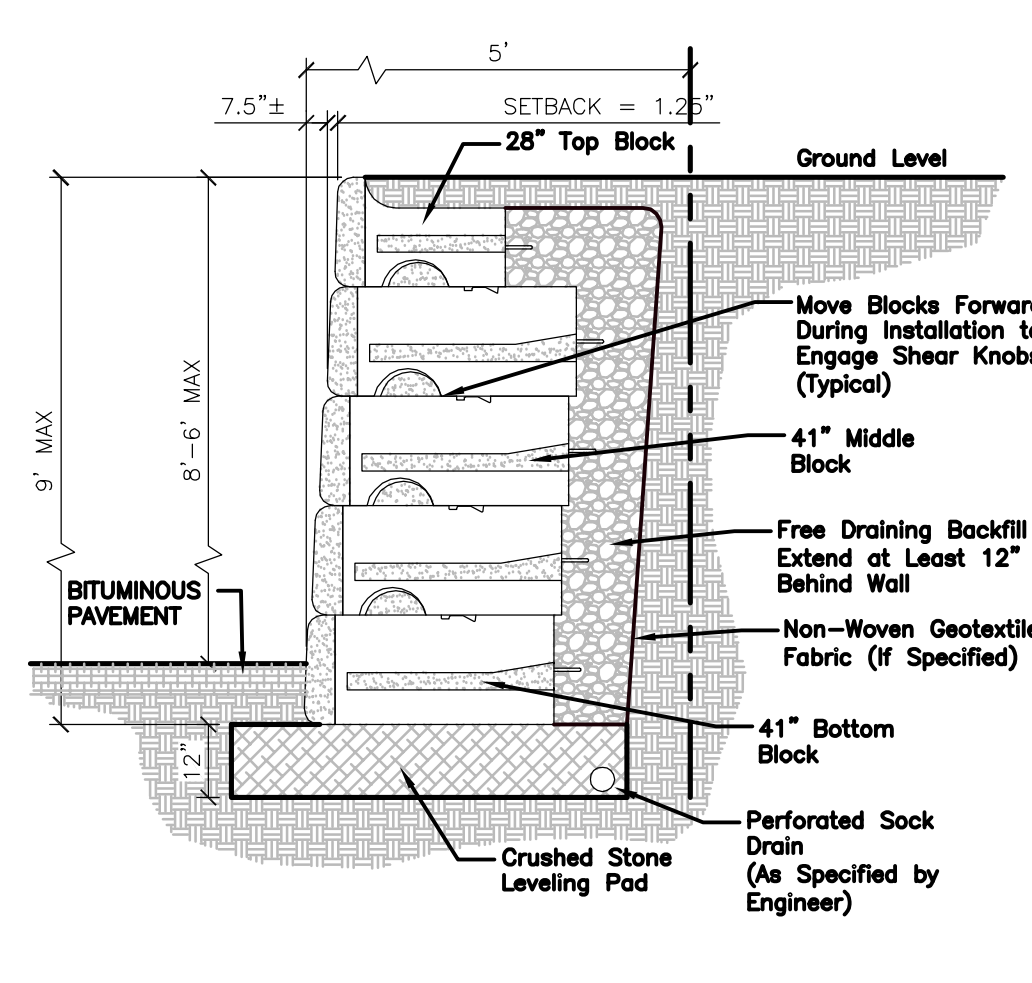
**PERMEABLE PAVER DETAIL**  
NOT TO SCALE



NOTE:  
PAINT ALL TRIM AND WOOD  
FRAMING TO MATCH BUILDING



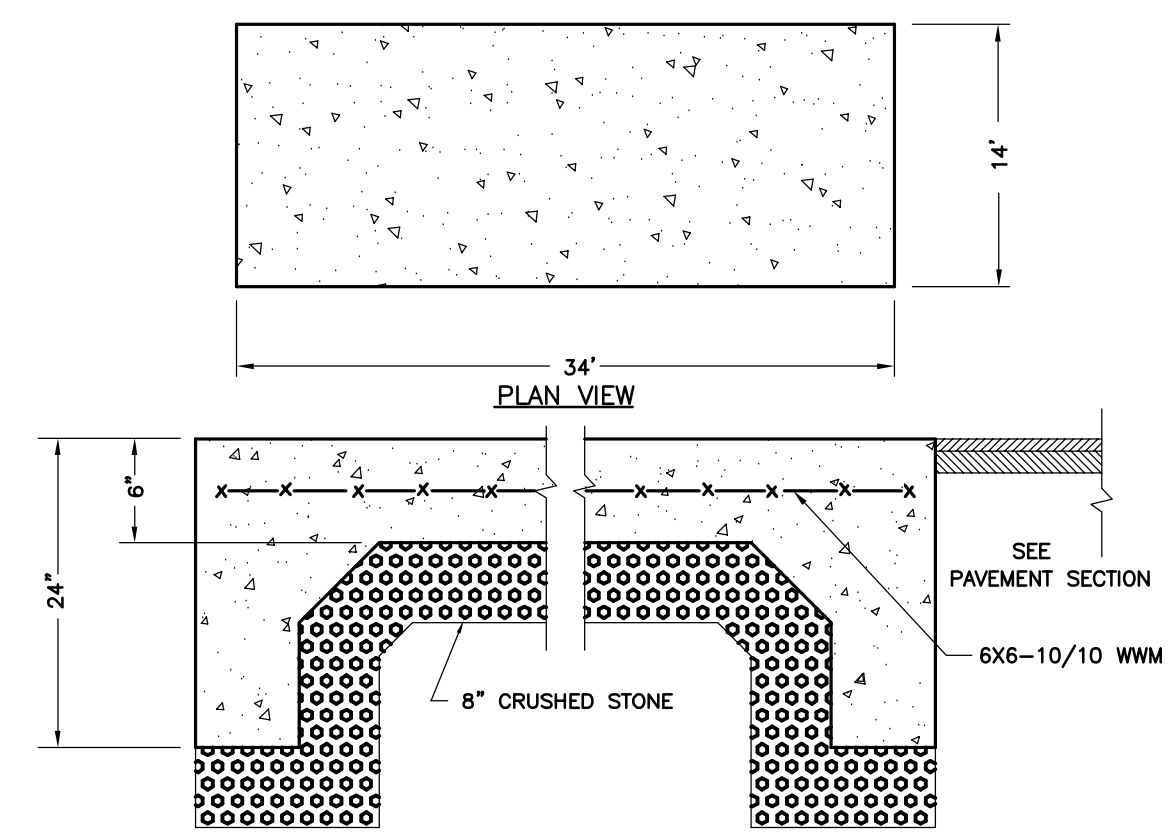
**DUMPSTER ENCLOSURE DETAIL**  
NOT TO SCALE



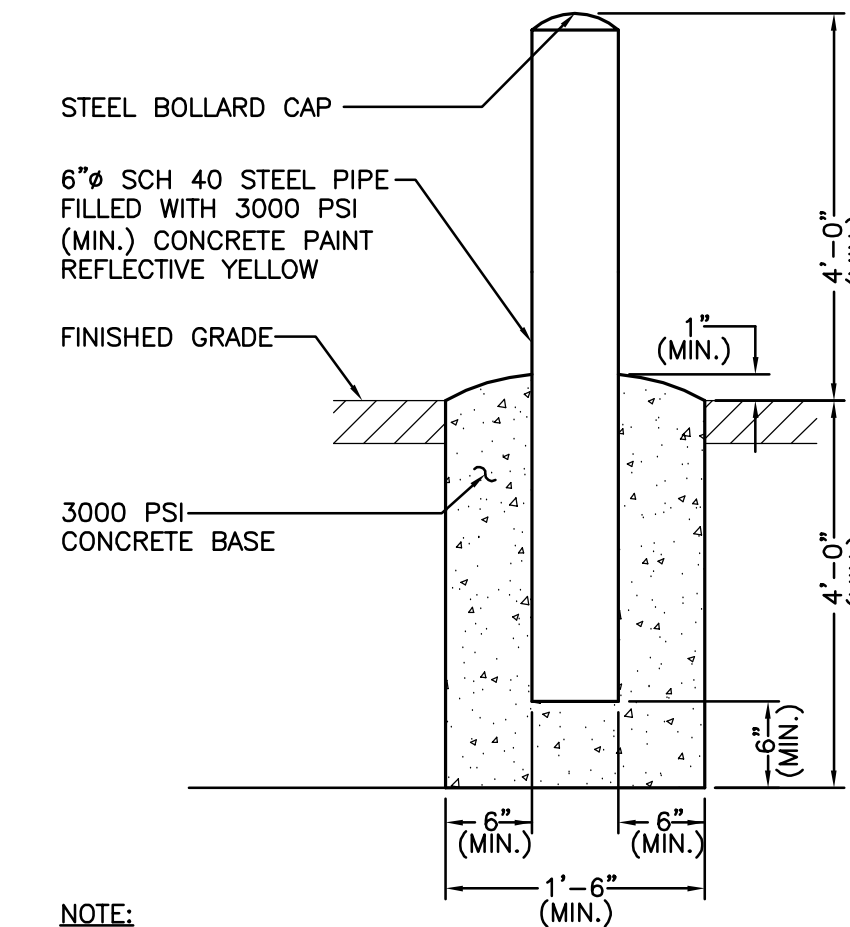
**GENERAL NOTES:**

1. WALL UNITS SHALL BE REDI-ROCK, AS PRODUCED BY A LICENSED MANUFACTURER.
2. REFER TO PLANS FOR LOCATION AND HEIGHT

SYSTEMS & DETAILS SHOWN ON THESE PLANS ARE PROTOTYPICAL IN NATURE. FULL SHOP DRAWINGS STAMPED BY A MASSACHUSETTS PROFESSIONAL ENGINEER WILL BE REQUIRED FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF WORK.



NOTE: EXISTING DUMPSTER ENCLOSURE FENCE SHALL BE RE-INSTALLED AROUND THE PROPOSED DUMPSTER. PROVIDE NEW FENCE SECTIONS TO MATCH EXISTING WHERE NECESSARY.



NOTE:  
ALL EXPOSED PIPE SHALL BE PAINTED WITH CATALYZED EPOXY PAINT. (COLOR AS DIRECTED BY ENGINEER) A BITUMASTIC COATING SHALL BE APPLIED TO ALL PIPE BELOW GRADE

**FIXED BOLLARD DETAIL**  
NOT TO SCALE

**ISSUED FOR REVIEW**  
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REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:

ORION UNH LLC  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:

ORION  
STUDENT HOUSING  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	C - DETAIL

DRAFTED BY:	WBL	CHECKED BY:	RPC
PREPARED BY:			

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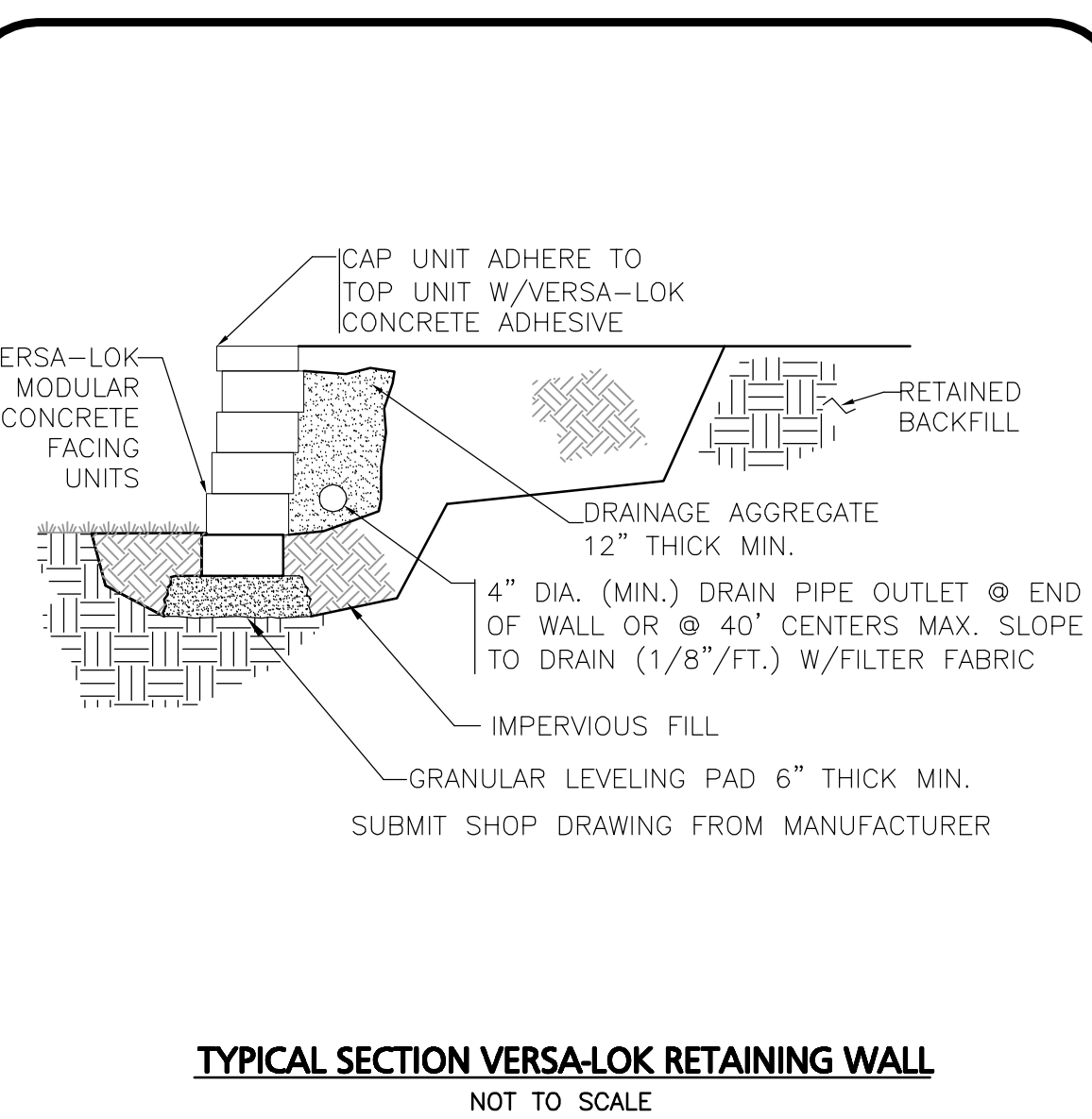
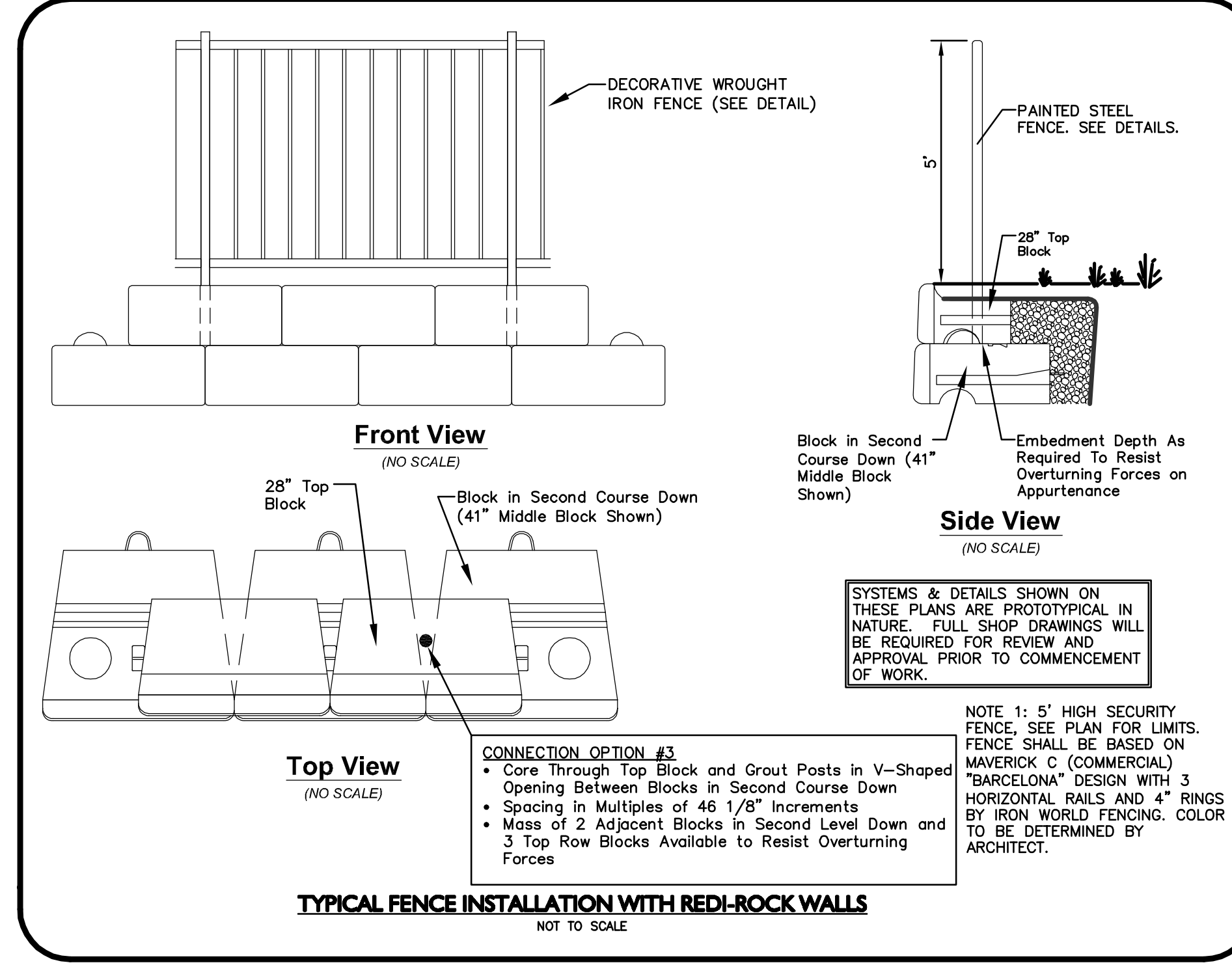
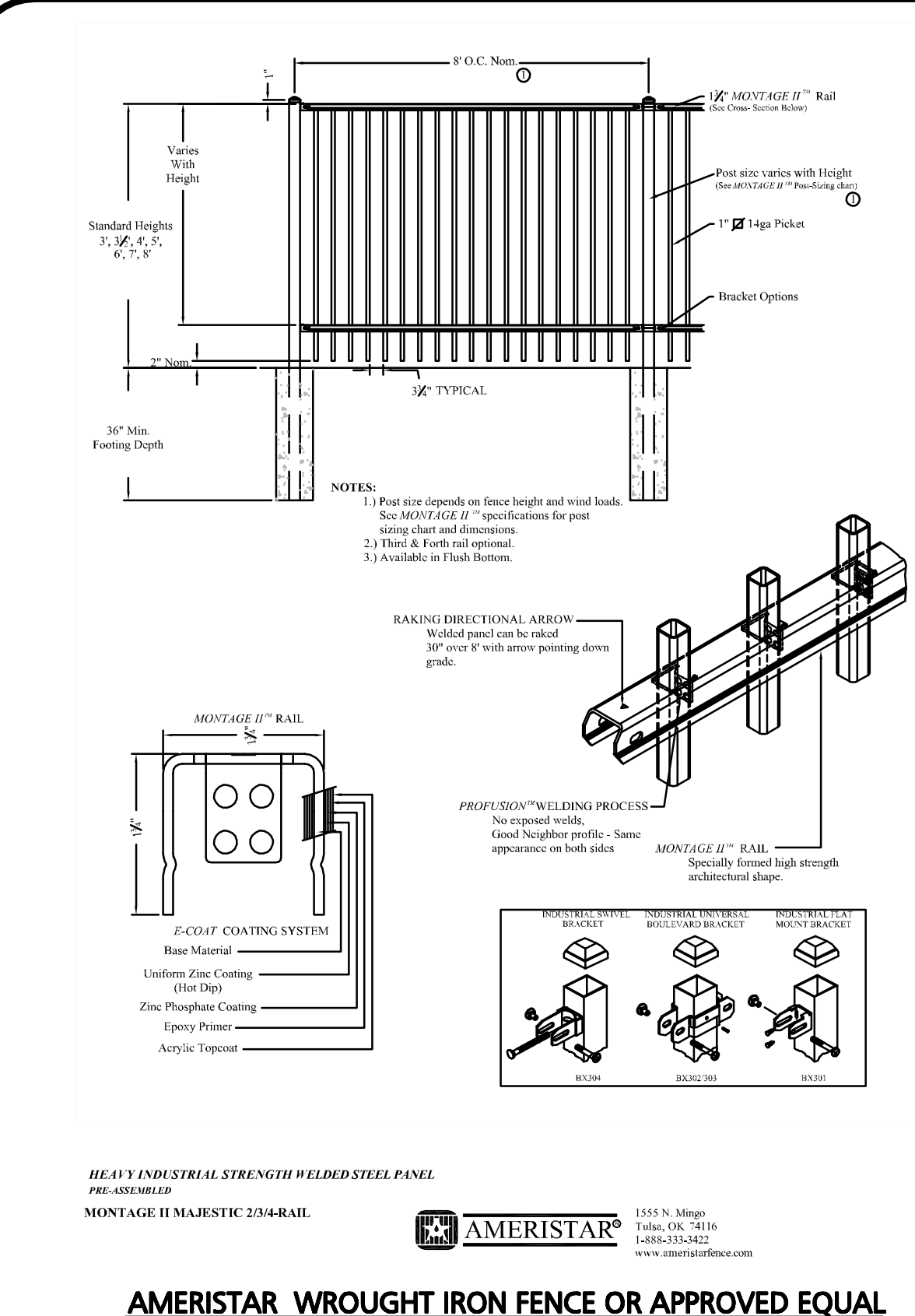
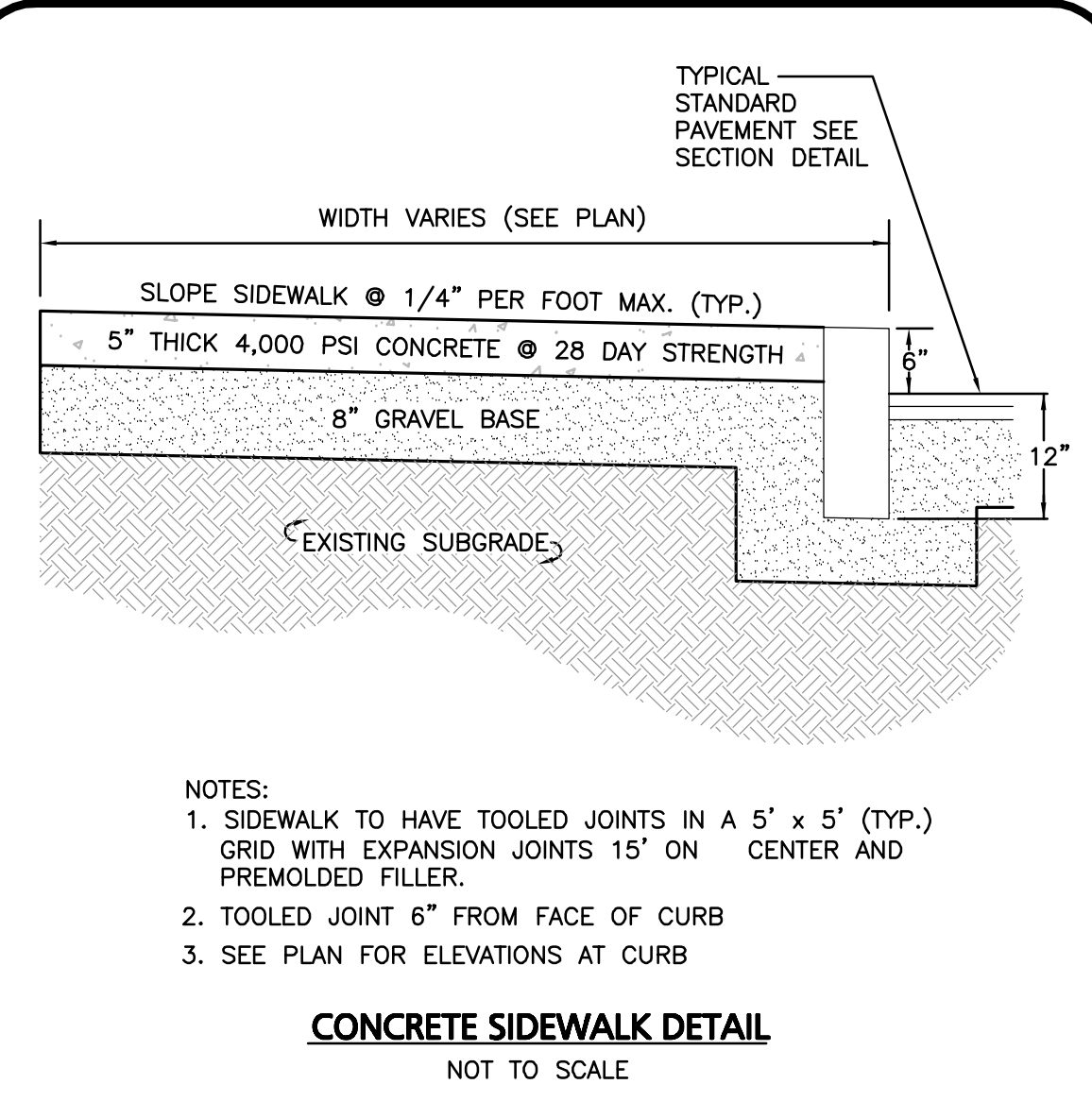
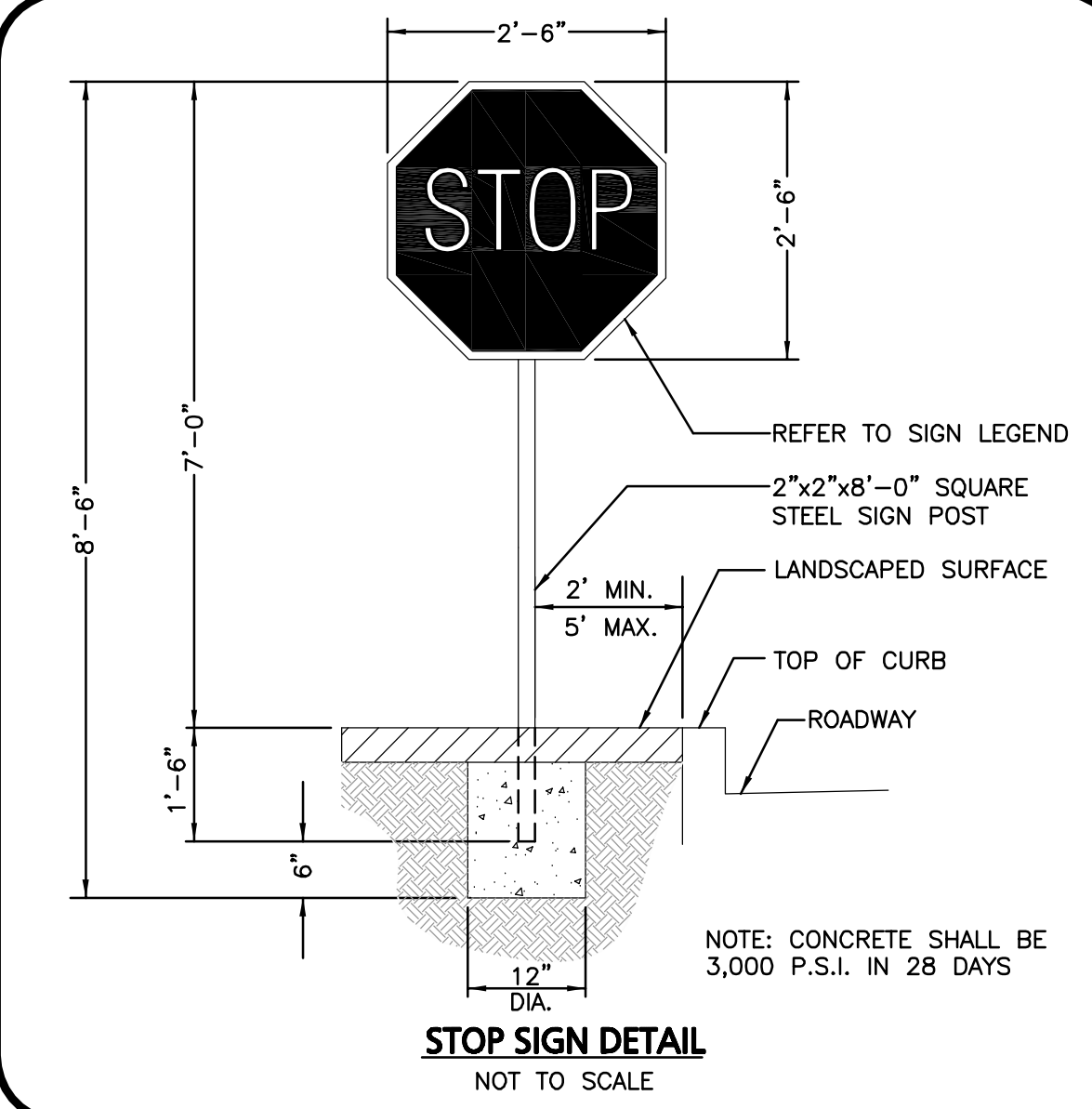
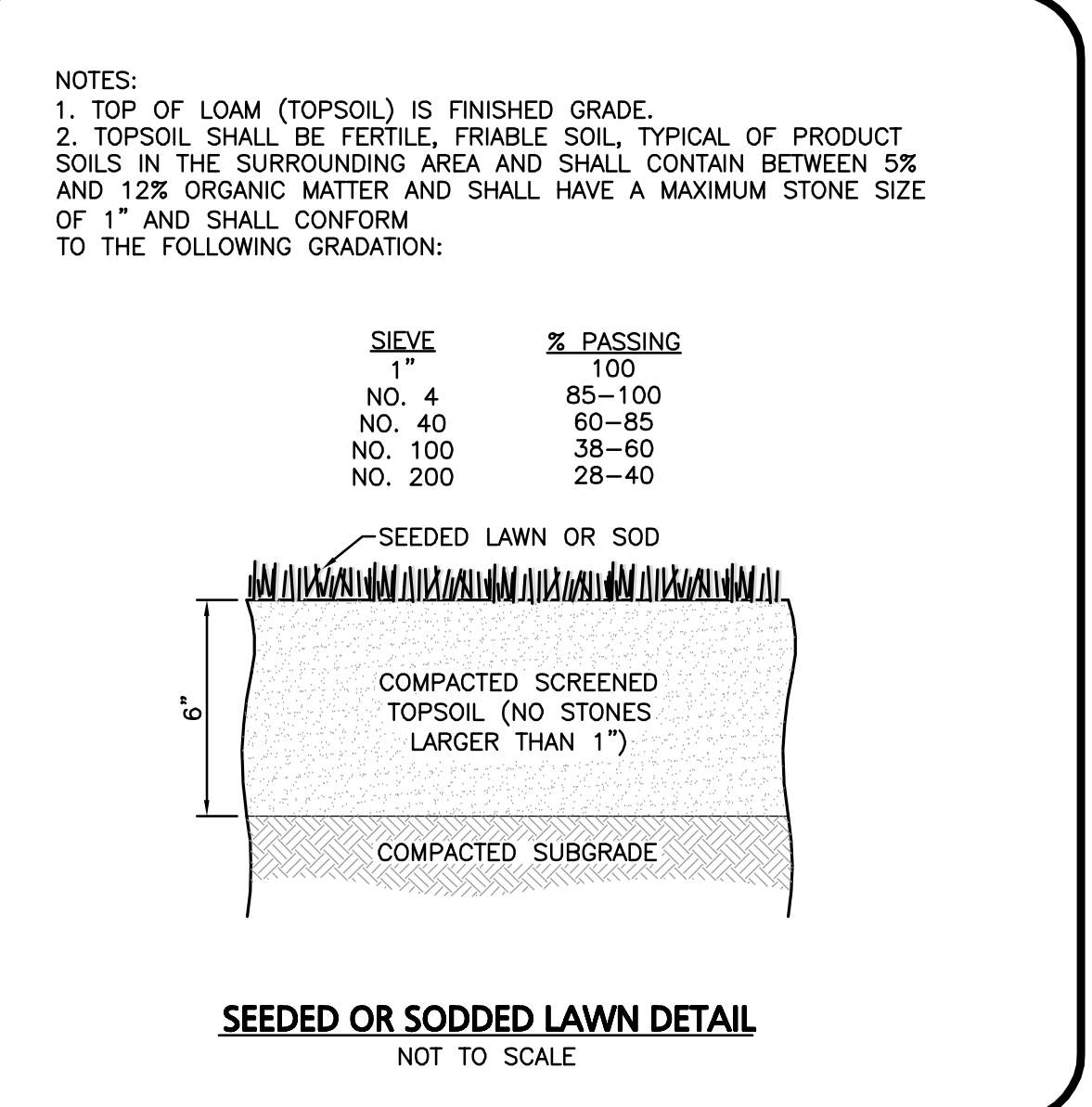
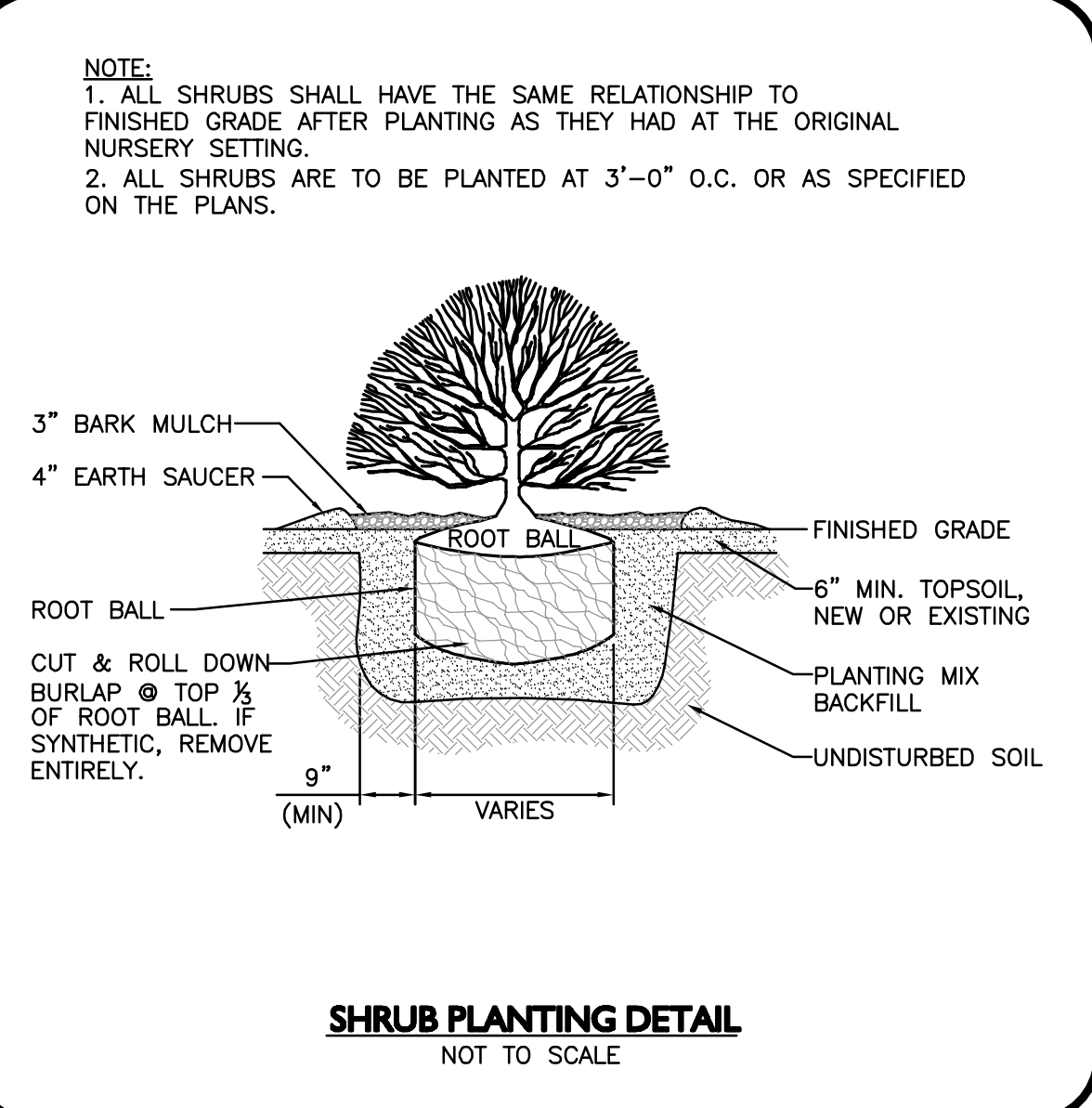
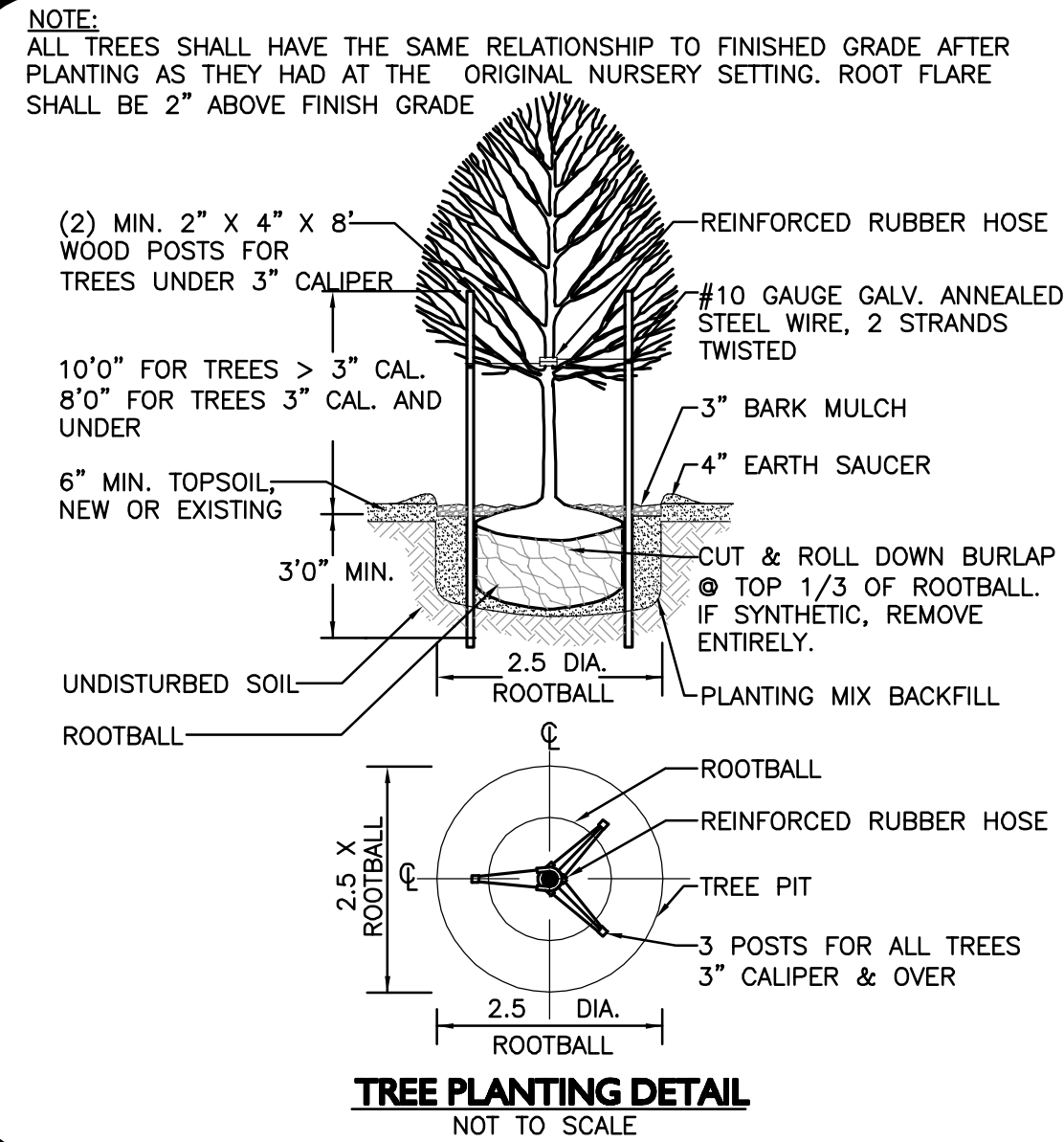
250 COMMERCIAL STREET  
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TEL: (603) 627-5500  
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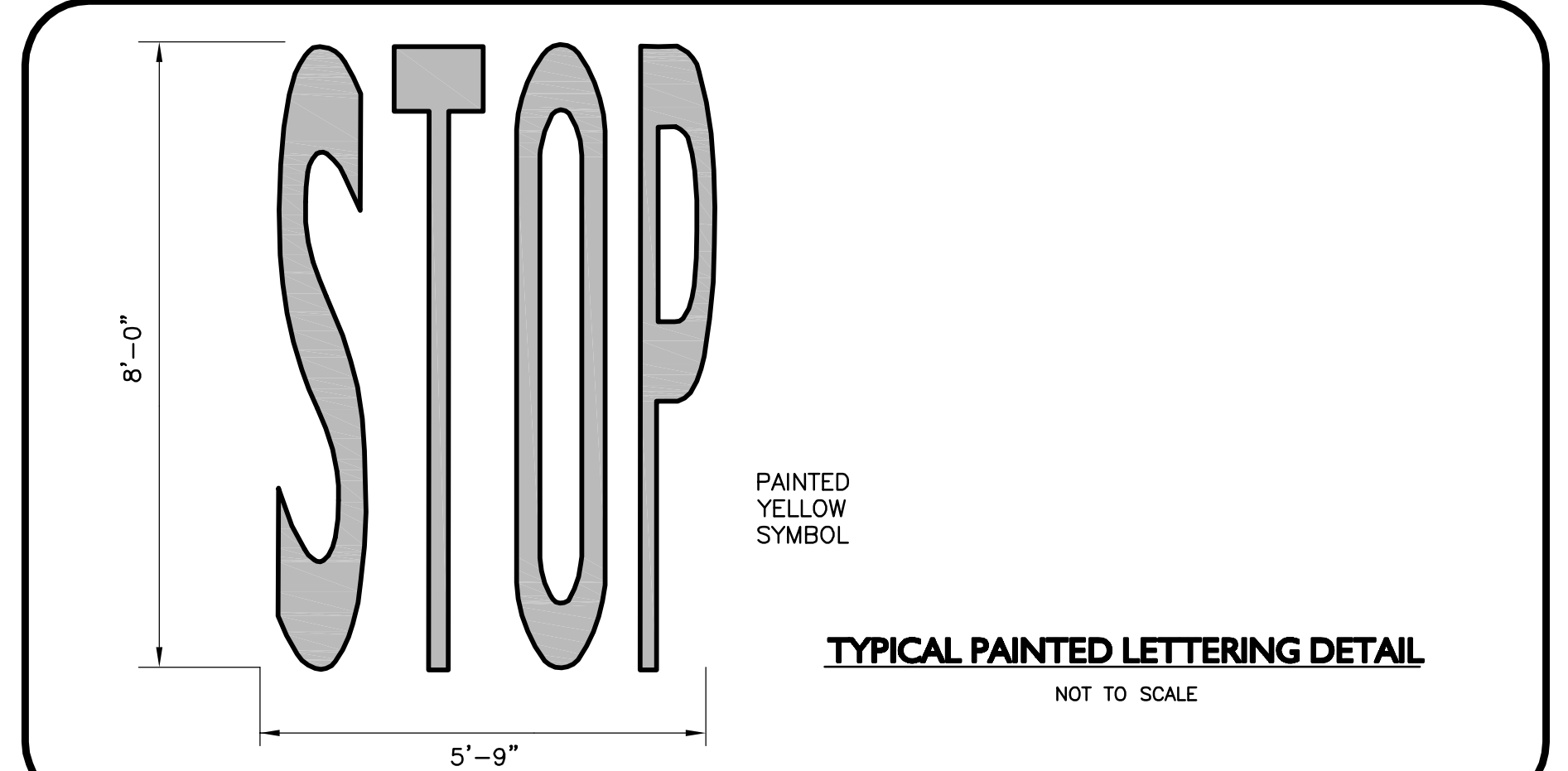
DRAWING TITLE: DETAILS SHEET No. D-3





DESC.	SIGN	SIZE	MOUNTING HEIGHT	DESCRIPTION	REFLECTORIZED
R1-1	STOP	30" x 30"	7' - 0"	WHITE ON RED	YES
R5-1	DO NOT ENTER	30" x 30"	7' - 0"	RED ON WHITE	YES
R6-1	ONE WAY	36" x 12"	7' - 0"	BLACK ON WHITE	YES

**SIGN TABLE**  
NOT TO SCALE



**ISSUED FOR REVIEW**  
DECEMBER 20, 2013

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

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APPLICANT/OWNER:  
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225 FRANKLIN STREET, 26TH FLOOR  
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PROJECT:  
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25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

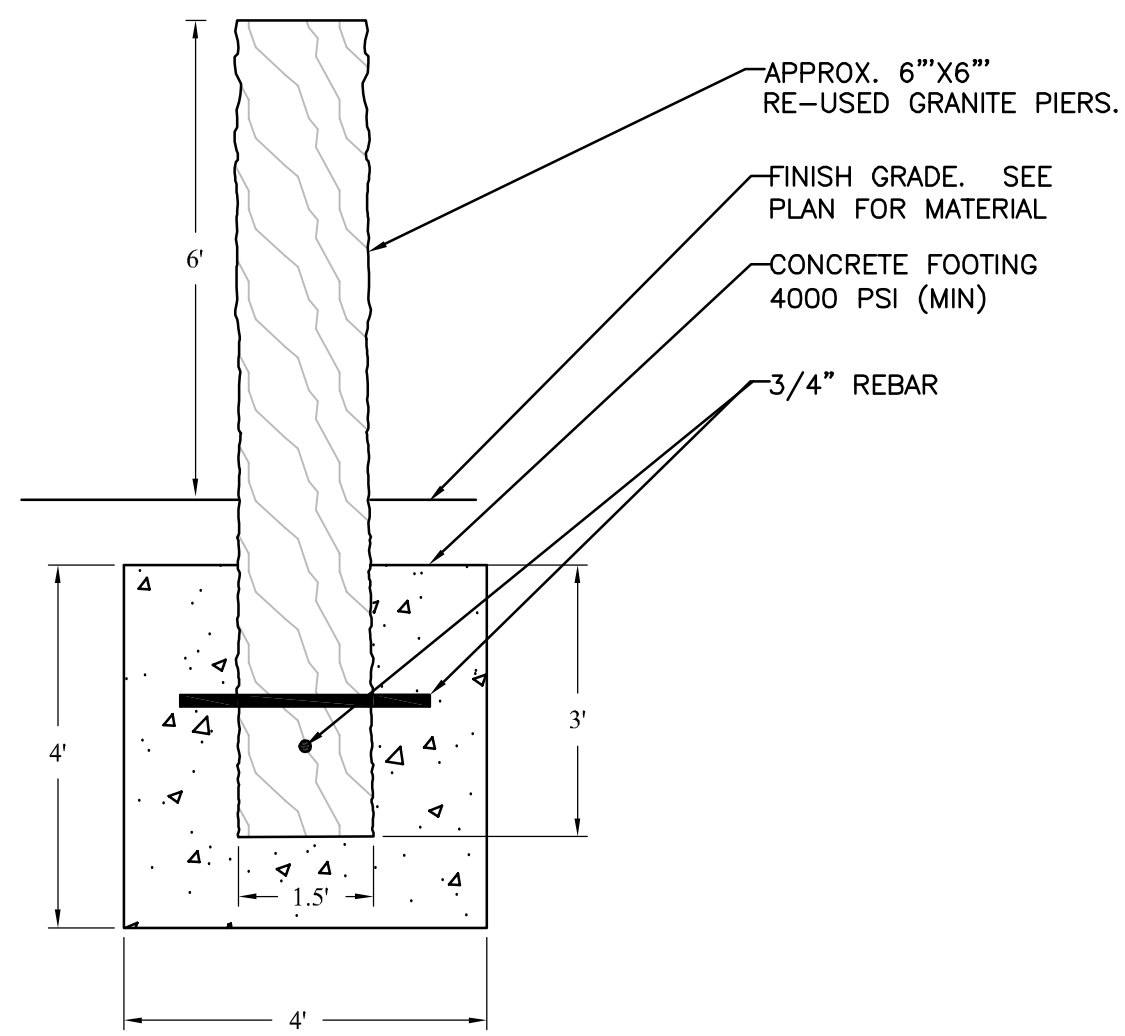
PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	C - DETAIL
DRAFTED BY:	WBL	CHECKED BY:	RPC

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DRAWING TITLE:	SHEET No.
DETAILS	D-4



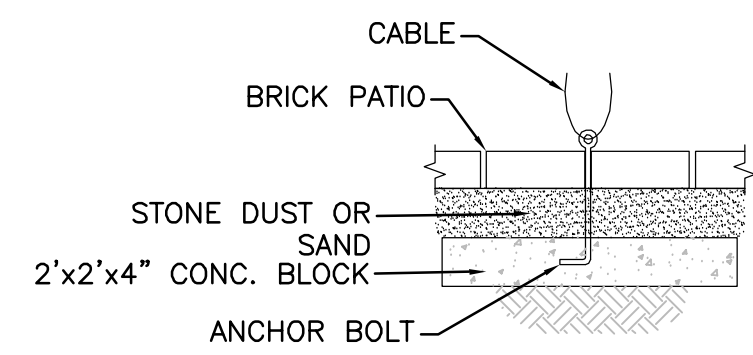


NOTES:  
 1. LANDSCAPE ARCHITECT TO APPROVE GRANITE IN FIELD.  
 2. PIERS TO BE RE-USED FROM EXISTING FOUNDATION OF OFF-SITE QUARRY SOURCE. SUBMIT SOURCE FOR APPROVAL.

**GRANITE PIER**  
 NOT TO SCALE

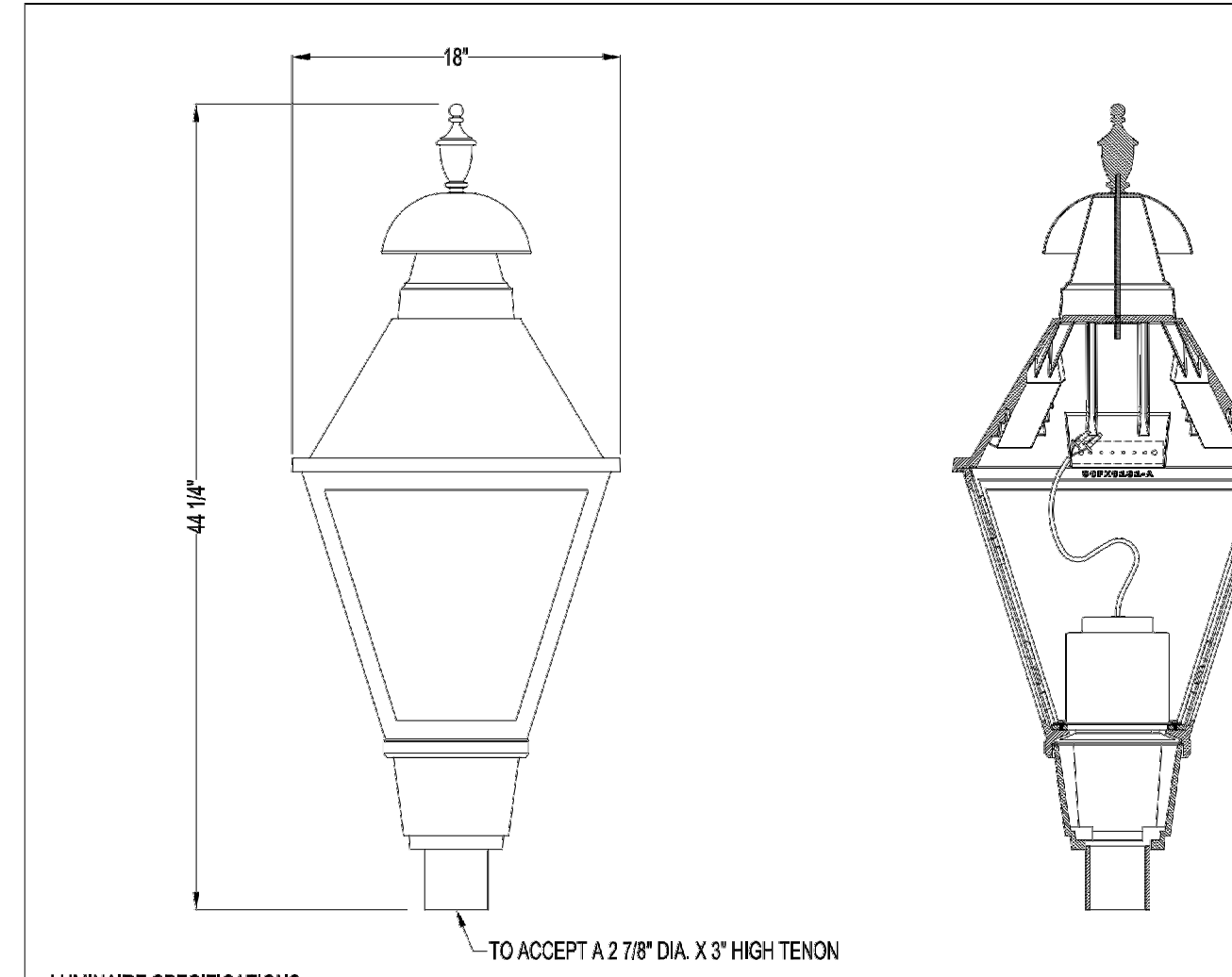


**48 Inch Teak Bench**  
 Quantity = 4



**Teak Furniture Anchor Detail**  
 CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION

**TEAK BENCH DETAIL**  
 NOT TO SCALE



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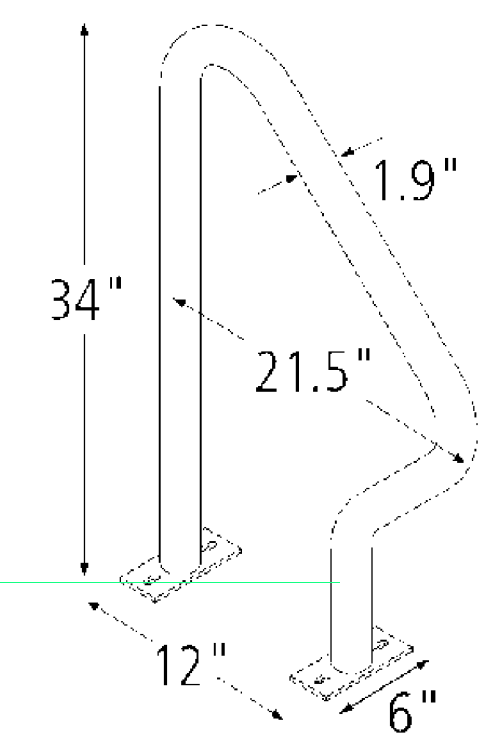
PROJECTED AREAS AND WEIGHT

SECTION	PROJ. AREA	Cd	E.P.A.
FIXTURE	2.15 Sq. Ft.	1.20	2.58 Sq. Ft.
<b>TOTAL ASSEMBLY WEIGHT</b>			<b>30 LBS.</b>

LUMINAIRE SPECIFICATIONS  
 STYLE: CLEARWATER WITH COOLCAST™ HEAT DISSIPATING ROOF AND CLEARWATER FINIAL - LED SYSTEM  
 HEIGHT: 44 1/4"  
 WIDTH: 18"  
 MATERIAL: CAST ALUMINUM ALLOY ANSI 356 PER A.S.T.M. B26-95  
 LAMPING: CREE MCE AND XPE LED - PLEASE ADVISE WATTAGE (LEO...) 88 WATT MAX  
 VOLTAGE: ELECTRONIC WIRE AT  (EV1) 120  (EV6) 208  (EV2) 240  (EV7) 277  
 NUMBER OF BOARDS:  (X2) 2-BOARDS  (X4) 4-BOARDS  
 PANELS:  
 (Y) ACRYLIC  (PLO) CLEAR  (SDP) SEEDED  (PLF) FROSTED  (PRM) PRISMATIC  
 (P) POLYCARBONATE  (PLO) CLEAR  (PLF) FROSTED  (PBP) PEBBLED  
 DISTRIBUTION:  (HC2) TYPE II - SILVER REFLECTOR  (HC3) TYPE III - WHITE REFLECTOR  (HC5) TYPE V - NO REFLECTOR  
 FINISH: PRIME PAINT THEN FINISH SHERWIN WILLIAMS ACROLON - PLEASE ADVISE COLOR  
 COLOR TEMPERATURE:  (WARM) 3000K  (NEUTRAL) 4500K  (COOL) 6000K  
 PHOTO CONTROL:  OPTIONAL - BUTTON TYPE

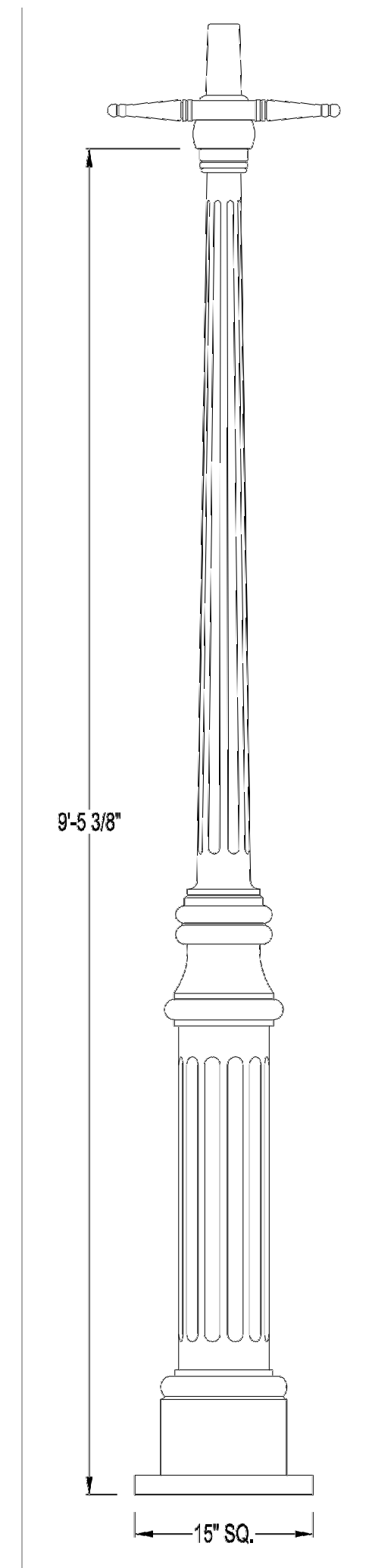
**Spring City Electrical Mfg. Co.**  
 HALL AND MAIN STREETS - P.O. BOX 19 - SPRING CITY, PA. 19475  
 PHONE (610) 948-4000 FAX (610) 948-5577  
 E-mail ADDRESS: sales@springcity.com

DESCRIPTION	ALMCLW-LED_EV_X-_-_-HC_FCW	PDF



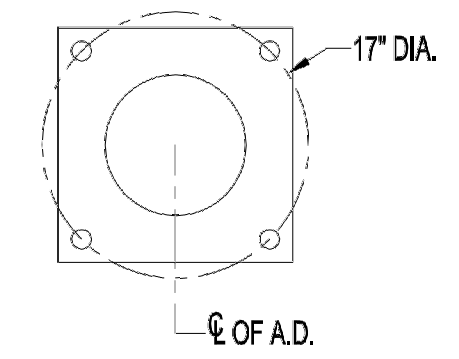
NOTE:  
 1. SWERVE RACK BY AMERICAN BICYCLE SECURITY COMPANY.  
 WWW.AMERIBIKE.COM (800)245-3723

**BICYCLE RACK DETAIL**  
 NOT TO SCALE



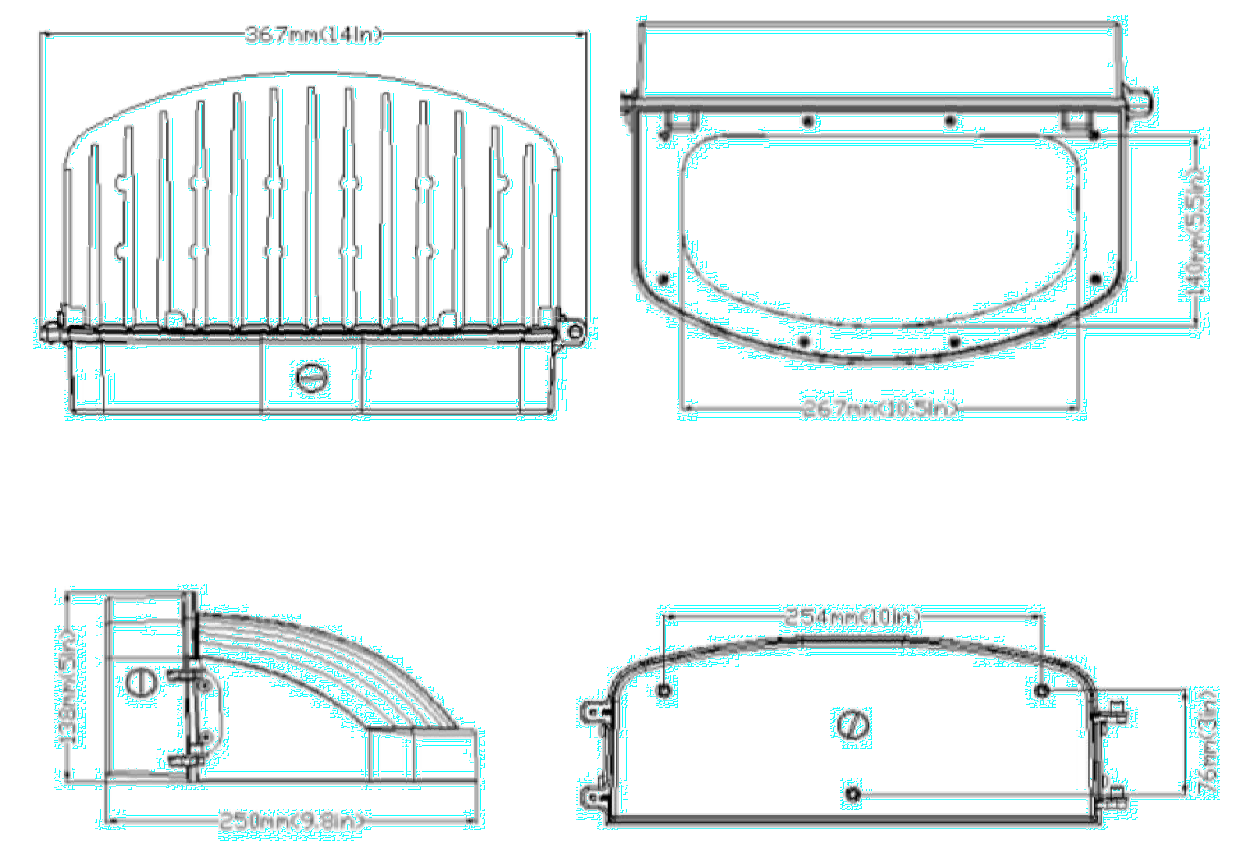
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LAMP POST SPECIFICATIONS  
 STYLE: HANCOCK/COB WITH LADDER REST  
 HEIGHT: 9'-5 3/8"  
 BASE: 15" SQUARE  
 MATERIAL:  (A) 1 PIECE, CAST ALUMINUM ALLOY ANSI 356 PER A.S.T.M. B26-95  
 (I) 1 PIECE, CAST IRON PER A.S.T.M. A48-83 CLASS 30  
 (D) 1 PIECE, CAST DUCTILE IRON PER A536-84 GRADE 65-45-12  
 FINISH: PRIME PAINT THEN FINISH SHERWIN WILLIAMS ACROLON - PLEASE ADVISE COLOR  
 ACCESS DOOR: LOCATED IN BASE SECURED WITH TAMPER PROOF HEX SOCKET SECURITY MACHINE SCREWS  
 GROUND STUD PROVISIONS: DRILL AND TAP INSIDE WALL OF BASE OPPOSITE ACCESS DOOR TO ACCOMMODATE A 1/4"-20 GROUND STUD (STUD SUPPLIED BY OTHERS)  
 ANCHOR BOLTS: (4) 3/4" DIA. X 24" LONG + 3" HOOK (FULLY GALVANIZED WITH 1 GALVANIZED NUT AND 1 GALVANIZED WASHER PER BOLT)  
 BOLT PROJECTION: 3" REQUIRED  
 TENON: \* DIA. X \* HIGH



**Spring City Electrical Mfg. Co.**  
 HALL AND MAIN STREETS - P.O. BOX 19 - SPRING CITY, PA. 19475  
 PHONE (610) 948-4000 FAX (610) 948-5577  
 E-mail ADDRESS: sales@springcity.com

DESCRIPTION	_PSHNB-15-09.45-LR	PDF



**WALL SCONCE DETAIL**  
 NOT TO SCALE

**ISSUED FOR REVIEW**  
 DECEMBER 20, 2013

PROFESSIONAL ENGINEER FOR  
 ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	BIG/MCU/WBSK/SIDG/WFM/AM

APPLICANT/OWNER:  
**ORION UNH LLC**  
 225 FRANKLIN STREET, 26TH FLOOR  
 BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
 25/35 MAIN STREET  
 DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	C - DETAIL
DRAFTED BY:	WBL	CHECKED BY:	RPC

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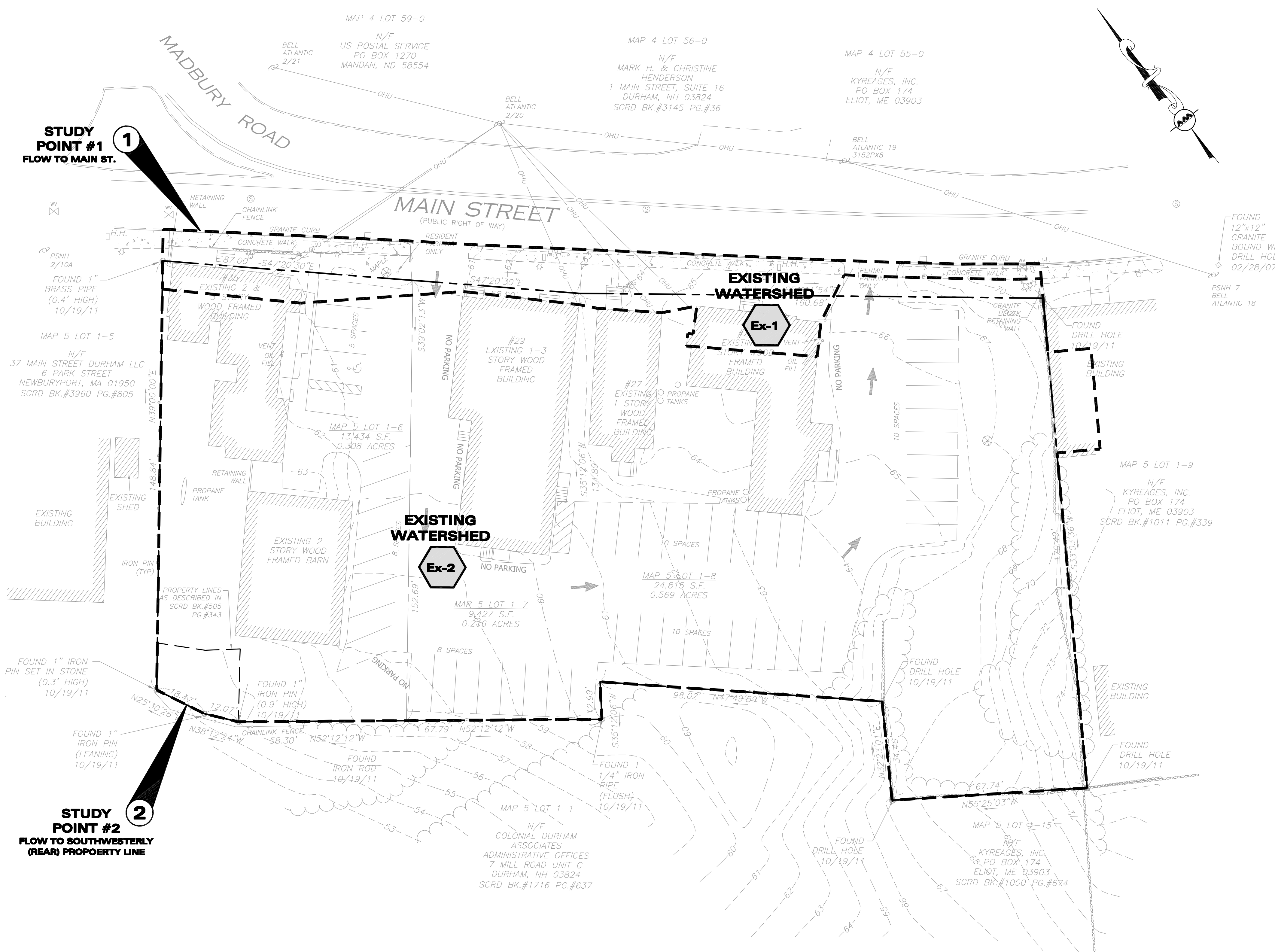
DRAWING TITLE:	SHEET No.
<b>DETAILS</b>	<b>D-5</b>



**PRE-DEVELOPMENT**

**LEGEND:**

EX. PROPERTY LINE	---
PRE-DEV. WATERSHED AREA	— — — — —
SCS SOILS BOUNDARY	— — — — —
Tc FLOW PATH	A — — — — — B
WETLAND	▾ ▾ ▾ ▾ ▾
WETLAND BUFFER 25'	— — — — —
WETLAND BUFFER 50'	— — — — —
WETLAND BUFFER 100'	— — — — —
SHORELINE/EDGE OF WATER	— — — — —
FLOODPLAIN	— — — — —
WETLAND DISTURBANCE	▨ ▨ ▨ ▨ ▨
WETLAND REPLICATION	▩ ▩ ▩ ▩ ▩



**STUDY POINT #1**  
 FLOW TO MAIN ST.

**STUDY POINT #2**  
 FLOW TO SOUTHWESTERLY  
 (REAR) PROPERTY LINE

**ISSUED FOR REVIEW**  
 DECEMBER 20, 2013

PROFESSIONAL ENGINEER FOR  
 ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
**ORION UNH LLC**  
 225 FRANKLIN STREET, 26TH FLOOR  
 BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
 25/35 MAIN STREET  
 DURHAM, NEW HAMPSHIRE

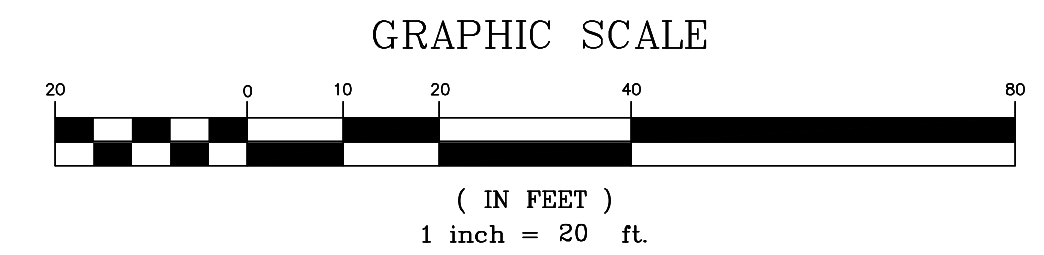
PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	C - LAYOUT
DRAFTED BY:	WBL	CHECKED BY:	RPC



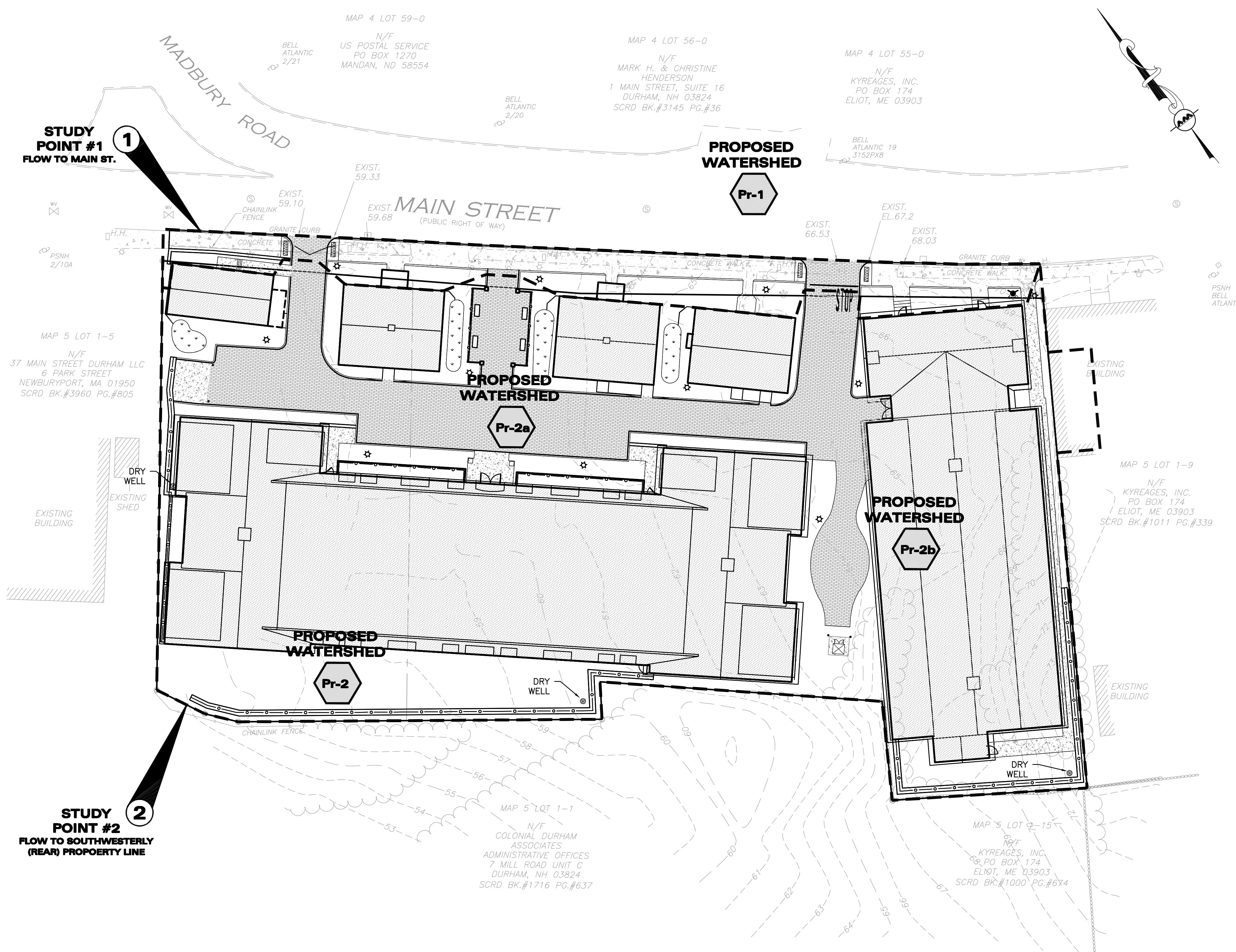
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DRAWING TITLE:	SHEET No.
<b>EXISTING WATERSHED PLAN</b>	<b>EWP</b>





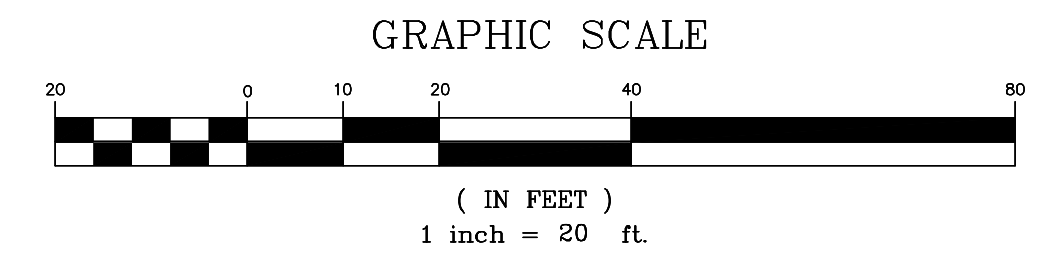


**POST DEVELOPMENT LEGEND:**

PROP. PROPERTY LINE	---
EX. PROPERTY LINE	---
POST-DEV. WATERSHED AREA	▬▬▬▬▬▬
SCS SOILS BOUNDARY	▬▬▬▬▬▬
Tc FLOW PATH	A — B
WETLAND	▬▬▬▬▬▬
WETLAND BUFFER 25'	▬▬▬▬▬▬
WETLAND BUFFER 50'	▬▬▬▬▬▬
WETLAND BUFFER 100'	▬▬▬▬▬▬
SHORELINE/EDGE OF WATER	▬▬▬▬▬▬
FLOODPLAIN	▬▬▬▬▬▬
WETLAND DISTURBANCE	▬▬▬▬▬▬
WETLAND REPLICATION	▬▬▬▬▬▬

**STUDY POINT #1**  
FLOW TO MAIN ST.

**STUDY POINT #2**  
FLOW TO SOUTHWESTERLY  
(REAR) PROPERTY LINE



**D|A**  
DeStefano Architects

23 High Street  
Portsmouth, NH 03801

P: 603.431.8701  
F: 603.422.8707

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PROFESSIONAL ENGINEER FOR  
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REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
**ORION UNH LLC**  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	C - LAYOUT
DRAFTED BY:	WBL	CHECKED BY:	RPC



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DRAWING TITLE: **PROPOSED WATERSHED PLAN** SHEET No. **PWP**





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PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
ORION UNH LLC  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:  
**ORION  
STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

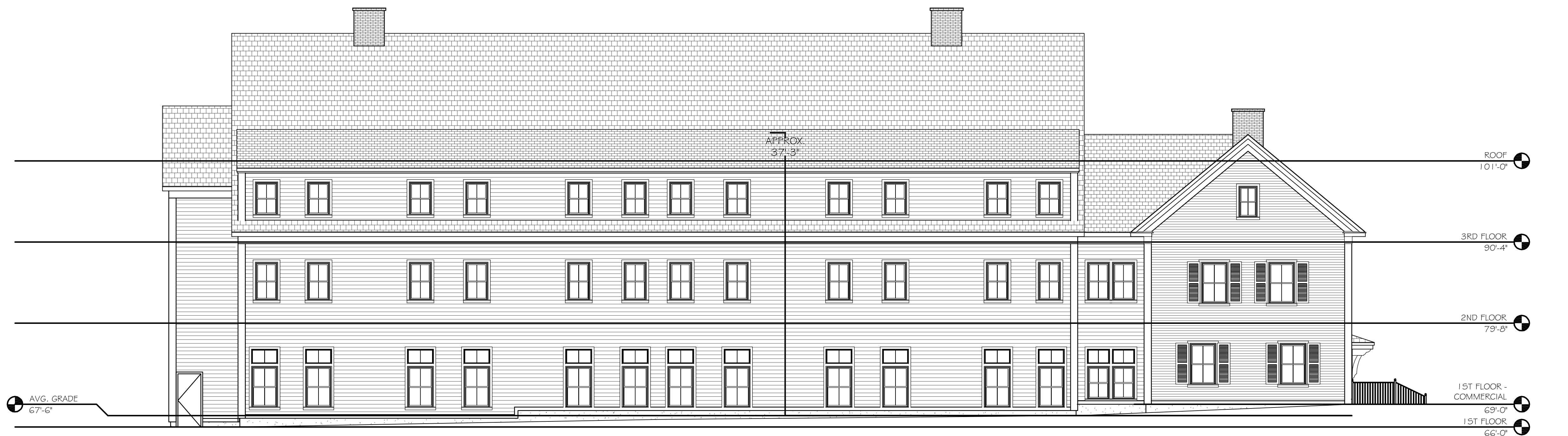
PROJECT NO. 1925-01    DATE: 09-04-13  
SCALE: 1" = 20'    DWG. NAME:  
DRAFTED BY: WBL    CHECKED BY: RPC

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DRAWING TITLE: **Building A Elevations**    SHEET No. **A-2.1**



Building A East Elevation  
1/8" = 1'-0" (2)



Building A West Elevation  
1/8" = 1'-0" (1)





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REV	DATE	DESCRIPTION
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1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
**ORION UNH LLC**  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	
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DRAWING TITLE: **Building A&B Elevations** SHEET No. **A-2.2**



Building B East Elevation  
1/8" = 1'-0" 4



Building A South Elevation  
1/8" = 1'-0" 2



Building B West Elevation  
1/8" = 1'-0" 3



Building A North Elevation  
1/8" = 1'-0" 1





Building B North Elevation 2  
1/8" = 1'-0" 2



Building B North Elevation 1  
1/8" = 1'-0" 1



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PROFESSIONAL ENGINEER FOR  
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REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
ORION UNH LLC  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 09-04-13  
SCALE: 1" = 20' DWG. NAME:  
DRAFTED BY: WBL CHECKED BY: RPC

PREPARED BY:

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DRAWING TITLE: **Building B Elevations** SHEET No. **A-2.3**





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F: 603.422.8707

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REV	DATE	DESCRIPTION
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1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
ORION UNH LLC  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:  
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25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 09-04-13  
SCALE: 1" = 20' DWG. NAME:  
DRAFTED BY: WBL CHECKED BY: RPC

PREPARED BY:

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DRAWING TITLE: **Building B Elevations** SHEET No. **A-2.4**

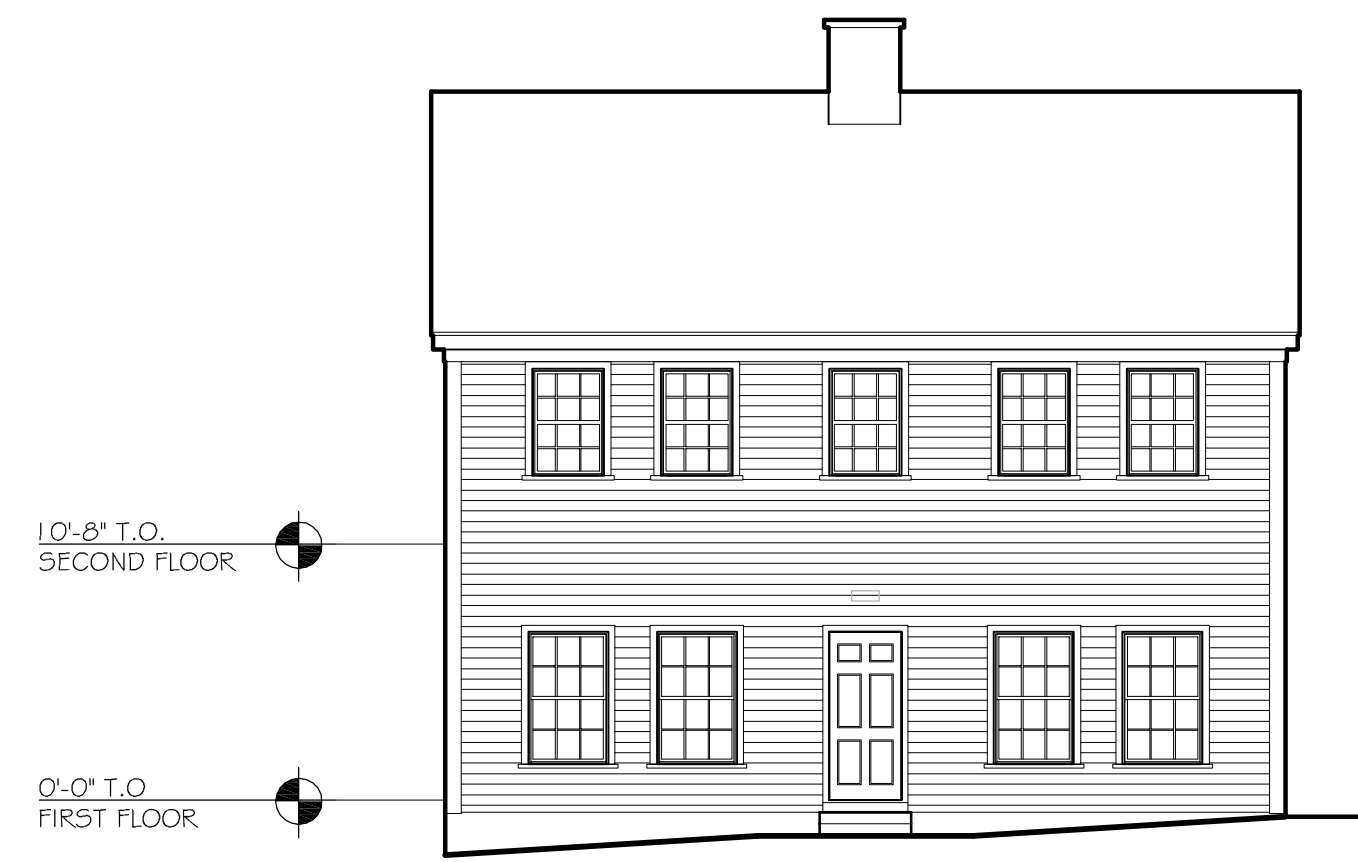


Building B South Elevation 2  
1/8" = 1'-0" 2

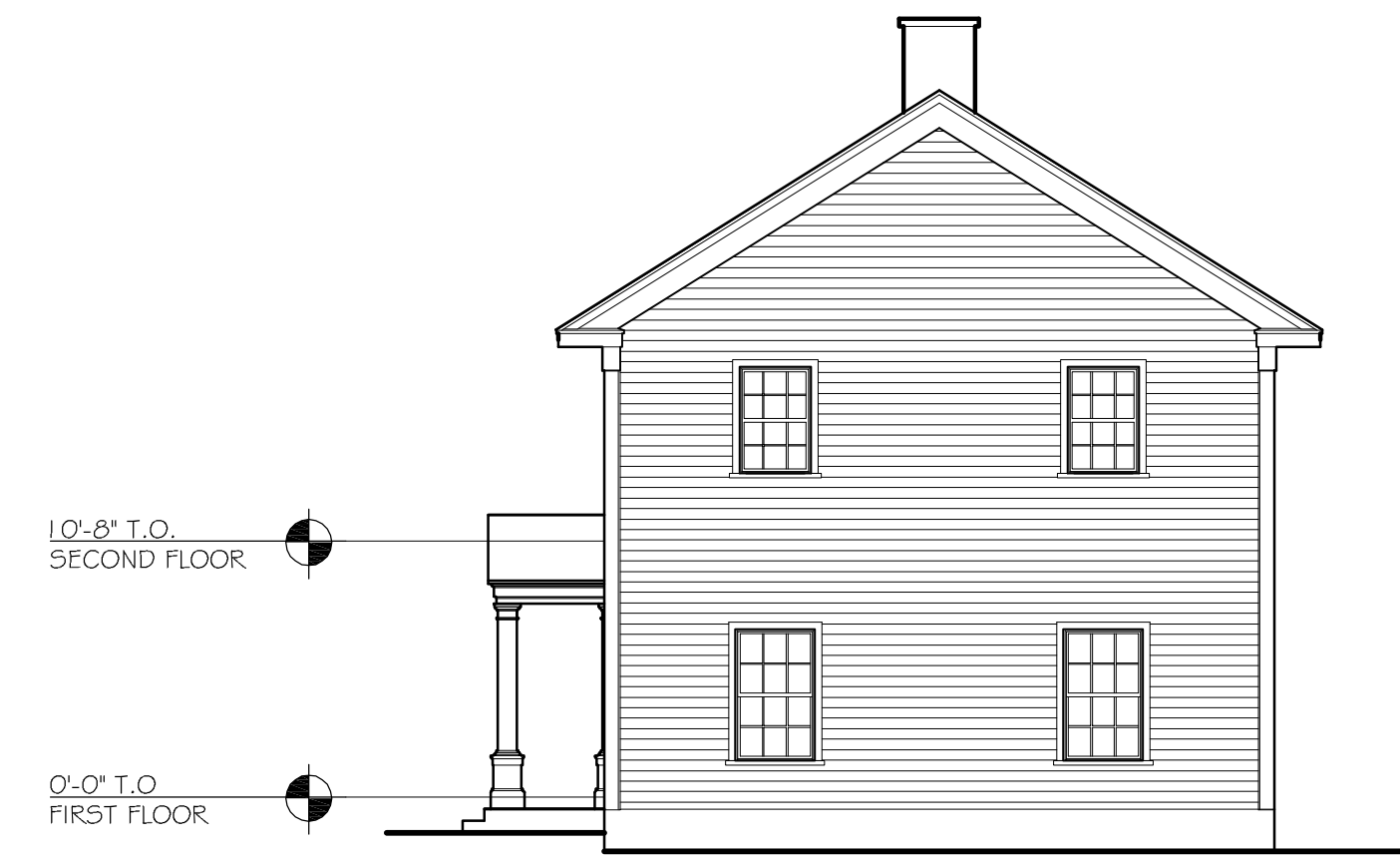


Building B South Elevation 1  
1/8" = 1'-0" 1

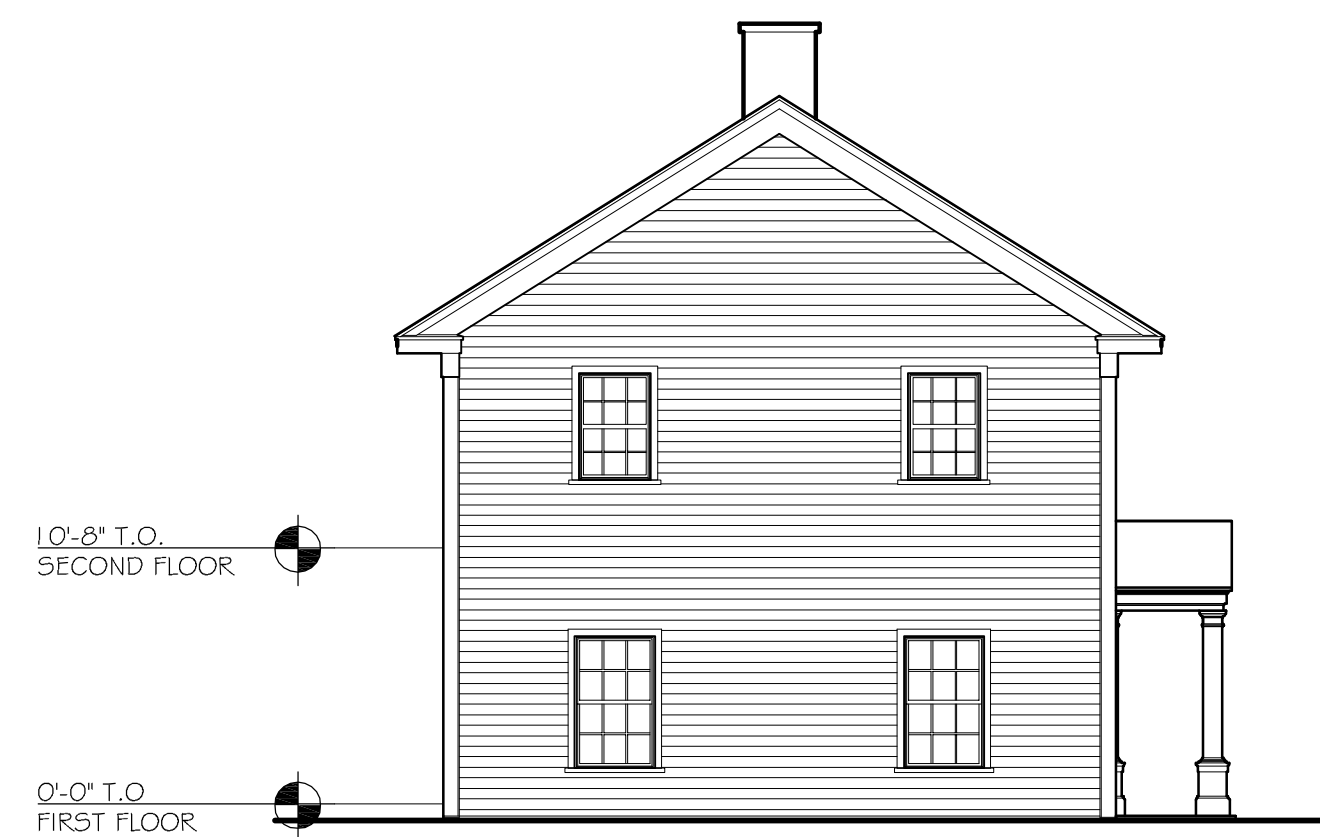




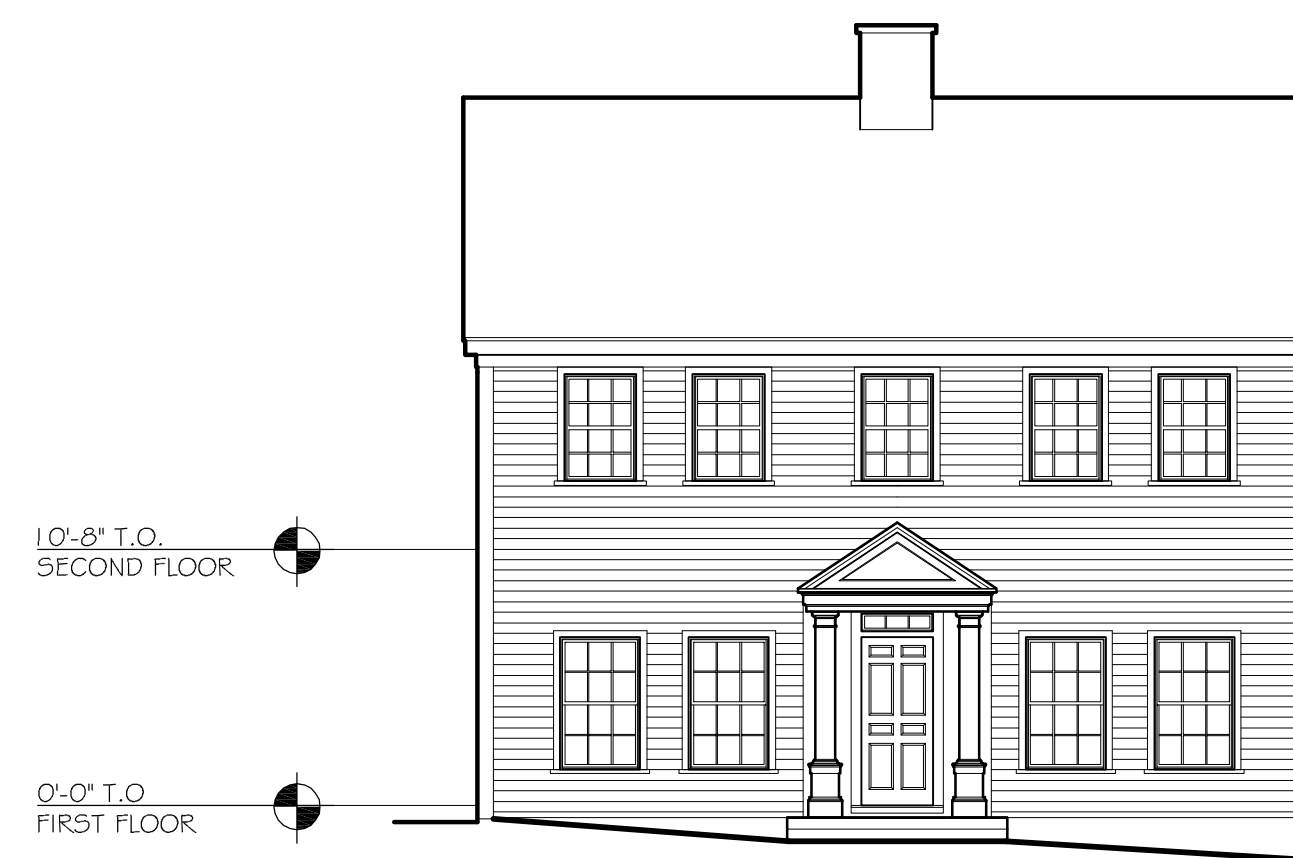
Building C/D Typical South Elevation  
1/8" = 1'-0" 4



Building C/D Typical West Elevation  
1/8" = 1'-0" 2



Building C/D Typical East Elevation  
1/8" = 1'-0" 3



Building C/D Typical North Elevation  
1/8" = 1'-0" 1

**ISSUED FOR REVIEW**  
DECEMBER 20, 2013

PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:

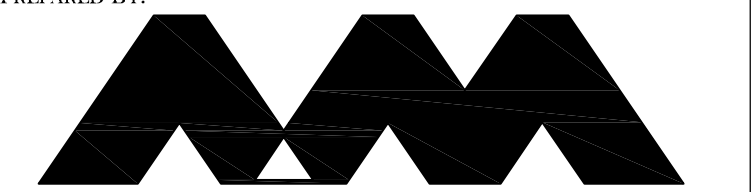
ORION UNH LLC  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:

ORION  
STUDENT HOUSING  
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PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 20'	DWG. NAME:	
DRAFTED BY:	WBL	CHECKED BY:	RPC

PREPARED BY:



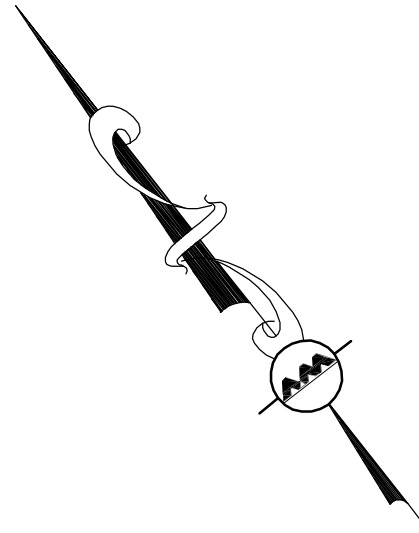
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DRAWING TITLE:	SHEET No.
BUILDING C&D ELEVATIONS	A-2.5



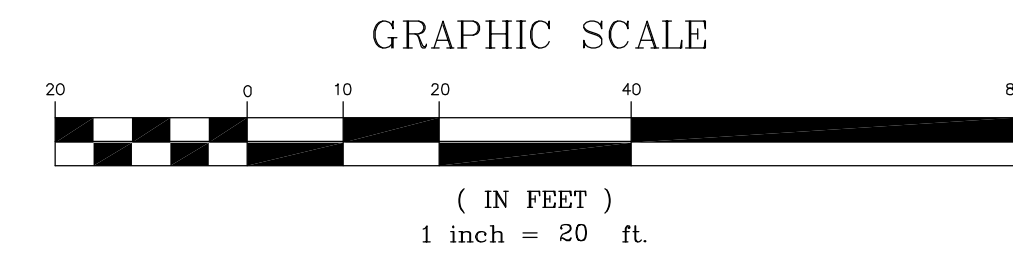
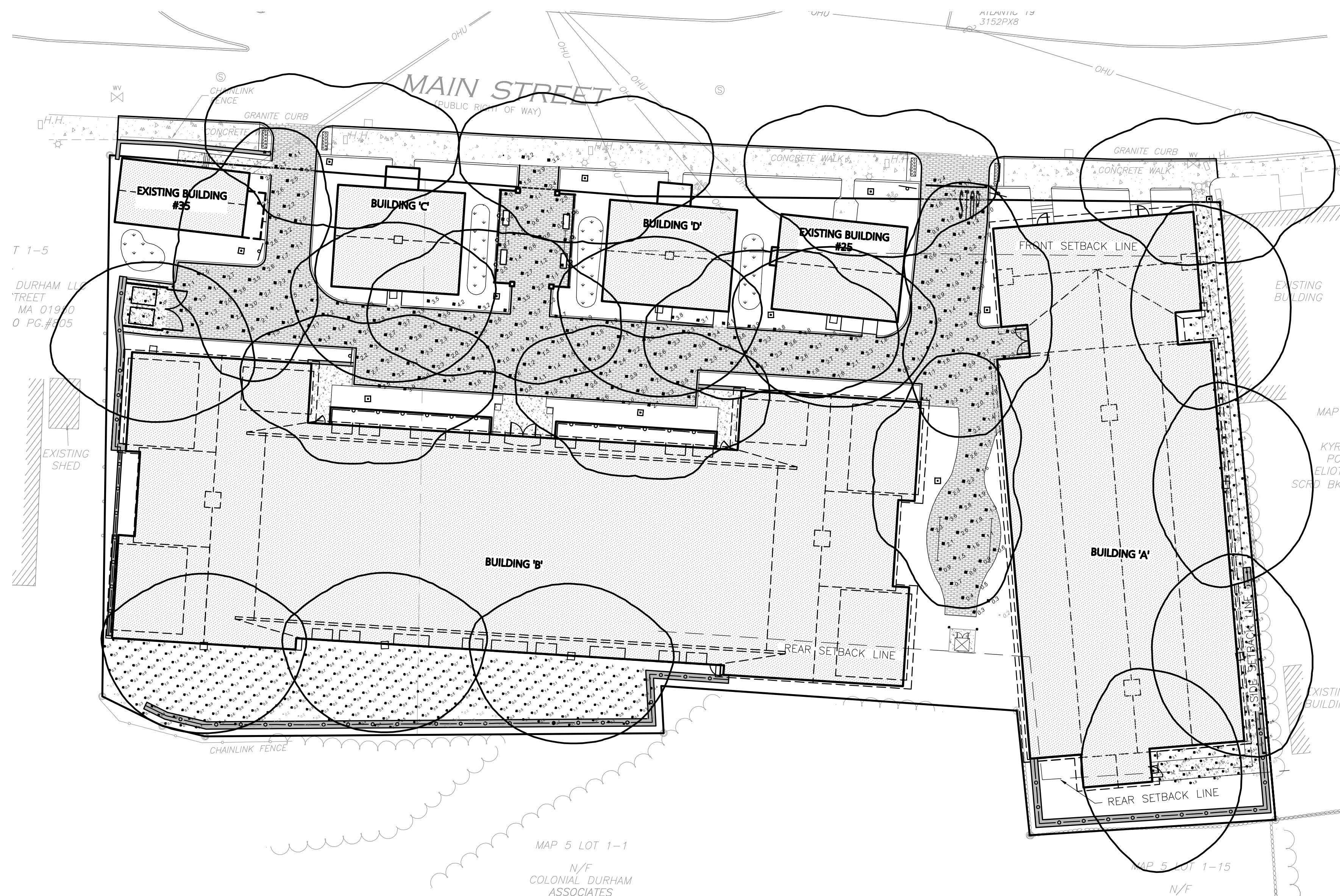


**LUMINAIRE SCHEDULE**

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
□	A	11	Spring City "Clearwater" 55 watt LED	CLW-LES5-X2-45-CR3-YSDP	LED 1W Cool White (350mA) (core only)	CLW-LE100-X2-45-CR3-YSDP.ies	Absolute	0.45	1
□	B	11	LeoTek "Wall Sconce" 36 watt LED	CAST ALUMINUM HEAT SINK HOUSING, CLEAR PLASTIC ENCLOSURE.	(36) WHITE LEDS WITH CLEAR PLASTIC OPTICS BELOW	LWS1-036-MV-CW-3M-XX_LT_16606_10-06-2009.ies	Absolute	0.81	36.6

**STATISTICS**

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Area Behind Building A	+	1.5 fc	3.6 fc	0.2 fc	18.0:1	7.5:1
Area Behind Building B	+	1.0 fc	3.5 fc	0.2 fc	17.5:1	5.0:1
Dumpster Area	+	1.8 fc	3.0 fc	1.0 fc	3.0:1	1.8:1
Site Lighting	+	2.1 fc	5.8 fc	0.2 fc	29.0:1	10.5:1



**DIA**  
 DeStefano Architects  
 23 High Street  
 Portsmouth, NH 03801  
 P: 603.431.8701  
 F: 603.422.8707

**speclines**  
 INNOVATIVE OUTDOOR LIGHTING SOLUTIONS™

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
**ORION UNH LLC**  
 225 FRANKLIN STREET, 26TH FLOOR  
 BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
 25/35 MAIN STREET  
 DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	10-25-13
SCALE:	1" = 20'	DWG. NAME:	LIGHTING
DRAFTED BY:	PB	CHECKED BY:	RPC

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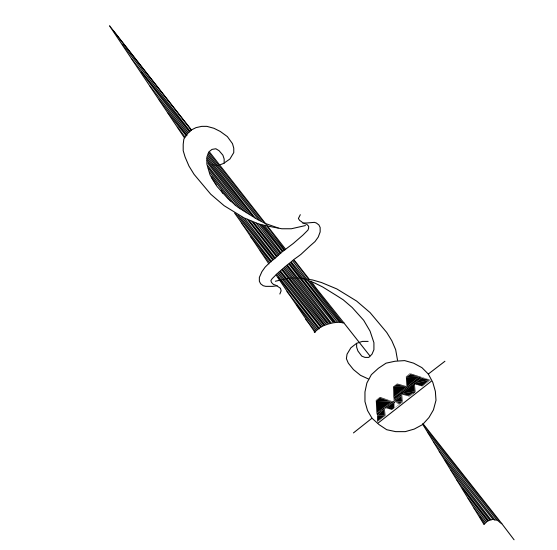
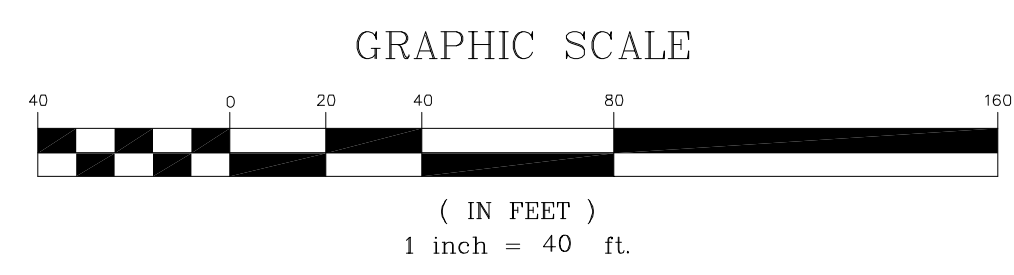
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DRAWING TITLE:	SHEET No.
<b>LIGHTING PLAN</b>	<b>L-1</b>





STANDARD SIGNAGE TABLE:					
DESC.	SIGN	SIZE	MOUNTING HEIGHT	DESCRIPTION	REFLECTORIZED
R7-1		12" x 18"	7' - 0"	RED ON WHITE	YES
R3-17		24" x 18"	7' - 0"	WHITE ON GRAY	YES
R11-2		36" x 36"	7' - 0"	BLACK ON YELLOW	YES
W16-7P		24" x 12"	BELOW W11-2	BLACK ON YELLOW	YES
R12-1		36" x 36"	7' - 0"	BLACK ON YELLOW	YES



**ISSUED FOR REVIEW**  
DECEMBER 20, 2013

PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK

APPLICANT/OWNER:  
**ORION UNH LLC**  
225 FRANKLIN STREET, 26TH FLOOR  
BOSTON, MA 02110

PROJECT:  
**ORION STUDENT HOUSING**  
25/35 MAIN STREET  
DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-13
SCALE:	1" = 40'	DWG. NAME:	TRAFFIC REC.
DRAFTED BY:	WBL	CHECKED BY:	RPC

**ALLEN & MAJOR ASSOCIATES, INC.**  
civil & structural engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com

250 COMMERCIAL STREET  
SUITE 1001  
MANCHESTER, NH 03101  
TEL: (603) 627-5500  
FAX: (603) 627-5501  
WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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DRAWING TITLE: <b>TRAFFIC RECOMMENDATIONS</b>	SHEET No. <b>TR-1</b>
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