CITY OF SOMERVILLE, MASSACHUSETTS
Department of Purchasing
JOSEPH A. CURTATONE
MAYOR

To: Prospective Bidders IFB 14-33, Beacon Street Utility Project

From: Orazio DeLuca, Contract Manager

Date: October 30, 2013

Re: Questions, answers and updated forms

Addendum No. 2 to RFP 14-33

The City is issuing this addendum #2 to IFB 14-33 Beacon Street Utility Project, for the following : Questions and Answers, updated forms.

1. Are there any limitations on the styrene discharge from water or condensate utilized during sewer lining?

   There are several types of CIPP that are included in the specifications. The process water or steam for the CIPP chosen by the contractor should be handled in accordance with applicable state and federal regulations. MWRA regulations must be met as part of this work.

2. Will inverts be required to be rehabilitated under Item No. 220.10 Brick Lining?

   It is assumed the channels will be rehabilitated under Items 251.08 through 251.48. If the inverts are not rehabilitated under these Items, then they will need to be rehabilitated under Item 220.10.

3. The specification detail vacuum testing of the lined manholes. This requirement is typically waived as the entire manhole interior is coated. The coordination of sewer lining and manhole lining during bypass operations is impractical as the sewer manhole lining would necessitate multiple mobilizations and is not cost effective, therefore resulting in a substantial increase in the costs due to redundant bypass setups.

   The City has waived vacuum testing of CIPP and lined sewer manholes on previous projects so long as the final video inspection shows the CIPP (and top hats) correctly installed and the manhole lining was performed correctly. If the video inspection or field observations indicate improper installation of either, low pressure vacuum testing will be required.

4. Are we to assume that the bypass pumping of the 48" brick CS will be minimal as the existing system is separated and consequently the work can be scheduled during dry weather flows? Is there any flow data relating to all sewers including the 48" for the design of bypass flows?

   We anticipate the flows in the 48" brick CS to be light in dry weather conditions. The City does not have any flow data for the sewers in this area.

5. Please provide a copy of the meeting agenda, meeting minutes, and attendance sheet from the pre-construction meeting.

   Please see the attached forms.

6. Please provide a copy of the plan holders list, if available.

   Please see the attached forms.

7. The temporary bypass specification does not provide a minimum temporary bypass diameter. Please clarify the required minimum temporary bypass diameter.

   The diameter of the bypass will depend on the length of main being bypassed, the number of services to be fed from the bypass and the amount of hydrants to be on the bypass. This plan will be developed by the Contractor and is to be submitted to the Engineer for review and approval prior to implementation.

8. The temporary bypass specification does not indicate the requirements for connecting temporary services for domestic use (services that are smaller than 4") to the temporary bypass system. Typically, installation involves removing the water meter at each locating and running two hoses into the basement. Will this be an acceptable method for connecting temporary water services for domestic use? Please clarify.

   The bypass specification states "The work under this section consists of furnishing, installing, chlorinating, maintaining, removing the by-pass, restoration of disturbed areas and installation of temporary service pipe of the size required to adequately service water customers." This includes all water service customers, regardless of service size. Installing two hoses to the basement is not acceptable. Typically, the existing services are connected to the bypass at the curb stop.

9. Please clarify the intended use for "Item 431.1 - High Early Strength Cement Concrete Base Course". The associated specification section indicates that it is to be used for sidewalk restoration, but the detail in the plans indicates that sidewalk restoration shall consist of 4" of hot mix asphalt. Please clarify.

   The specifications state Item 431.1 is to be used for roadway patches. The Roadway Patch Detail shows the same.

10. Under which item is the cutting, removal, and disposal of concrete sidewalk panels included?

    Cutting is included under Item 482.3. Removal and disposal is under Item 120.1.

11. Please provide a detail for the concrete sidewalk restoration.

    Sidewalks are to be patched per detail Sidewalk/Driveway Patch Detail.

12. The Pre-Bid Conference sign in sheet - can you e-mail attendees copies this week?

    Please see the attached forms.

13. In the Pre-Bid Conference the City stated that 'water resulting from the CIP sewer lining process would not be an issue' in terms of having to treat it for Styrene. If later the City directs the contractor to treat and test it before discharge, will he be reimbursed for the extra costs in the form of a Time & Materials change order?

    There are several types of CIPP that are included in the specifications. The process water or steam for the CIPP chosen by the contractor should be handled in accordance with applicable state and federal regulations. MWRA regulations must be met as part of this work.

14. Comprehensive inspection videos and reports for existing water and sewer lines - do you have them? If so can they be made available to view on October 28th? They're critical in estimating the scope of work.\

    Video and inspection reports will be made available to the low-bid contractor. Plans (as designed) are based on a review of the video inspections. Contractors should estimate project based on information provided on the plans.

15. Water distribution plans (a.k.a. gate prints) – do you have them? If so can they be made available to look at October 28th? They're critical in estimating the scope of the temporary bypass system – especially if there's dead ended mains or buried gate valves, or if there's hydrant feeds to be ran outside the scope of work.

    Bidders should base bid based on information shown on the attached plans or a site walk conducted by a representative of their company. Proposed bypass plan will be submitted to the City for approval prior to the start of construction.

16. In the Pre-Bid Conference the City wanted all non-copper services to be replaced from street to curb stop. Does the city know of specific addresses that are very old or have been flagged to be replaced? If so can you make a list available October 28th?

    Based on available information, lead services are located at the following addresses:
    Beacon Street: 5, 23, 33, 41, 46, 51, 55, 56, 82, 89, 97, 103, 105, 109, 277, 290, 293, 295, 299, 301, 304, 306, 312, 314, 360, 361, 372, 110, 127, 151, 153r, 155, 159, 181, 215, 221, 259r, 264r, 278, 280, 316, 320, 332, 333, 338, 341, 343, 345, 347, 349, 353, 357. 406 Washington Street.

17. It's our understanding that a final decision as to where and when work hours will be restricted will be made after the job has been awarded and subject to a traffic management plan review. Can bidders get some information on October 28th to better understand the City's parameters which determine whether or not a time restriction is instated?

    Construction hours are anticipated to be 7am through 5pm, Monday through Friday. Should extended hours be necessary, approval must be obtained by the DPW Commissioner.

18. Which item(s) will cover payment for restoration of concrete sidewalks that are impacted during construction operation?

    Item 460.

19. Item 129 - PAVEMENT MILLING – Is it calculated based on the entire trench width plus 12" on either side, or is it calculated only on the 12" on the side(s) of the trench in the roadway?

    The entire trench width plus 12" on both sides.

20. Which item(s) cover payment for Landscaping and Tree removal or replacement?

Tree removal will be paid for under Item 102.1. There is no tree replacement or landscaping as part of this project.

21. Drawing C3.0 shows a "Temporary Patch Detail" with 3" of mix and 8" of gravel. In which situations does the City intend to employ this?

    Temporary patches are used when a permanent patch cannot be placed. Temporary patches are to be replaced with permanent patches by the completion of the project.

    Also, what are some possible situations the City would use item 472 – HOT MIX ASPHALT FOR MISCELLANEOUS WORK?

    Item 472 is for temporary patches.

22. In Section 250 -- PVC Sewer Lining (Non-Man Entry) there is no mention of the MWRA's requirements and permitting for the release of the water used to cured CIPP liners. Have these MWRA requirements been suspended for this project or are they still in effect? We just completed a project in Arlington where they were in effect and it is our understanding these requirements are now standard procedure for any CIPP lining within the MWRA system. This can add a lot of cost to a project especially when dealing with larger diameter sewers.

    There are several types of CIPP that are included in the specifications. The process water or steam for the CIPP chosen by the contractor should be handled in accordance with applicable state and federal regulations. MWRA regulations must be met as part of this work.

23. In Section 252 -- By-Pass Pumping does mention that the by-pass pumping system 'shall have sufficient capacity to pump the full capacity of the pipeline to be by-passed.' While we understand this wording, we cannot know how much water flows through these pipes without flow rates. Do you have any flow rates? Can you give us average daily flows for these sewers? We are only concerned with the larger diameter sewers, 18", 28", 36" & 48" because these are capable of handling huge amounts of water. A full 48" pipe will require a by-pass system with at least two 18" pipes running down Beacon Street.

    We anticipate the flows in the 48" brick CS to be light in dry weather conditions. The City does not have any flow data for the sewers in this area.

24. What services require temporary connections and what sizes are the services.

    All services require temporary connections. Typical residential connections on Beacon Street are 3/4- inch. Domestic service and fire protection sizes would need further investigation in the field.

25. The spec calls for Pentagon Operating Nut for temporary hydrants. This hasn't been used in years. Is it acceptable to use the industry standard Victaulic style butterfly valves with an operating tool which we can provide to the fire department? Yes. A standard crescent wrench can be used as well.

26. The spec calls for 6" bypass wherever there are fire hydrants or fire services. This would mean we would need 6" bypass on both sides of the street. Is this your intention?

    The City expects that domestic service and fire protection are provided to all properties along the project route. Should the low-bid contractor have a different proposal on accomplishing that, it should be submitted to the City for review and approval prior to construction.

27. In the pre-bid meeting it was said that an addendum would be issued regarding night work. We have not seen this yet. We need clarification on what work will be required to be performed at night.

    At this time, night work is not required.

28. A large number of services will need tap hole excavations for temporary connections. There is no way to know how many buildings we will have access too with connection availability versus having to excavate a tap hole. There really should be a bid item for tap holes or an estimate of quantity of tap holes provided so we can include the cost in our bypass price.

    All services will need to be connected to the by-pass. Contractors should assume excavation will be required at every building to connect the building service to the by-pass.

29. Section 201 Basins, manholes and inlets - 201.66 Sanitary Sewer Lining - Sealant Coating Application: "Each coat shall completely cover the base, walls, INVERTS, corbel and chimney up to the manhole frame and cover and shall be fully adhered and free of voids or holidays"
    For the Lining of the sanitary sewer manholes will the town be requiring the contractors to Coat the 48" Diameter invert within the manholes called out for rehabilitation? The typical method of manhole rehab on large diameter pipe is to line down to the water line, Will this method be acceptable.

    It is assumed the channels will be rehabilitated under Items 251.08 through 251.48. If the inverts are not rehabilitated under these Items, then they will need to be rehabilitated under Item 220.10.

30. Section 201 Basins, manholes and inlets - 201.67 Manhole Vacuum Testing "The Contractor shall furnish the vacuum equipment, test plugs, water and appurtenances necessary for testing all manholes"
    The Specs call to vacuum test all manholes that are being rehabilitated. The Manholes called out for rehabilitation on the 48" line cannot be vacuum testes as there is no way to get a 48" plug through the manhole opening unless you remove the frame and cover from the structure making the test invalid. Will the city waive the vacuum testing and allow for a through visual inspection of the manholes?

    The City has waived vacuum testing of CIPP and lined sewer manholes on previous projects so long as the final video inspection shows the CIPP (and top hats) correctly installed and the manhole lining was performed correctly. If the video inspection or field observations indicate improper installation of either, low pressure vacuum testing will be required.

31. Section 256 Service Lateral Top Hat Connection (non-Man Entry) - 256.42 Submittals:
    The Selected top hat shall be designed based upon the following criteria -
    CURED IN PLACE: CRITERIA: Modulus of Elasticity psi (ASTM D790)
    REQUIREMENT: 800,000 PSI
    The modulus of elasticity criteria requirement of 800,000 psi for the lateral connection liners is intensely over rated. It is our understanding that there may be one type of lateral connection liner that may achieve this requirement, but all other lateral lining systems do not meet this requirement.
    The Main line Cured in place pipe liner modulus of elasticity is only required to reach a PSI of 250,000 Psi as stated with in spec section 256.42 submittals. It is uncommon to require a higher MOE for the lateral connection liner than to the Main line CIPP liners.
    Is the service lateral top hat Modulus of elasticity requirement a typo?

    Using a top hat product with a modulus of elasticity equal to that of the CIPP is acceptable.

32. There does not appear to be an item for removal/replacement of trees. Under which item will the contractor be compensated for tree removal/replacement?

Tree removal will be paid for under Item 120.1

33. The proposed 8" water line will be replacing an existing 6" water line. There appears to be many water services connected to the existing 6" line. Under which item will the contractor be compensated for the replacement of these services?

    Reinstatement of the services will be provided as part of the installation of the 8" water line, Item 302.08.

34. Please provide information regarding flow in the existing sewer/drain/combined pipelines to be replaced. Flow information is required for properly sizing bypass pumping systems.

    There are many methods for bypassing pipelines. The required pumping is based on the length being bypassed and the services into the pipeline. The bypass plan will be developed by the Contractor and is to be submitted to the Engineer for review and approval prior to implementation.

35. Access the 48" Brick combine sewer/drain is required upstream of the first manhole located near Beacon St and the intersection of Roseland St in order to install the bypass pumping system.

    There are methods to bypass within a manhole as well as methods to bypass upstream of the manhole. The exact method used is a means and methods, to be determined by the contractor. Given the depth and size of the line, we anticipate the line being bypassed at the upstream manhole. We also anticipate that during dry conditions (low flow), the bypass can be accommodated by the system within Somerville Avenue. However, the bypass plan prepared by the Contractor will be reviewed by the City for approval prior to implementation.

    The nearest sewer manhole is on Somerville Ave. Can bypass piping be installed over the bridge?

    This is a means and method to be determined by the Contractor and reviewed by the City.

    If not, is a doghouse manhole required to be installed up stream of the manhole near the intersection of Roseland St?

    See previous response.

    Please clarify how we bypass from upstream of the Roseland St manhole.

    See previous response.

36. Is the bridge to Somerville Ave owned by the MBTA?

    The bridge is owned by the MBTA.

    Has access been granted to install temporary sewer/drain bypass over the bridge?

    No.

    If not, are there provisions in the contract for bypass upstream of the Roseland St manhole?

    This is a means and method to be determined by the Contractor and reviewed by the City.

37. Manhole Rehab 201.66 The spec says the finished thickness shall not exceed 1". What is the actual desired thickness? Are you expecting all manhole to be epoxy coated after the cement lining?

The desired thickness is typically between ½" and ¾", but is dependent on the product chosen and the manufacturer's recommendations. Yes, all rehabilitated manholes are to have sealant coating applied after cementitious coating is applied.

38. 201.67 Manhole Vacuum Testing: We would like vacuum testing deleted. Reason is because it is very difficult / next to impossible to get a seal on our lined pipe. Running by-pass during this operation is very costly. Most of the inverts will not be CIPP lined. At Pre Bid the goal was not to do the inverts. If the inverts are not rehabilitated in some form there will be no vacuum seal. Re request a visual inspect one year after final completion.

    The City has waived vacuum testing of CIPP and lined sewer manholes on previous projects so long as the final video inspection shows the CIPP (and top hats) correctly installed and the manhole lining was performed correctly. If the video inspection or field observations indicate improper installation of either, low pressure vacuum testing will be required.

39. Top Hats 256 I have not heard of anyone installing Top Hats in larger than a 24" pipe. Are we to assume that the Top Hats are for the small 8" to 15"?

    Tops hats are intended to be installed on service laterals. These are connected to the separate sewer under the sidewalks, not the combined system in the roadway.

40. By-pass 252.44 Spec calls for designing by-pass pumping to full capacity. The flow is minimal for a large diameter sewer. Can we design by-pass for the actual flows and not by-pass during any rain event?

    The bypass plan prepared by the Contractor will be reviewed by the City for approval prior to implementation.

41. We propose to CIPP the smaller pipes first that run parallel to the 48". Then use these lines to by-pass flows from the 48". We propose using Bauer pipe above ground and HDPE in the trench. Will this be acceptable?

    The bypass plan prepared by the Contractor will be reviewed by the City for approval prior to implementation.

42. Will the City provide space nearby that we can use as a lay down yard?

    On recent projects, the City has worked with the Contractor to provide laydown areas when available. However, the Contractor should not rely on City provided laydown areas when preparing the bid for this project.

43. One more question: If lining contractor wishes to install with water can the cure water be released into the sewer system?

    There are several types of CIPP that are included in the specifications. The process water or steam for the CIPP chosen by the contractor should be handled in accordance with applicable state and federal regulations. MWRA regulations must be met as part of this work.

44. Please provide dry weather flow data for the 48" combined sewer on Beacon Street.

    The City does not have flow data available.

45. Please provide dry weather flow data from the pump station's force main that feeds the 48" sewer on Beacon Street.

    The City does not have flow data available.

46. What is the slope of the 48" gravity sewer on Beacon Street? The spec calls for the bypass system to have sufficient capacity to pump the full capacity of the line to be bypassed. This cannot be calculated/sized without a slope/velocity.

    The inverts are provided on the plans. From these and the lengths of the pipe (from manhole to manhole) the Contractor can calculate the pipe slopes.

47. Where can the flow from the force main pumping into the 48" sewer on Beacon Street be intercepted?

    There are methods to bypass within a manhole as well as methods to bypass upstream of the manhole. The exact method used is a means and methods, to be determined by the contractor. Given the depth and size of the line, we anticipate the line being bypassed at the upstream manhole. We also anticipate that during dry conditions (low flow), the bypass can be accommodated by the system within Somerville Avenue. However, the bypass plan prepared by the Contractor will be reviewed by the City for approval prior to implementation.

48. Can a bypass be setup at the pump station and pumped into an adjacent system?

    See previous response.

49. Can a doghouse manhole be set prior to the SMH on Beacon Street between Roseland Street and Oxford Street?

    See previous response.

50. Will temporary discharge piping be allowed on the sidewalks of Beacon Street? If it is required to cover the full capacity of the 48" sewer (2) 18" discharge lines could be required to convey the flow depending on the 48" gravity sewer slope/velocity.

    There are methods to bypass within a manhole as well as methods to bypass upstream of the manhole. The exact method used is a means and methods, to be determined by the contractor. Given the depth and size of the line, we anticipate the line being bypassed at the upstream manhole. We also anticipate that during dry conditions (low flow), the bypass can be accommodated by the system within Somerville Avenue. However, the bypass plan prepared by the Contractor will be reviewed by the City for approval prior to implementation.

51. The 24" cast iron gas main appears to be within 2 feet of the 12" water main between Washington St and Dickerson. The gas main will be encroached upon in each access pit for water main lining between Washington and Dickerson. Has the City contact the gas company about the encroachment issues that will be encountered during the water main cleaning and lining on this portion of the project? Federal regulations regarding cast iron gas main encroachment may prevent the excavation of these access pits until the gas main is replaced with a new material or relocated.

    The Contractor will be responsible for coordination with the owners of the existing utilities within Beacon Street. It is not anticipated that this coordination will impact the work schedule.

52. Based on the existing DigSafe marks on site, it appears that access to the existing 12" water main may be obstructed by duct banks/conduit in various locations between Roseland and Washington. Has the City notified the various utility companies to coordinate for this project?

    There are many utilities within Beacon Street. The Contractor will need to contact the utility companies and coordinate with them as necessary.

53. Do all sideline valves on the water main function properly? A complete shutdown of the 12" main will be required to properly clean and cement line the pipe. If the valves do now function, will the City replace the valves, or will valve replacement be the responsibility of the contractor?

    The City will exercise the valves prior to the start of construction. Any valves not functioning will either be replaced by the City prior to construction or by the contractor prior to the start of construction. Only the City will operate the valves.

54. Has the City determined the size and location of all fire and domestic water services that will require temporary bypass? Multiple water services were observed in the field that were not shown on the plans.

    Domestic and fire protection services are shown on the plans based on available information from the DPW. The bypass specification states "The work under this section consists of furnishing, installing, chlorinating, maintaining, removing the by-pass, restoration of disturbed areas and installation of temporary service pipe of the size required to adequately service water customers." This includes all water service customers, regardless of service size. Services not shown on the plans will need to be connected to the by-pass. Contractors should assume excavation will be required at every building to connect the building service to the by-pass.

55. Is the contractor responsible to contact the USPS to coordinate the removal and replacement of mail drop-boxes that will be removed during the 8" water main installation?

    Yes.

56. Has the City received a schedule from the private utility companies for their relocation of various pipelines that are in conflict with the 12" water main. Utility relocation in various locations will be required in order to access the 12" water main.

    It is not anticipated that utility relocation will be required in order to access the 12" water main.

57. Are all existing fire hydrants to be removed and re-installed?

    The hydrants to be removed and reset are shown on the plans.

58. Under which item will payment for restoration of sidewalk patches disturbed during the water main C&L paid for?

    Item 472.

59. Please provide all available data on the existing pressures in the water main. This information is required to properly design the temporary water bypass system.

    Distribution system static pressures are approximately 60 – 65 psi.

60. Are road closures allowed? If so, can the road be closed in sections for extended (24+ hours) periods of time?

    Detailed traffic management plans are to be prepared by the Contractor and submitted to Traffic and Parking for review and approval prior to implementation. It is not anticipated that Beacon Street will need to be closed for the work under this contract.

61. Will the City provide a storage yard for stockpiling contaminated soils that may be encountered?

    It is not anticipated that contaminated soils will be encountered. All surplus excavated material is the property of the Contractor.

62. Please clarify the acceptable work hours. Is night work required in any locations?

    Construction hours are anticipated to be 7am through 5pm, Monday through Friday. Should extended hours be necessary, approval must be obtained by the DPW Commissioner.

63. If the low bid exceeds the $4,000,000 estimate will the City still award the project? How much funding is available for this project?

    The City intends to award the project even if bids are over $4,000,000.

64. Please clarify the MBE/WBE/DBE requirements for this project.

    These requirements are listed as optional. A negative answer to this question will **NOT** result in a bid being disqualified.

65. The plans/specifications do not contain an engineer's stamp. Are the plans on the City's website the final stamped plans? If so, who is the engineer of record?

    A stamped package has been provided. The engineer of record is Design Consultants, Inc.

66. Is the Contractor allowed to begin preliminary work on this project during the winter (Jan - March) of 2014?

    Once the contract is awarded, the Contractor could begin preliminary work during the winter. Exact nature of work would have to be approved by DPW Commissioner. Roads and sidewalks would need to be safe and protected during any snowfall. Prior to starting field work, the Contractor will submit a project schedule to the City for review and approval. After approval of the schedule and weather permitting, the Contractor may begin work so long as the work will not interfere with winter operations of the City.

PLEASE BE SURE TO ACKNOWLEDGE BOTH ADDENDUMS FOR THIS PROJECT ON YOUR BID PRICING SHEET.

Thank you-
Orazio P. DeLuca, MCPPO
Contract Manager
Purchasing Department
City of Somerville
617-625-6600 x 3407

List of plan holders for IFB 14-33 Beacon Street

National Water Main Cleaning Co.

Pipeline Specialists

P Gioioso & sons, Inc

Dewcon, Inc.

Biszko Contracting Corp.

N. Granese & Sons

Aqua Line Utility, inc.

DeFelice Corporation

Umbro & SonsAtlantic States Cast iron Pipe, Co.

P. Caliacco Corp.

Joseph P. Cardillo & son

GTA Co. , Inc.

New England Pipe Cleaning Co.

C. Naughton Corp.

D'Allessandro Corp.

Pre-Bid Site Visit - October 21, 10:00 a.m.
IFB 14-33 Beacon Street Utility Project

Company Name	Phone Number	E-mail	Representative at Pre-bid	Signature
DewCon INC.	908 832 0710	dewconinc.@yahoo.com	John A. Spadone	John Spadone
Biszko cont. corp.	508-679-0518	[illegible]	Tony Tramontozzi	[illegible]
P. Gioioso & Sons Inc.	617-364-5800	JoeBe@Gioioso.com	Joseph Bettencourt	[illegible]
Layne Inliner	207-453-9960	nate.holmes@layne.com	Nate Holmes	[illegible]
Insituform	508.817.6490	mszela@insituform.com	Mark Szela	[illegible]
Insituform	508-479-2674	Frusso@insituform.com	Skip Russo	Skip Russo
DCI	978-807-4103	WKEEFNER@DCI-MA.com	WAYNE KEEFNER	Wayne
~~[illegible]~~ Insituform	413566 3709	Mcrevin@insituform.com	Michael Crevin	[illegible]
Steve Vogel	617-590-0069	UMBRO		
Paul Umbro	617-427-2572	paul@umbroconstruction.com	Paul Umbro	Paul Umbro
EJP/Richard L. Stone	978-777-7738	richard.stone@ejprescott.com		

IFB 14-33 Beacon St. Utility Project 10/21/2013

Angela - procurement overview
Melissa - introduction
Wayne - DCI, designed project
- gave history w/ DOT - City would rather do utility work on its own
- incl. patching sidewalk roadway
- age of water main (50-100 yrs. old) - will a [illegible] valve be installed?
- how long ago cleaned? earlier

- brick sewer - Somerville (not MWRA)
- combined, mostly drained
- no flow data

- cleaning - any requirement on disposal of sewage - MWRA doesn't allow
- will a discharge permit be required by-product whether when using steam or water
- none of line is MWRA

- lining - only from shelf up - though shouldn't be

- vacuum test manholes - if lining done first, won't work - City wants some assurance that...
- a by-pass will have to be set up for ea. manhole

- Is there a requirement for engineer is Tucker — not required nor provided

* 85 of 1.1 — traffic cones — was a question?

radon area

removing protruding surfaces — is there a list of such surfaces? That will depend on contractors bid — desk/reception may not be ready before bid — vendors want to look at it — we'll get an answer to you in addm (DT pulled out the video)

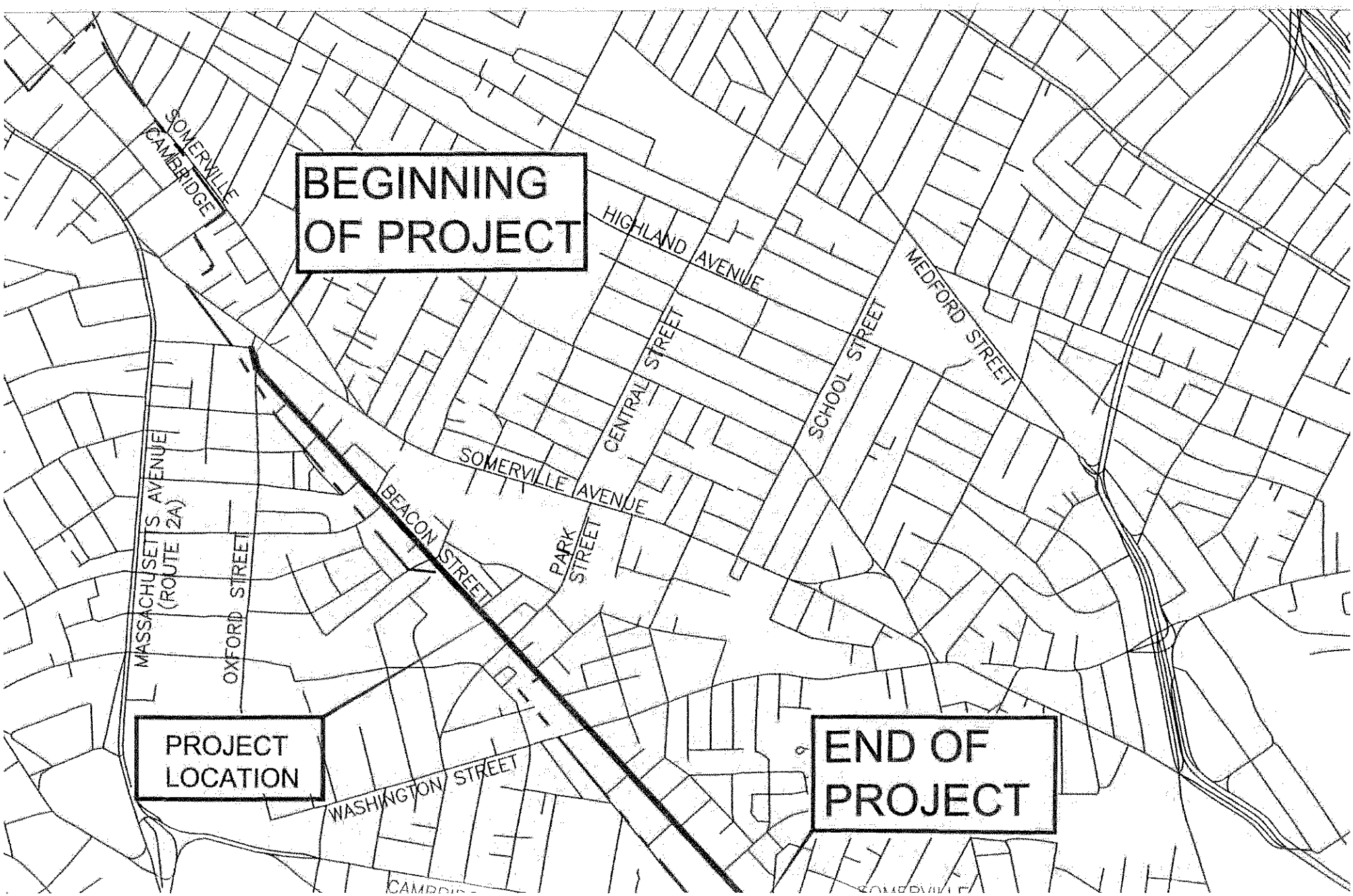
does 40' main have any... — no guarantee that every one was tied in; all will be reinstated

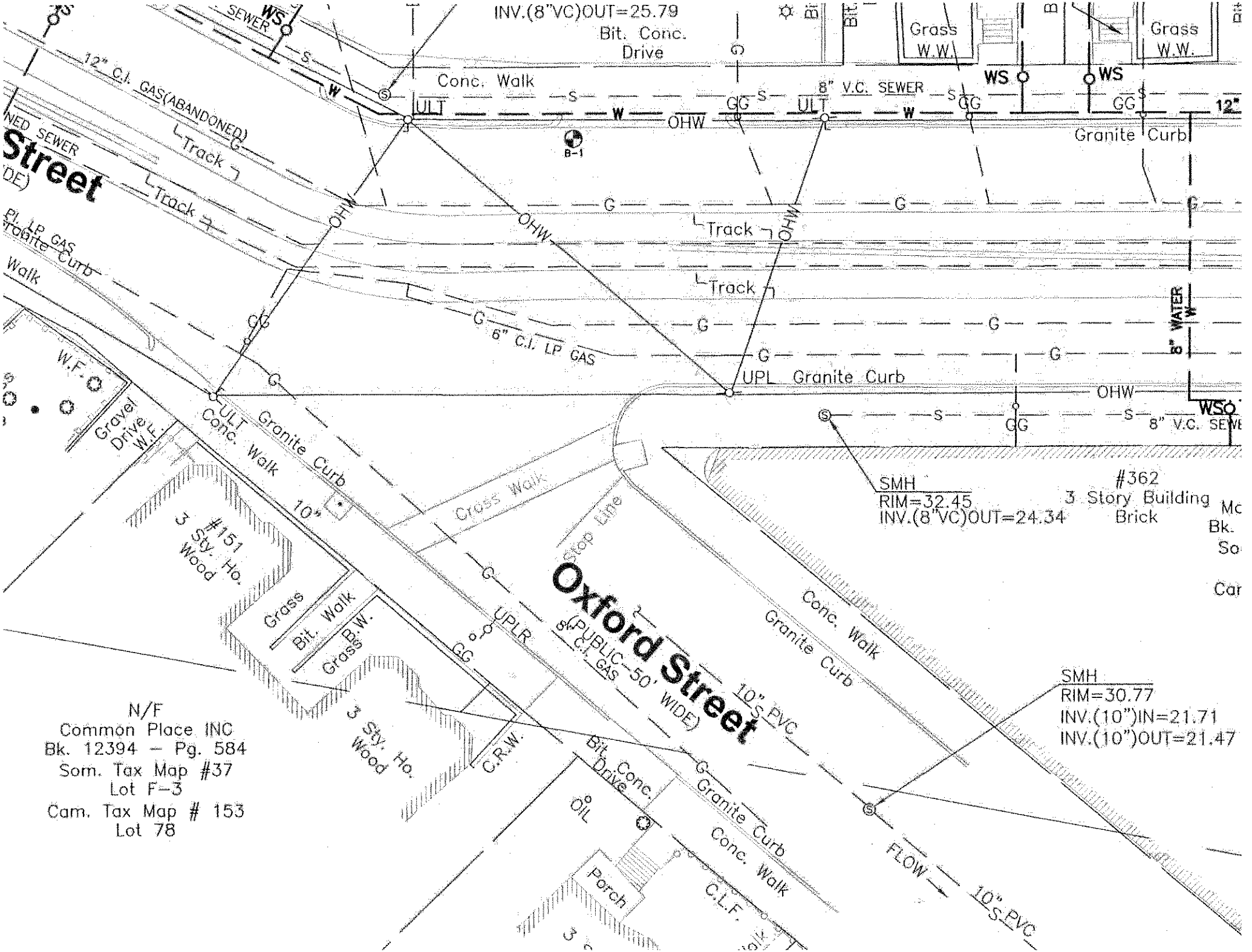
- provision for copper — what abt lead services? Guess is that lead replacement will be made if required, @ cost to city (from street to curb side)

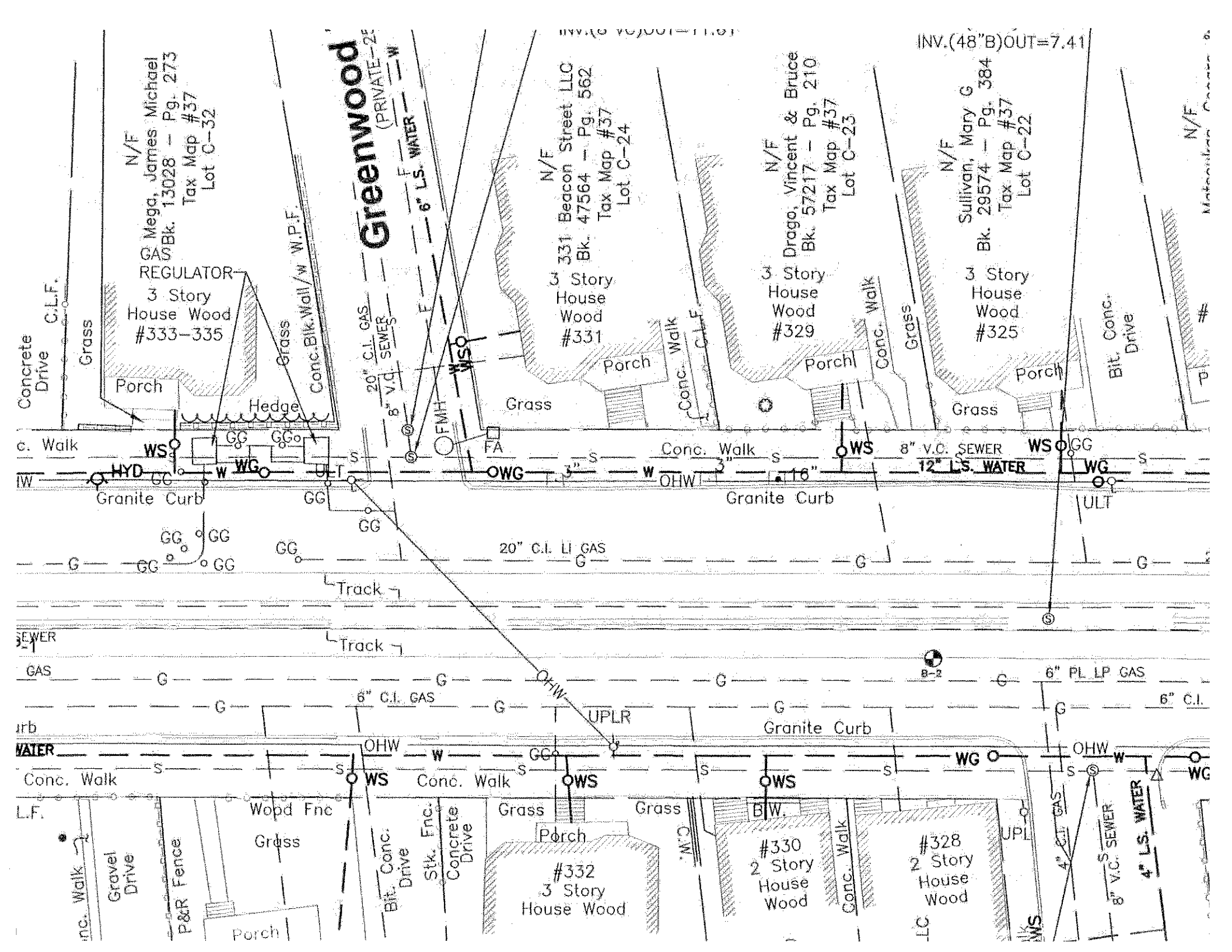
restricted work hrs — didn't say one way or another) Terry @ T&P will have to lay out a plan — vendor says will be too late — abbreviated emergency + - City doesn't want work to be done on Saturdays when City staff not working

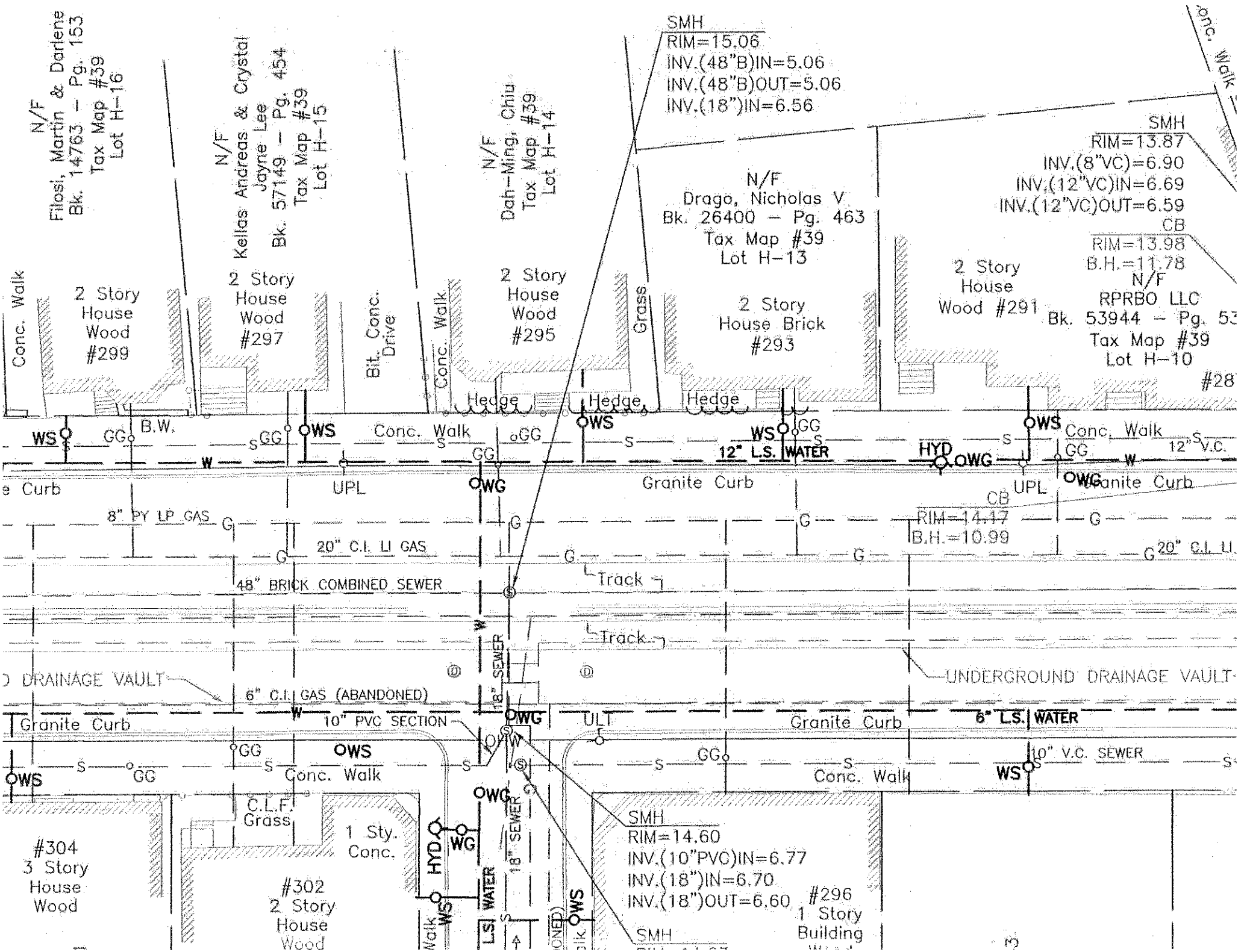
if planning to by-pass — you have to block all of side streets — remove set @ site plan

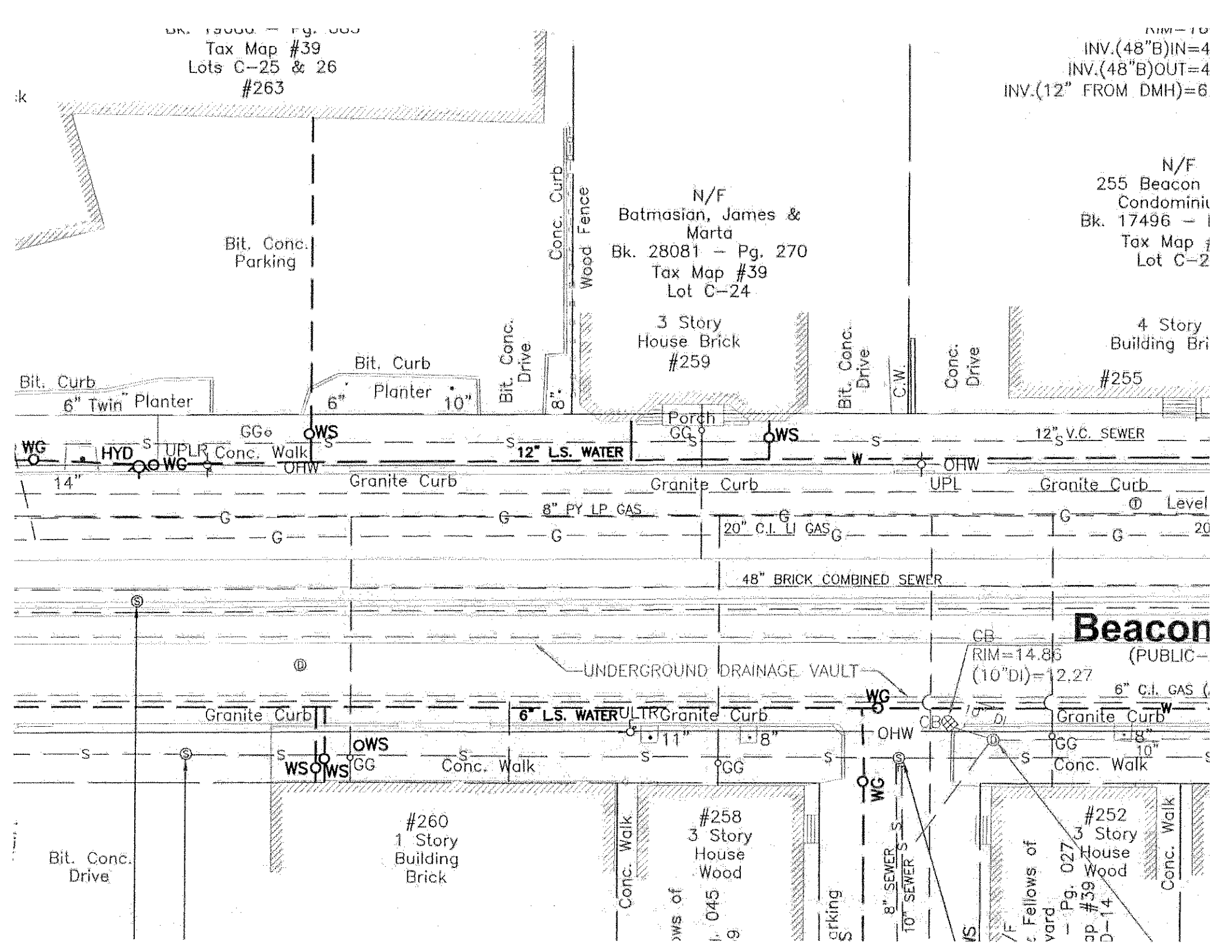
RA LOCAL PIPELINE ASSISTANCE PROGRAM PROJECT NO. L W

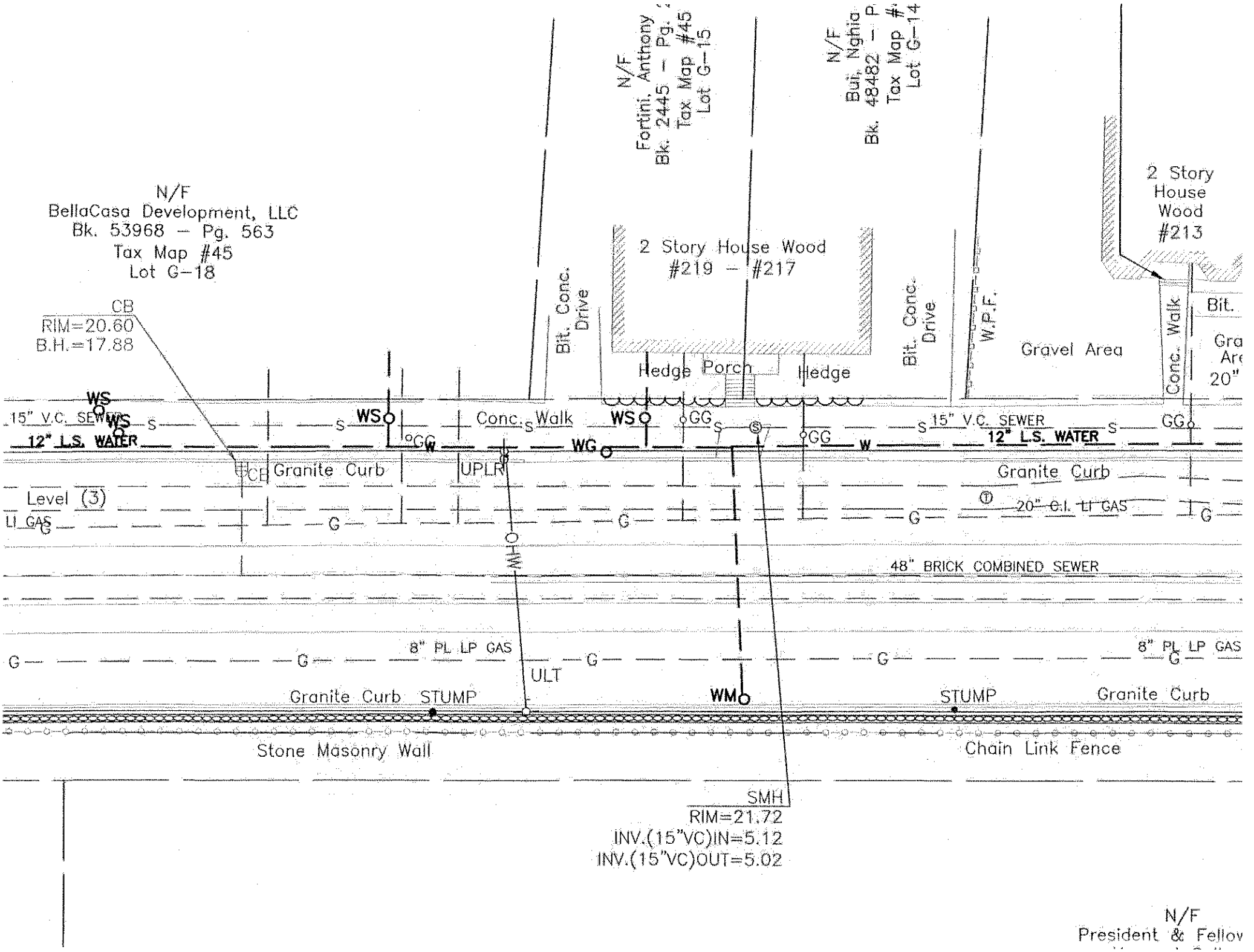


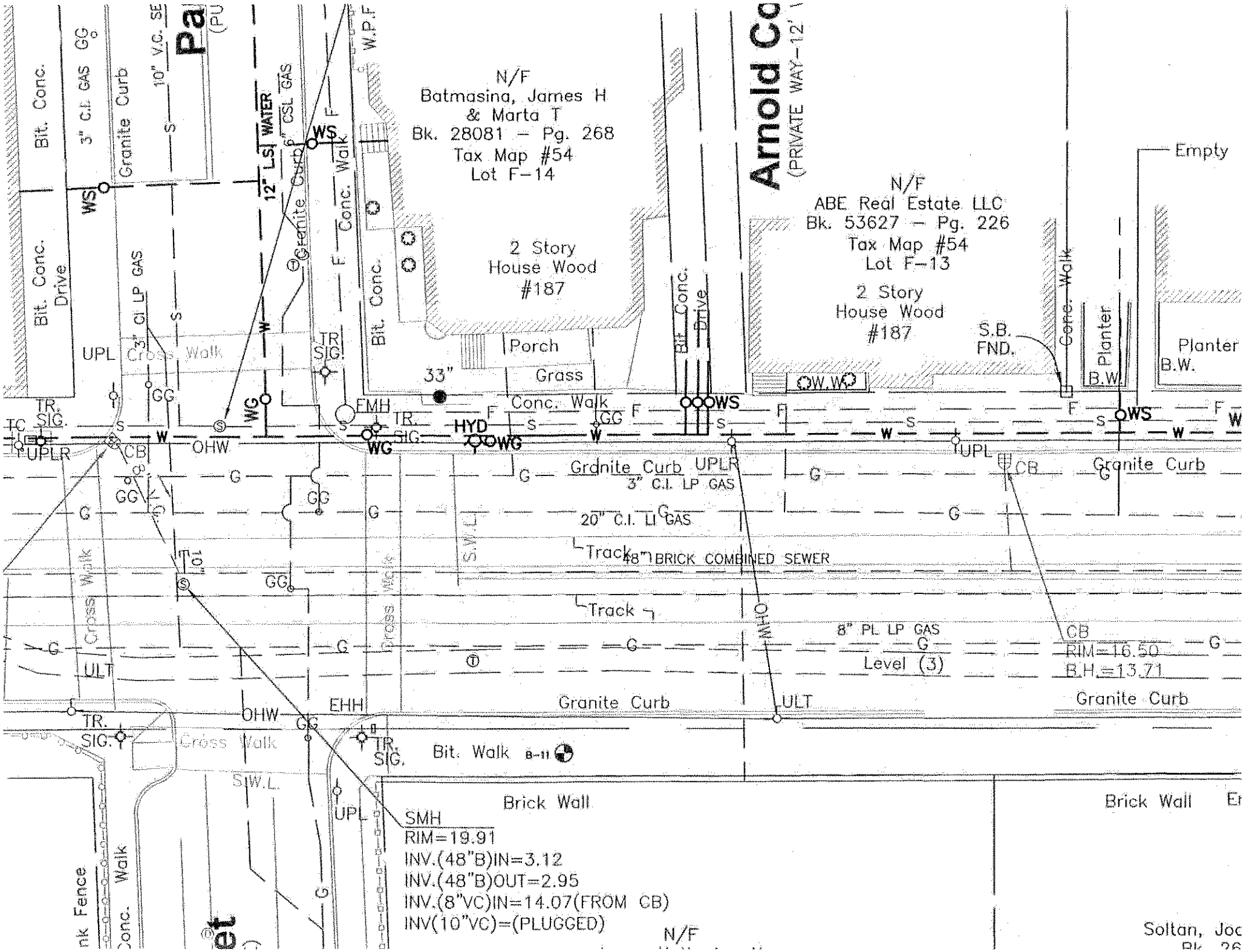

INV.(8"VC)OUT=25.79
Bit. Conc. Drive
Grass W.W.
Grass W.W.
Conc. Walk
8" V.C. SEWER
12" C.I. GAS(ABANDONED)
Granite Curb
Track
Track
Track
Track
OHW
OHW
OHW
B-1
6" C.I. LP GAS
UPL Granite Curb
8" WATER
Walk
W.F.
Gravel Drive
ULT
Conc. Walk
Granite Curb
10"
Grass Walk
Stop Line
SMH
RIM=32.45
INV.(8"VC)OUT=24.34
#362
3 Story Building
Brick
#151
3 Sty. Ho.
Wood
Grass
Bit. Walk
Grass
Bit. Conc. Drive
UPLR
Oxford Street
(PUBLIC - 50' WIDE)
C.I. GAS
10" S. PVC
Conc. Walk
Granite Curb
SMH
RIM=30.77
INV.(10")IN=21.71
INV.(10")OUT=21.47
3 Sty. Ho.
Wood
C.R.W.
Bit. Conc. Drive
Granite Curb
Conc. Walk
OIL
Porch
C.L.F.
FLOW
10" S. PVC
N/F
Common Place INC
Bk. 12394 – Pg. 584
Som. Tax Map #37
Lot F-3
Cam. Tax Map # 153
Lot 78

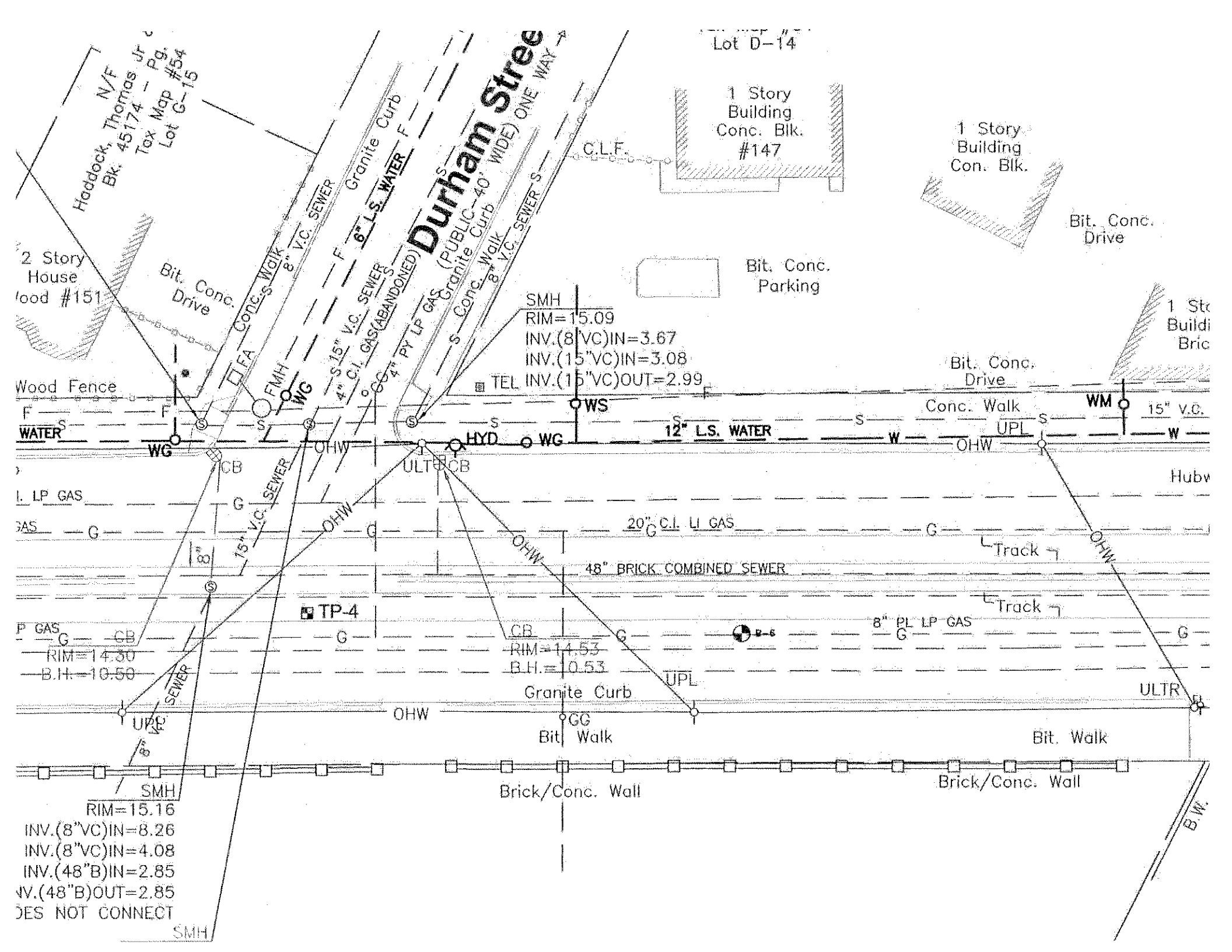

Greenwood
(PRIVATE)
INV.(48"B)OUT=7.41
N/F
Mega, James Michael
Bk. 13028 — Pg. 273
Tax Map #37
Lot C-32
GAS REGULATOR
3 Story
House Wood
#333-335
Concrete Drive
C.L.F.
Grass
Porch
Hedge
Conc.Blk.Wall/w W.P.F.
20" C.I. GAS
8" V.C. SEWER
6" L.S. WATER
N/F
331 Beacon Street LLC
Bk. 47564 — Pg. 562
Tax Map #37
Lot C-24
3 Story
House
Wood
#331
Porch
Conc. Walk
Grass
FMH
FA
N/F
Drago, Vincent & Bruce
Bk. 57217 — Pg. 210
Tax Map #37
Lot C-23
3 Story
House
Wood
#329
Porch
Conc. Walk
Grass
N/F
Sullivan, Mary G
Bk. 29574 — Pg. 384
Tax Map #37
Lot C-22
3 Story
House
Wood
#325
Porch
Bit. Conc. Drive
Grass
Conc. Walk
WS
GG
HYD
WG
ULT
OWG
OHW
Granite Curb
8" V.C. SEWER
12" L.S. WATER
20" C.I. LI GAS
Track
Track
6" PL LP GAS
6" C.I. GAS
UPLR
6" C.I.
Granite Curb
OHW
WG
Conc. Walk
Conc. Walk
Wood Fnc
Grass
Grass
Porch
#332
3 Story
House Wood
Gravel Drive
P&R Fence
Porch
Bit. Conc. Drive
Stk. Fnc.
Concrete Drive
C.W.
#330
2 Story
House
Wood
Conc. Walk
#328
2 Story
House
Wood
UPL
4" C.I. GAS
8" V.C. SEWER
4" L.S. WATER

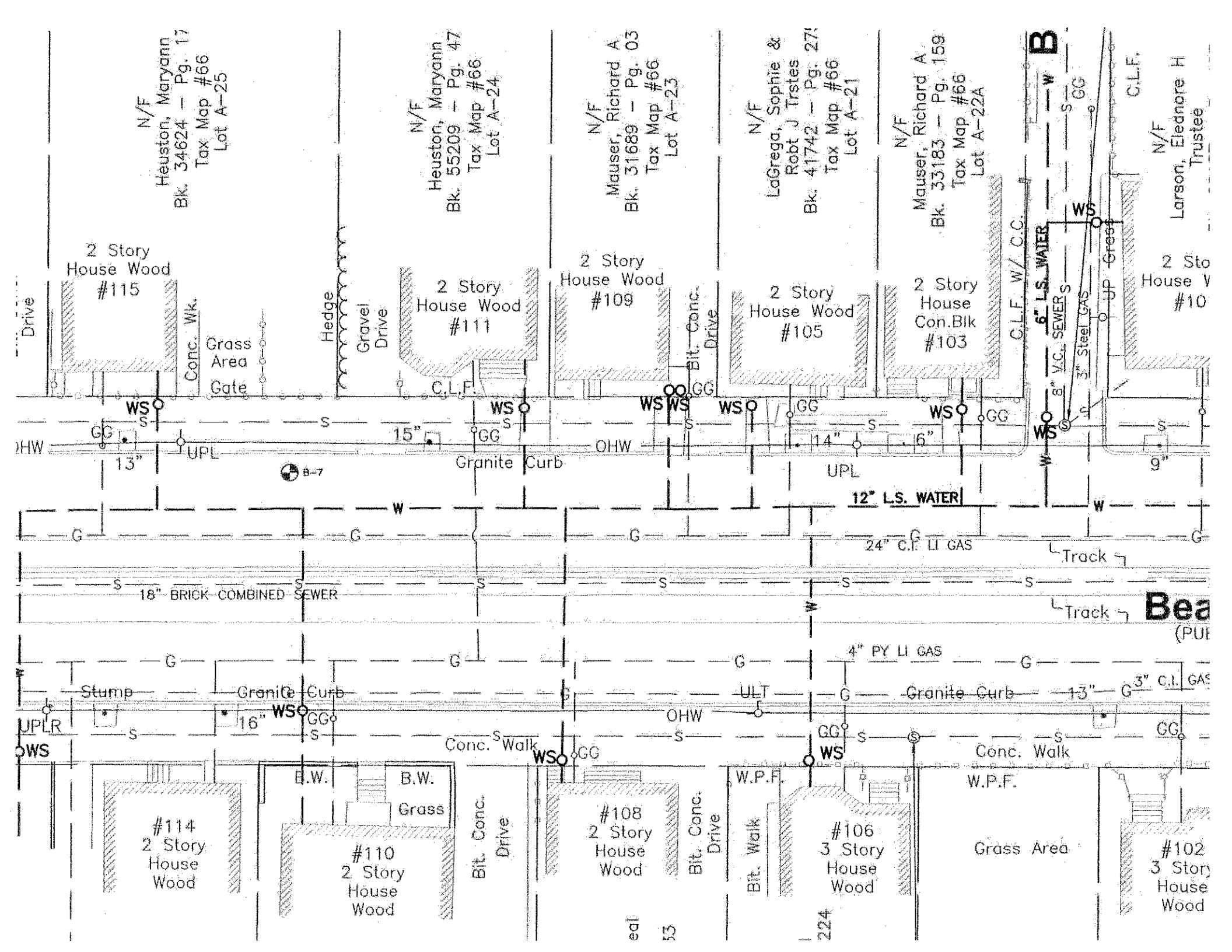

N/F
Filosi, Martin & Darlene
Bk. 14763 – Pg. 153
Tax Map #39
Lot H–16
N/F
Kellas Andreas & Crystal
Jayne Lee
Bk. 57149 – Pg. 454
Tax Map #39
Lot H–15
N/F
Dah–Ming, Chiu
Tax Map #39
Lot H–14
SMH
RIM=15.06
INV.(48"B)IN=5.06
INV.(48"B)OUT=5.06
INV.(18")IN=6.56
N/F
Drago, Nicholas V
Bk. 26400 – Pg. 463
Tax Map #39
Lot H–13
SMH
RIM=13.87
INV.(8"VC)=6.90
INV.(12"VC)IN=6.69
INV.(12"VC)OUT=6.59
CB
RIM=13.98
B.H.=11.78
N/F
RPRBO LLC
Bk. 53944 – Pg. 53
Tax Map #39
Lot H–10
2 Story
House
Wood
#299
2 Story
House
Wood
#297
Bit. Conc.
Drive
2 Story
House
Wood
#295
2 Story
House Brick
#293
2 Story
House
Wood #291
Conc. Walk
Grass
Hedge
Hedge
Hedge
WS
GG
B.W.
OWS
Conc. Walk
12" L.S. WATER
HYD
OWG
12" V.C.
Granite Curb
UPL
8" PY LP GAS
20" C.I. LI GAS
48" BRICK COMBINED SEWER
Track
Track
DRAINAGE VAULT
UNDERGROUND DRAINAGE VAULT
6" C.I. GAS (ABANDONED)
18" SEWER
10" PVC SECTION
6" L.S. WATER
10" V.C. SEWER
Conc. Walk
C.L.F.
Grass
1 Sty.
Conc.
WG
18" SEWER
SMH
RIM=14.60
INV.(10"PVC)IN=6.77
INV.(18")IN=6.70
INV.(18")OUT=6.60
#304
3 Story
House
Wood
#302
2 Story
House
Wood
#296
1 Story
Building

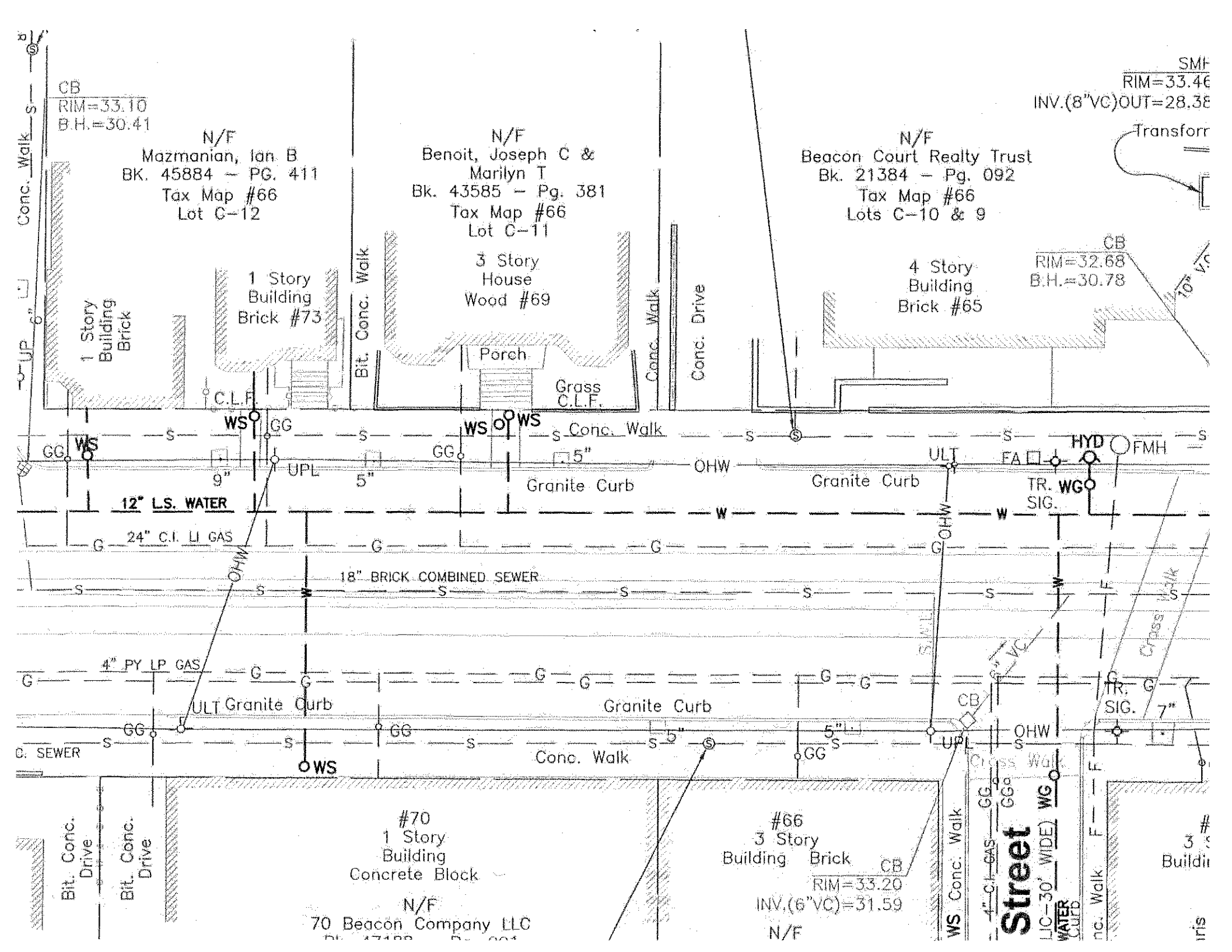

Tax Map #39
Lots C-25 & 26
#263
INV.(48"B)IN=4
INV.(48"B)OUT=4
INV.(12" FROM DMH)=6
N/F
255 Beacon
Condominiu
Bk. 17496 -
Tax Map
Lot C-2
Bit. Conc.
Parking
Conc. Curb
Wood Fence
N/F
Batmasian, James &
Marta
Bk. 28081 - Pg. 270
Tax Map #39
Lot C-24
3 Story
House Brick
#259
Bit. Conc.
Drive
Bit. Conc.
Drive
C.W.
Conc.
Drive
4 Story
Building Bri
#255
Bit. Curb
6" Twin Planter
Bit. Curb
6" Planter 10"
8"
Porch
WG
HYD
UPLR
Conc. Walk
OHW
12" L.S. WATER
12" V.C. SEWER
OHW
14"
Granite Curb
Granite Curb
UPL
Granite Curb
8" PY LP GAS
20" C.I. LI GAS
48" BRICK COMBINED SEWER
UNDERGROUND DRAINAGE VAULT
CB
RIM=14.86
(10"DI)=12.27
Beacon
(PUBLIC-
6" C.I. GAS
6" L.S. WATER
ULTR
Granite Curb
Granite Curb
11"
8"
OHW
CB
8"
10"
Conc. Walk
Conc. Walk
#260
1 Story
Building
Brick
#258
3 Story
House
Wood
#252
3 Story
House
Wood
Bit. Conc.
Drive
Conc. Walk
8" SEWER
10" SEWER
Conc. Walk

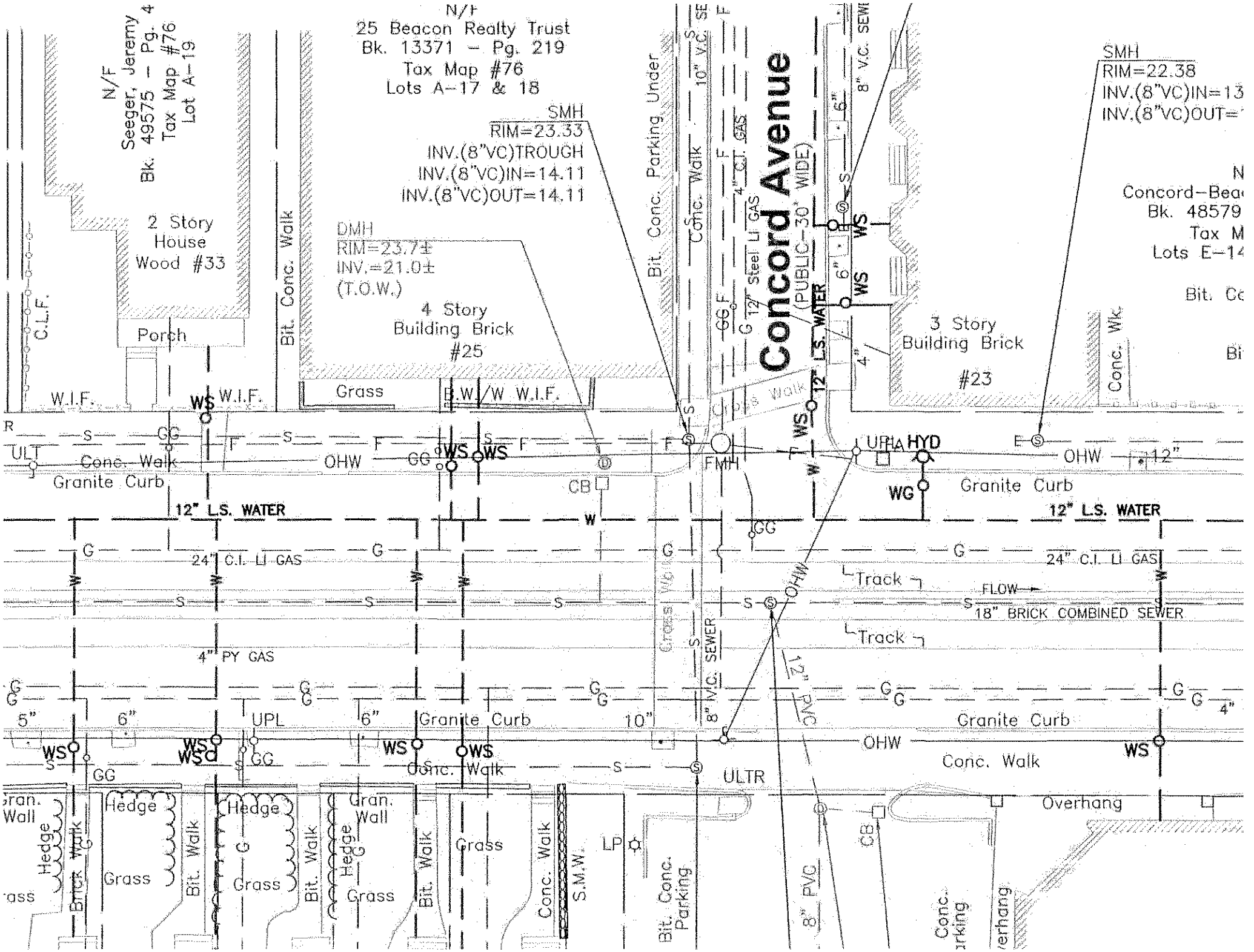

N/F
BellaCasa Development, LLC
Bk. 53968 – Pg. 563
Tax Map #45
Lot G–18
N/F
Fortini, Anthony
Bk. 2445 – Pg.
Tax Map #45
Lot G–15
N/F
Bui, Nghia
Bk. 48482 – P
Tax Map #
Lot G–14
2 Story House Wood
#219 – #217
2 Story
House
Wood
#213
CB
RIM=20.60
B.H.=17.88
Bit. Conc. Drive
Hedge
Porch
Hedge
Bit. Conc. Drive
W.P.F.
Gravel Area
Conc. Walk
Bit.
20"
15" V.C. SEWER
12" L.S. WATER
Conc. Walk
Granite Curb
UPLR
Granite Curb
Level (3)
LI GAS
20" C.I. LI GAS
48" BRICK COMBINED SEWER
8" PL LP GAS
ULT
Granite Curb
STUMP
STUMP
Granite Curb
Stone Masonry Wall
Chain Link Fence
SMH
RIM=21.72
INV.(15"VC)IN=5.12
INV.(15"VC)OUT=5.02
N/F
President & Fellov

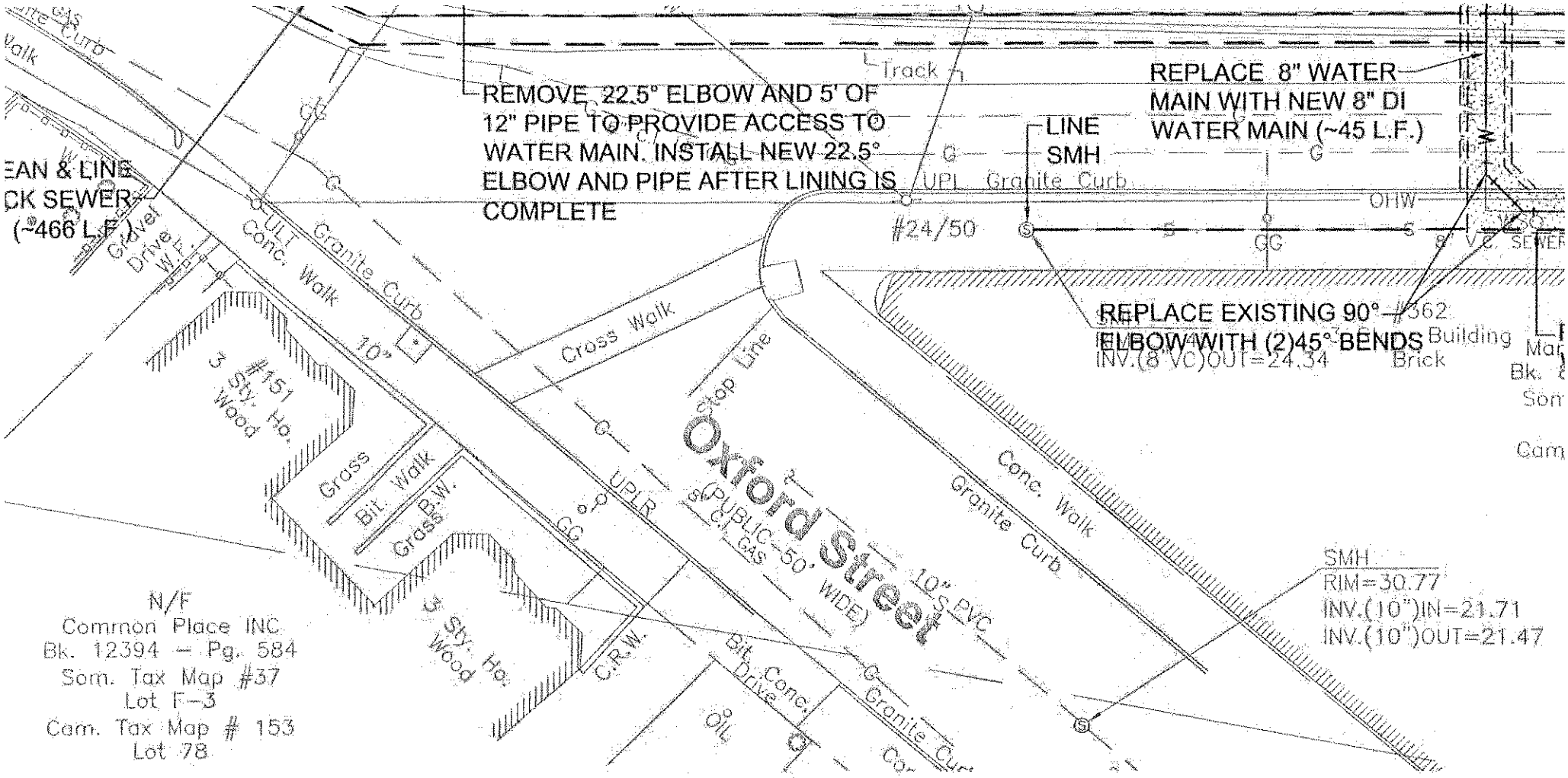

N/F
Batmasina, James H
& Marta T
Bk. 28081 – Pg. 268
Tax Map #54
Lot F-14
2 Story
House Wood
#187
N/F
ABE Real Estate LLC
Bk. 53627 – Pg. 226
Tax Map #54
Lot F-13
2 Story
House Wood
#187
Arnold Co
(PRIVATE WAY–12')
Bit. Conc.
Bit. Conc. Drive
3" C.I. GAS
Granite Curb
10" V.C. SE
12" LSL WATER
6" CSL GAS
W.P.F
Conc. Walk
3" CI LP GAS
Cross Walk
TR. SIG.
UPL
GG
WG
EMH
HYD
OHW
Porch
Grass
33"
Granite Curb
UPLR
3" C.I. LP GAS
20" C.I. LI GAS
48" BRICK COMBINED SEWER
Track
S.W.L.
8" PL LP GAS
Level (3)
CB
RIM=16.50
B.H.=13.71
ULT
EHH
Bit. Walk
Brick Wall
SMH
RIM=19.91
INV.(48"B)IN=3.12
INV.(48"B)OUT=2.95
INV.(8"VC)IN=14.07(FROM CB)
INV(10"VC)=(PLUGGED)
S.B.
FND.
Planter
B.W.
Empty
Soltan, Joc


N/F
Haddock, Thomas Jr
Bk. 45174 - Pg.
Tax Map #54
Lot G-15
Lot D-14
1 Story
Building
Conc. Blk.
#147
C.L.F.
1 Story
Building
Con. Blk.
Bit. Conc.
Drive
Bit. Conc.
Parking
Durham Street
(PUBLIC-40' WIDE) ONE WAY
Granite Curb
Conc. Walk
8" V.C. SEWER
6" L.S. WATER
4" C.I. GAS(ABANDONED)
4" PY LP GAS
12" L.S. WATER
2 Story
House
lood #151
Bit. Conc.
Drive
Wood Fence
SMH
RIM=15.09
INV.(8"VC)IN=3.67
INV.(15"VC)IN=3.08
INV.(15"VC)OUT=2.99
TEL
WS
WM
15" V.C.
Conc. Walk
UPL
OHW
WATER
WG
HYD
FMH
CB
ULT
Hubw
LP GAS
GAS
20" C.I. LI GAS
15" V.C. SEWER
48" BRICK COMBINED SEWER
Track
TP-4
8" PL LP GAS
CB
RIM=14.30
B.H.=10.50
RIM=14.53
B.H.=10.53
Granite Curb
ULTR
GG
Bit. Walk
Brick/Conc. Wall
SMH
RIM=15.16
INV.(8"VC)IN=8.26
INV.(8"VC)IN=4.08
INV.(48"B)IN=2.85
NV.(48"B)OUT=2.85
DES NOT CONNECT
SMH
B.W.


N/F
Heuston, Maryann
Bk. 34624 – Pg. 17
Tax Map #66
Lot A–25
N/F
Heuston, Maryann
Bk. 55209 – Pg. 47
Tax Map #66
Lot A–24
N/F
Mauser, Richard A
Bk. 31689 – Pg. 03
Tax Map #66
Lot A–23
N/F
LaGrega, Sophie &
Robt J Trstes
Bk. 41742 – Pg. 27
Tax Map #66
Lot A–21
N/F
Mauser, Richard A.
Bk. 33183 – Pg. 159
Tax Map #66
Lot A–22A
N/F
Larson, Eleanore H
Trustee
2 Story
House Wood
#115
2 Story
House Wood
#111
2 Story
House Wood
#109
2 Story
House Wood
#105
2 Story
House
Con.Blk
#103
Drive
Conc. Wk.
Grass
Area
Gate
Hedge
Gravel
Drive
C.L.F.
Bit. Conc.
Drive
C.L.F. W/ C.C.
6" L.S. WATER
8" V.C. SEWER
3" Steel GAS
UP Crest
C.L.F.
WS
GG
S
OHW
UPL
13"
15"
14"
6"
9"
Granite Curb
B-7
12" L.S. WATER
W
G
24" C.I. LI GAS
Track
18" BRICK COMBINED SEWER
4" PY LI GAS
3" C.I. GAS
Stump
16"
ULT
Conc. Walk
W.P.F.
B.W.
Grass
#114
2 Story
House
Wood
#110
2 Story
House
Wood
Bit. Conc.
Drive
#108
2 Story
House
Wood
Bit. Walk
#106
3 Story
House
Wood
Grass Area
#102
3 Story
House
Wood


CB
RIM=33.10
B.H.=30.41
N/F
Mazmanian, Ian B
BK. 45884 – PG. 411
Tax Map #66
Lot C-12
N/F
Benoit, Joseph C &
Marilyn T
Bk. 43585 – Pg. 381
Tax Map #66
Lot C-11
N/F
Beacon Court Realty Trust
Bk. 21384 – Pg. 092
Tax Map #66
Lots C-10 & 9
SMH
RIM=33.46
INV.(8"VC)OUT=28.38
Transform
Conc. Walk
UP
6"
1 Story
Building
Brick
1 Story
Building
Brick #73
3 Story
House
Wood #69
Bit. Conc. Walk
Porch
Grass
C.L.F.
Conc. Walk
Conc. Drive
4 Story
Building
Brick #65
CB
RIM=32.68
B.H.=30.78
10"
C.L.F.
WS
GG
S
Conc. Walk
HYD
FMH
ULT
FA
9"
UPL
5"
OHW
Granite Curb
Granite Curb
TR.
WG
SIG.
12" L.S. WATER
W
24" C.I. LI GAS
G
OHW
18" BRICK COMBINED SEWER
SMH
6" VC
Grass Walk
4" PY LP GAS
ULT
Granite Curb
Granite Curb
CB
TR.
SIG.
7"
GG
S
5"
OHW
UPL
C. SEWER
WS
Conc. Walk
Cross Walk
Bit. Conc.
Drive
Bit. Conc.
Drive
#70
1 Story
Building
Concrete Block
N/F
70 Beacon Company LLC
#66
3 Story
Building Brick
CB
RIM=33.20
INV.(6"VC)=31.59
N/F
WS
Conc. Walk
GG
GGa
4" C.I. GAS
Street
(30' WIDE)
WG
WATER
CURB
Conc. Walk
F
F
#
3
Buildi


N/F
Seeger, Jeremy
Bk. 49575 - Pg. 4
Tax Map #76
Lot A-19
2 Story
House
Wood #33
Porch
C.L.F.
W.I.F.
N/F
25 Beacon Realty Trust
Bk. 13371 - Pg. 219
Tax Map #76
Lots A-17 & 18
SMH
RIM=23.33
INV.(8"VC)TROUGH
INV.(8"VC)IN=14.11
INV.(8"VC)OUT=14.11
DMH
RIM=23.7±
INV.=21.0±
(T.O.W.)
4 Story
Building Brick
#25
Bit. Conc. Walk
Grass
B.W.
Bit. Conc. Parking Under
Conc. Walk
10" V.C.
8" V.C. SEWER
6"
4" C.I. GAS
12" Steel LI GAS
Concord Avenue
(PUBLIC-30' WIDE)
12" L.S. WATER
4"
3 Story
Building Brick
#23
Conc. Wk.
SMH
RIM=22.38
INV.(8"VC)IN=13
INV.(8"VC)OUT=
N
Concord-Bea
Bk. 48579
Tax M
Lots E-14
Bit. Co
Bi
ULT
Conc. Walk
Granite Curb
OHW
UPL
HYD
FMH
CB
WG
12"
12" L.S. WATER
24" C.I. LI GAS
4" PY GAS
Track
FLOW
18" BRICK COMBINED SEWER
Grass Wk.
8" V.C. SEWER
12" PVC
5"
6"
10"
Granite Curb
Conc. Walk
ULTR
Overhang
Gran. Wall
Hedge
Brick Walk
Grass
Bit. Walk
LP
S.M.W.
Bit. Conc. Parking
8" PVC
CB
Conc. Wk.
Overhang



NEW SANITARY SEWER LINES AND MANHOLES, CONTRACTOR
OCATIONS OF EXISTING LATERAL CONNECTIONS FOR
1 INVERTS OF LATERALS. ANY DISCREPANCIES ARE TO BE
IMMEDIATELY.

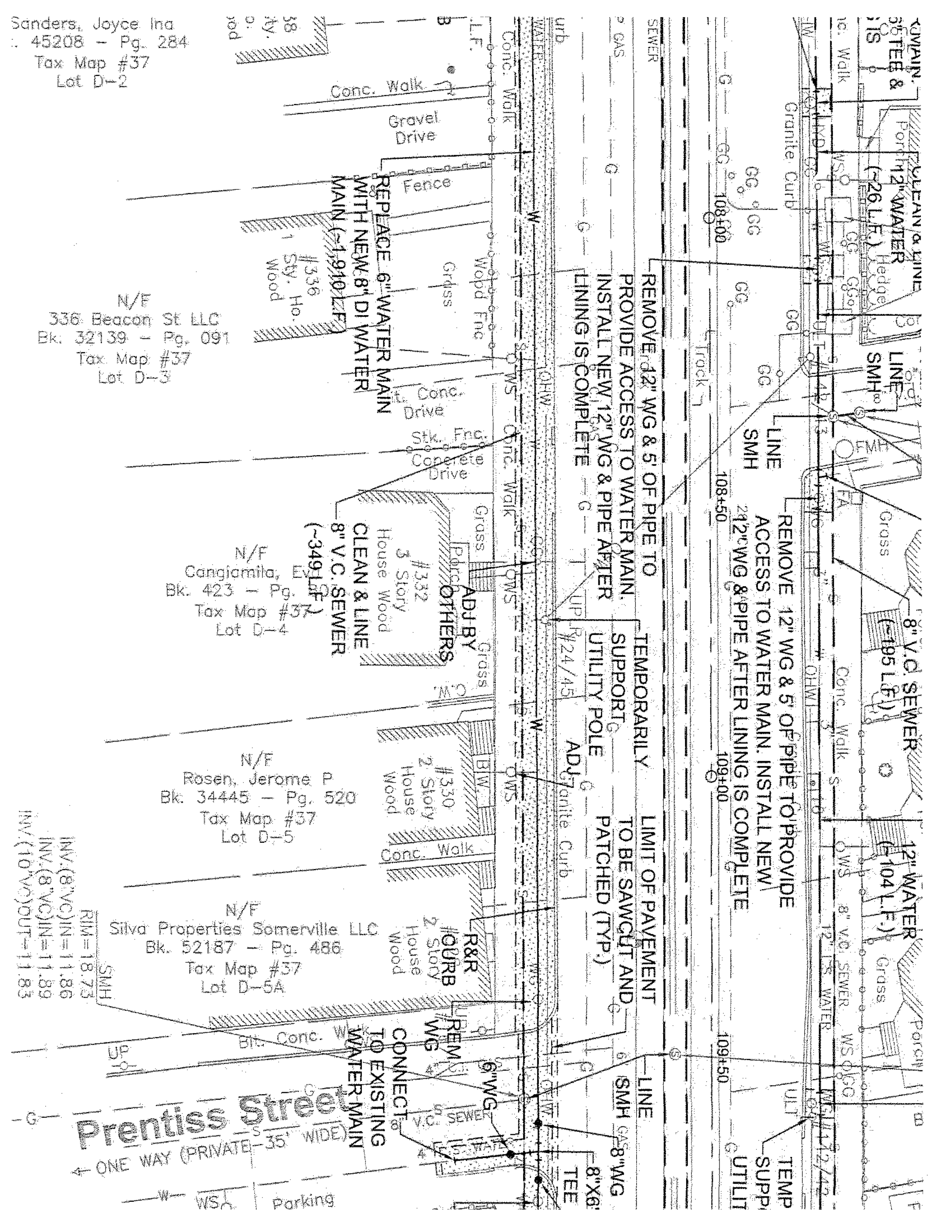
TWEEN JUNE 6 AND JUNE 8, 2012 BY NORTHERN DRILLING.

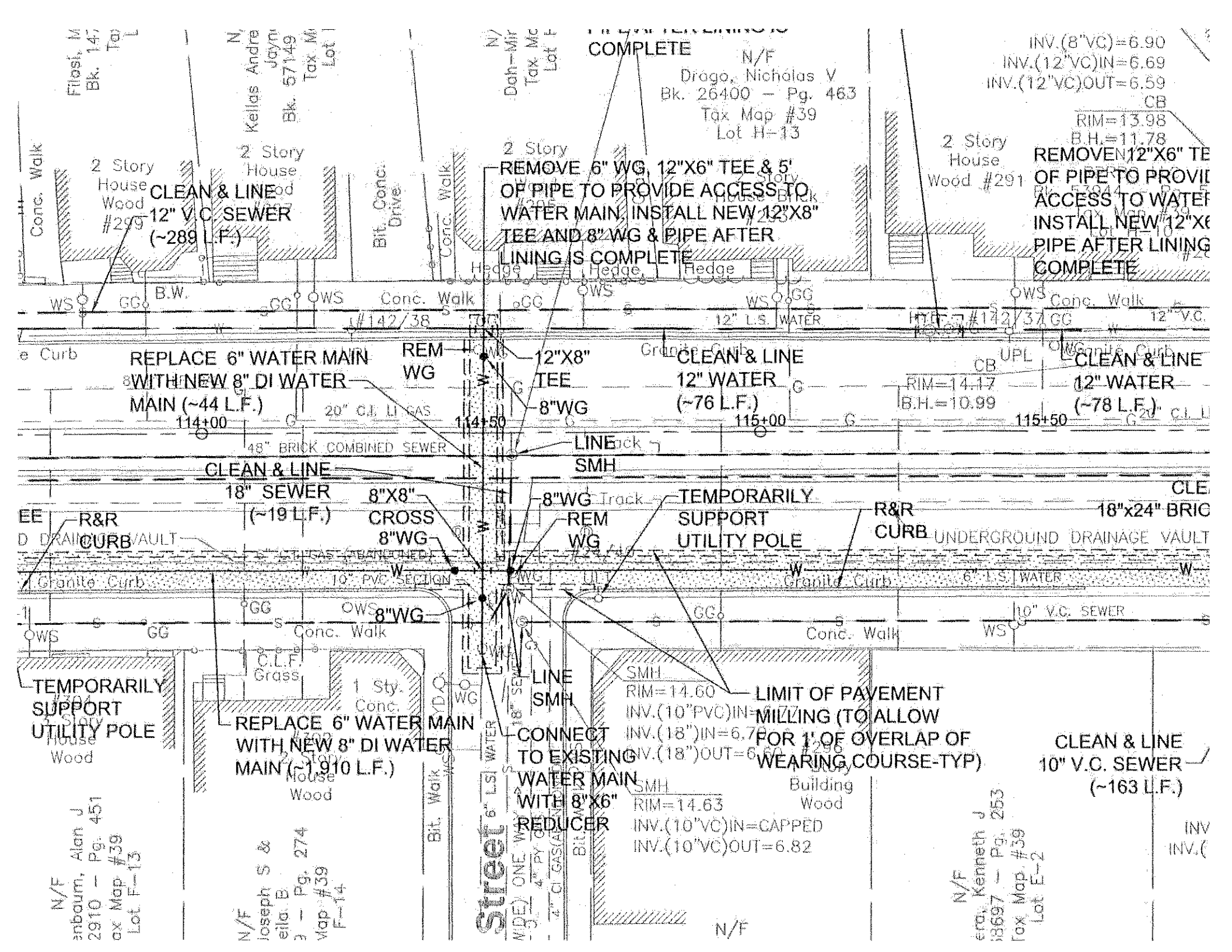
TO BE 5 FEET BELOW THE EXISTING GROUND SURFACE.
BE 3 FEET BELOW THE EXISTING GROUND SURFACE.
IC SIGNAL CONTROLS ARE ASSUMED TO BE 2' BELOW THE

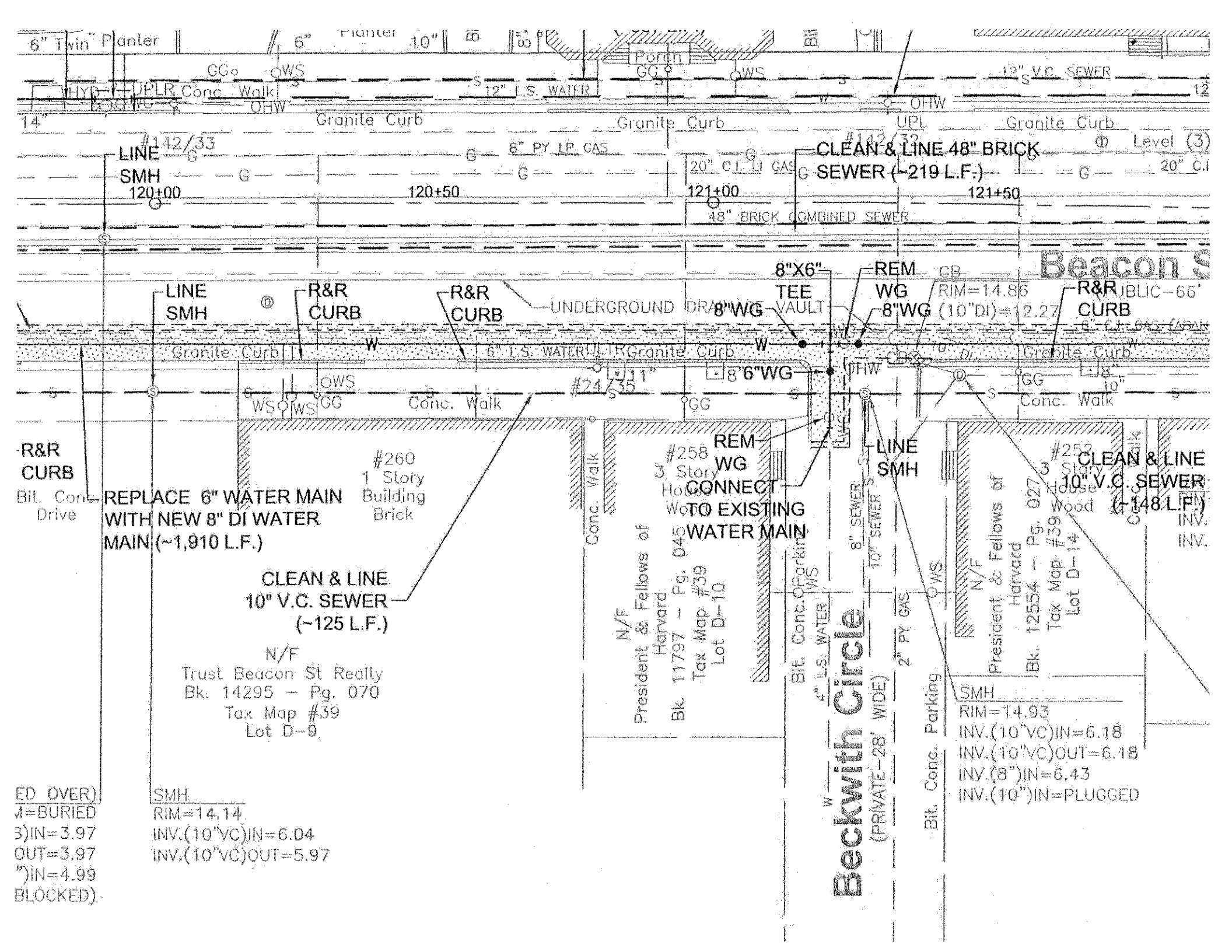
)VIDE THE CITY OF SOMERVILLE WITH A CONSTRUCTION
SEQUENCE OF WORK AND ESTIMATED TIME OF COMPLETION

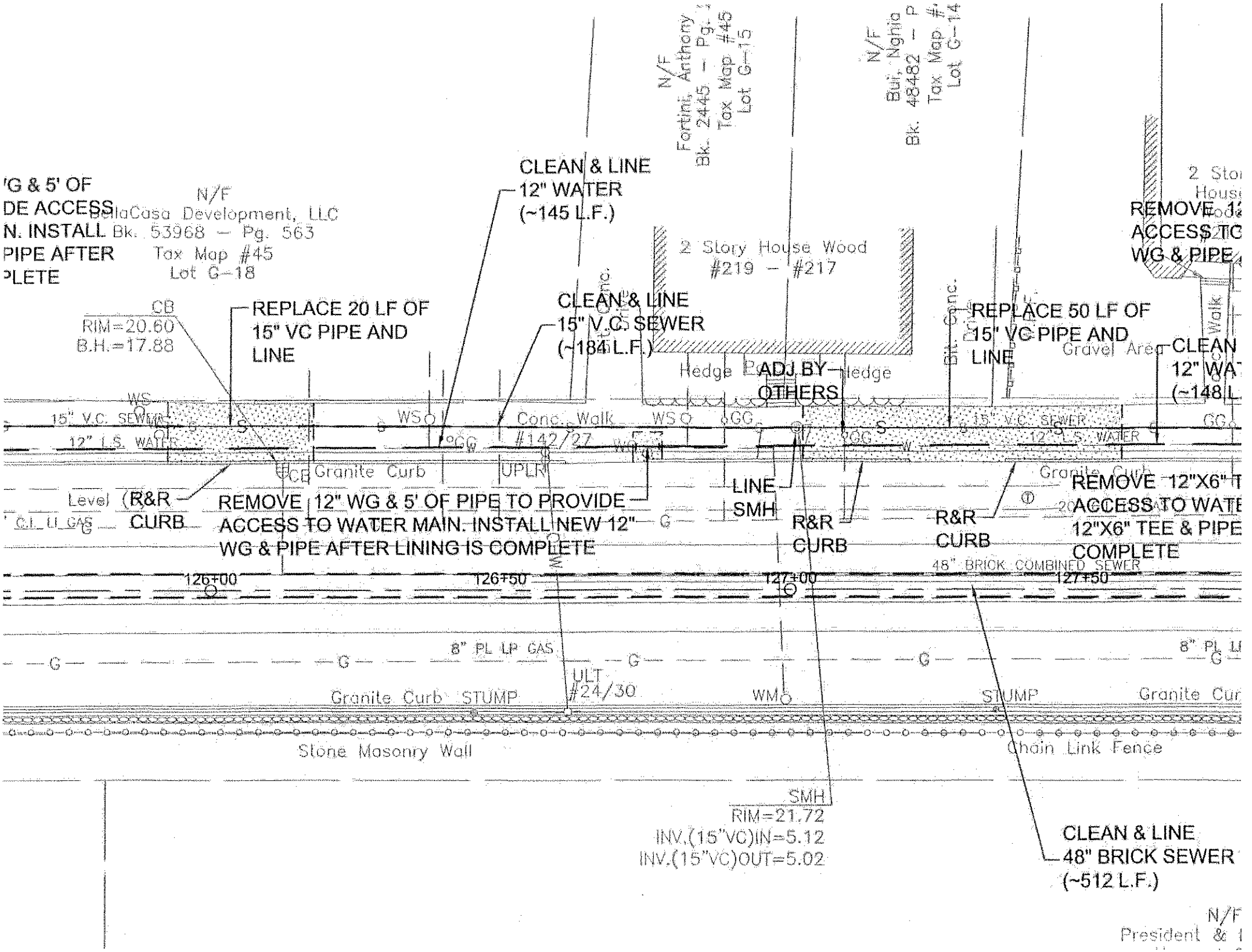
LEGEND

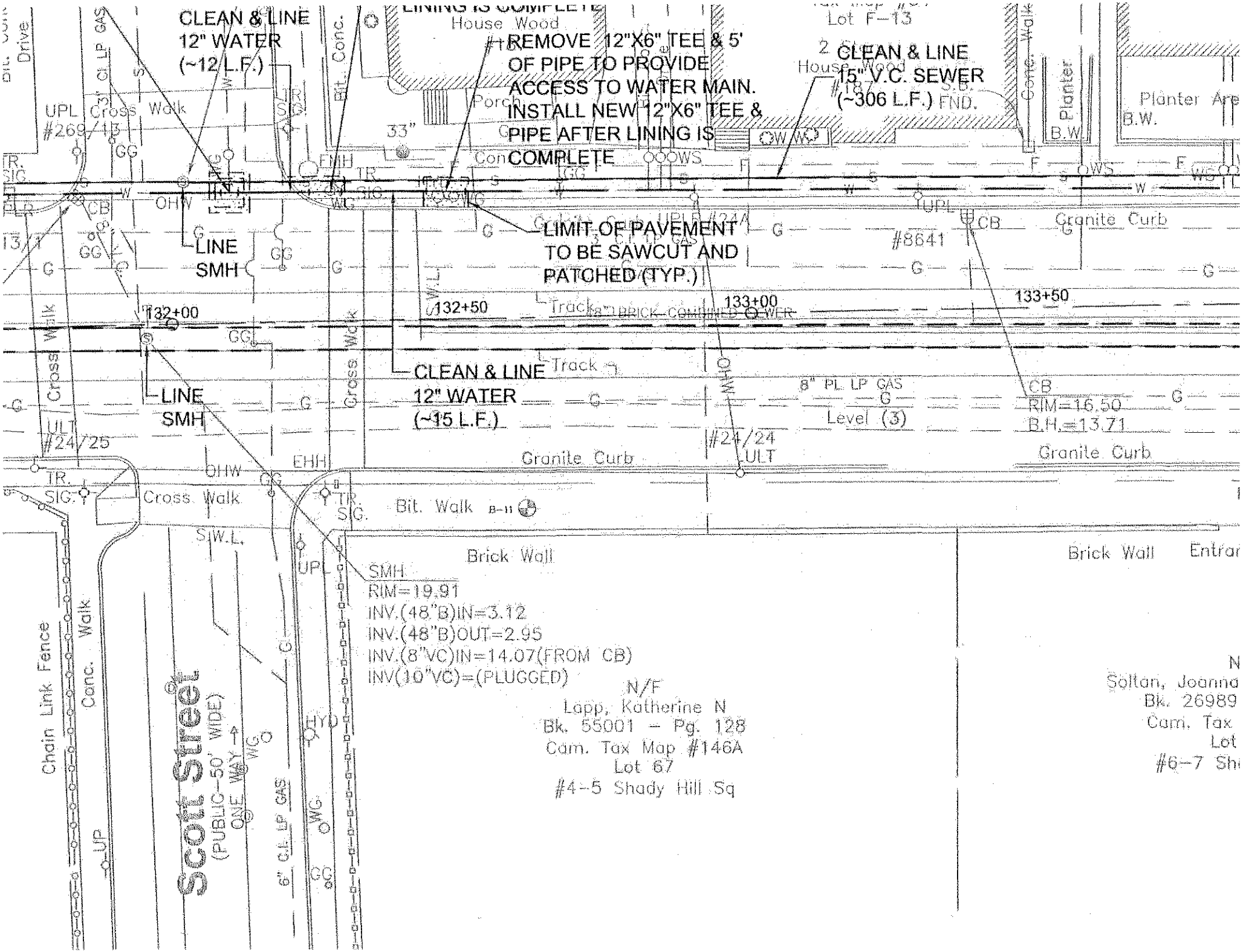
CLF	CHAIN LINK FENCE
D	DRAIN LINE
S	SANITARY SEWER
W	WATER LINE
E	ELECTRIC LINE
G	GAS LINE
F	FIRE LINE
T	TELEPHONE LINE
Ⓢ	SANITARY SEWER MANHOLE
Ⓓ	DRAIN MANHOLE
Ⓦ	WATER MANHOLE

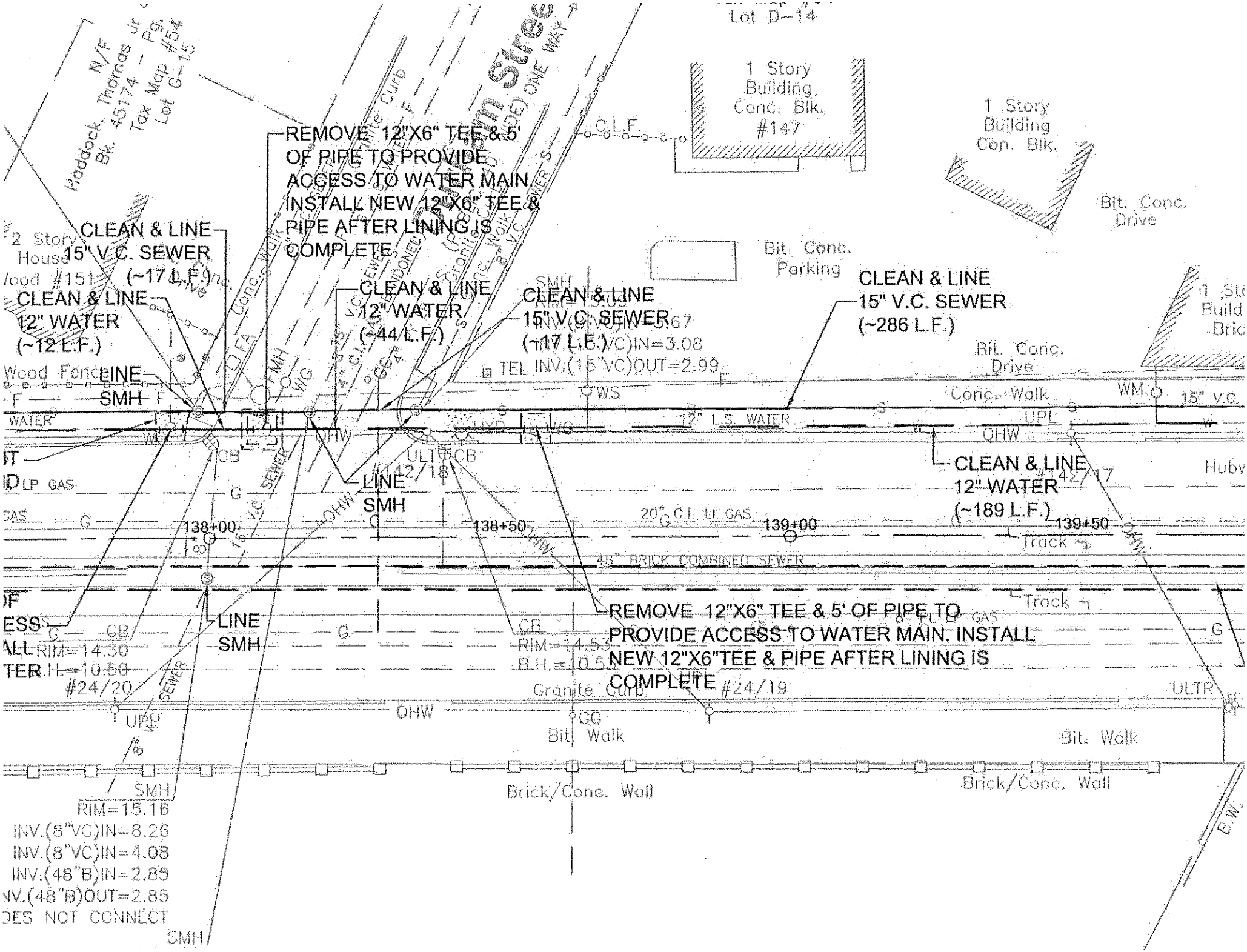

Sanders, Joyce Ina
45208 - Pg. 284
Tax Map #37
Lot D-2
N/F
336 Beacon St LLC
Bk. 32139 - Pg. 091
Tax Map #37
Lot D-3
N/F
Cangiamila, Ev...
Bk. 423 - Pg. ...
Tax Map #37
Lot D-4
N/F
Rosen, Jerome P
Bk. 34445 - Pg. 520
Tax Map #37
Lot D-5
N/F
Silva Properties Somerville LLC
Bk. 52187 - Pg. 486
Tax Map #37
Lot D-5A
SMH
RIM=18.73
INV.(8"VC)IN=11.86
INV.(8"VC)IN=11.89
INV.(10"VC)OUT=11.83
Prentiss Street
ONE WAY (PRIVATE-35' WIDE)
REPLACE 6" WATER MAIN WITH NEW 8" DI WATER MAIN (~1,910 L.F.)
8" V.C. SEWER CLEAN & LINE (~349 L.F.)
ADJ BY OTHERS
R&R CURB
REM WG
CONNECT TO EXISTING WATER MAIN
6"WG
8"WG
8"X6" TEE
REMOVE 12" WG & 5' OF PIPE TO PROVIDE ACCESS TO WATER MAIN. INSTALL NEW 12" WG & PIPE AFTER LINING IS COMPLETE
TEMPORARILY SUPPORT UTILITY POLE
ADJ
LIMIT OF PAVEMENT TO BE SAWCUT AND PATCHED (TYP.)
LINE SMH
LINE SMH
REMOVE 12" WG & 5' OF PIPE TO PROVIDE ACCESS TO WATER MAIN. INSTALL NEW 12" WG & PIPE AFTER LINING IS COMPLETE
8" V.C. SEWER (~195 L.F.)
12" WATER (~104 L.F.)
12" WATER (~26 L.F.)
CLEAN & LINE
TEMP SUPP UTILIT
108+00
108+50
109+00
109+50
#336 1 Sty. Ho. Wood
#332 3 Story House Wood
#330 2 Story House Wood
#326 2 Story House Wood
Conc. Walk
Gravel Drive
Fence
Grass
Wood Fnc
Stk. Fnc.
Concrete Drive
Granite Curb
Track
Porch
Hedge
Parking
8" V.C. SEWER
12" WATER

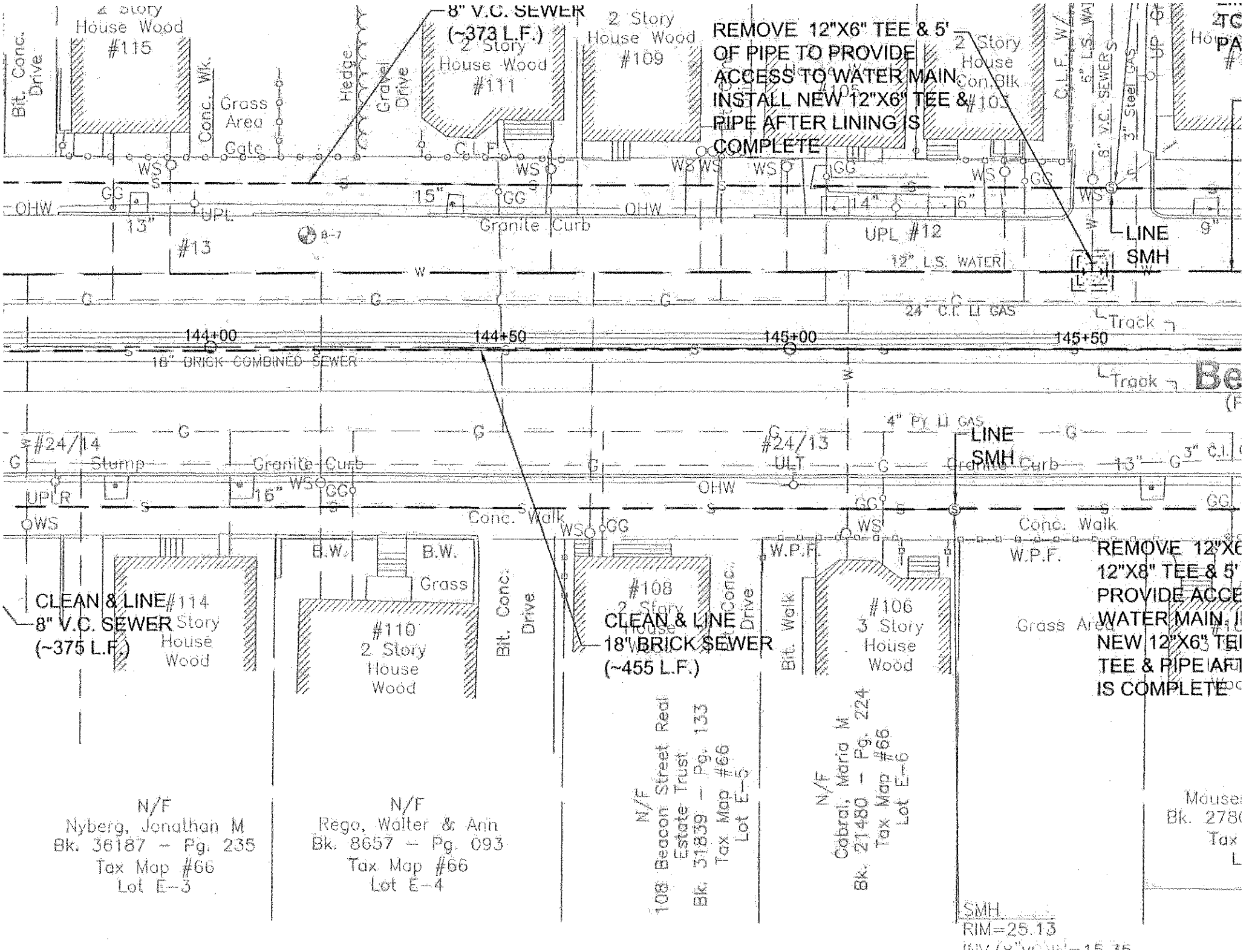

CLEAN & LINE 12" V.C. SEWER (~289 L.F.)
REMOVE 6" WG, 12"X6" TEE & 5' OF PIPE TO PROVIDE ACCESS TO WATER MAIN, INSTALL NEW 12"X8" TEE AND 8" WG & PIPE AFTER LINING IS COMPLETE
REMOVE 12"X6" TE OF PIPE TO PROVID ACCESS TO WATEF INSTALL NEW 12"X6 PIPE AFTER LINING COMPLETE
N/F Drago, Nicholas V Bk. 26400 — Pg. 463 Tax Map #39 Lot H-13
INV.(8"VC)=6.90
INV.(12"VC)IN=6.69
INV.(12"VC)OUT=6.59
CB
RIM=13.98
B.H.=11.78
2 Story House Wood #299
2 Story House Wood #295
2 Story House Wood #291
Conc. Walk
Bit. Conc. Drive
Hedge
WS
GG
B.W.
OWS
12" L.S. WATER
12" V.C.
REPLACE 6" WATER MAIN WITH NEW 8" DI WATER MAIN (~44 L.F.)
REM WG
12"X8" TEE
8"WG
CLEAN & LINE 12" WATER (~76 L.F.)
CLEAN & LINE 12" WATER (~78 L.F.)
CB
RIM=14.17
B.H.=10.99
UPL
Granite Curb
114+00
114+50
115+00
115+50
20" C.I. LI GAS
48" BRICK COMBINED SEWER
LINE SMH
CLEAN & LINE 18" SEWER (~19 L.F.)
8"X8" CROSS 8"WG
REM WG
TEMPORARILY SUPPORT UTILITY POLE
R&R CURB
18"x24" BRIC
UNDERGROUND DRAINAGE VAULT
10" PVC SECTION
6" L.S. WATER
10" V.C. SEWER
TEMPORARILY SUPPORT UTILITY POLE
REPLACE 6" WATER MAIN WITH NEW 8" DI WATER MAIN (~1,910 L.F.)
CONNECT TO EXISTING WATER MAIN WITH 8"X6" REDUCER
LINE SMH
SMH
RIM=14.60
INV.(10"PVC)IN=6.77
INV.(18")IN=6.70
INV.(18")OUT=6.60
SMH
RIM=14.63
INV.(10"VC)IN=CAPPED
INV.(10"VC)OUT=6.82
LIMIT OF PAVEMENT MILLING (TO ALLOW FOR 1' OF OVERLAP OF WEARING COURSE-TYP)
CLEAN & LINE 10" V.C. SEWER (~163 L.F.)
C.L.F.
Grass
1 Sty. Conc.
Bit. Walk
Street
N/F
Fitosi, M
Bk. 14
Tax L
Kellas Andre
Jaym
Bk. 57149
Tax M
Lot
Dah—Mir
Tax Mc
Lot
Conc. Walk
Bit. Conc. Drive
Granite Curb
Bit. Walk
Building Wood
N/F
enbourn, Alan J
2910 — Pg. 451
ax Map #39
Lot F-13
N/F
Joseph S &
ela B
— Pg. 274
Map #39
F-14
N/F
ena, Kenneth J
3667 — Pg. 253
Tax Map #39
Lot F-2

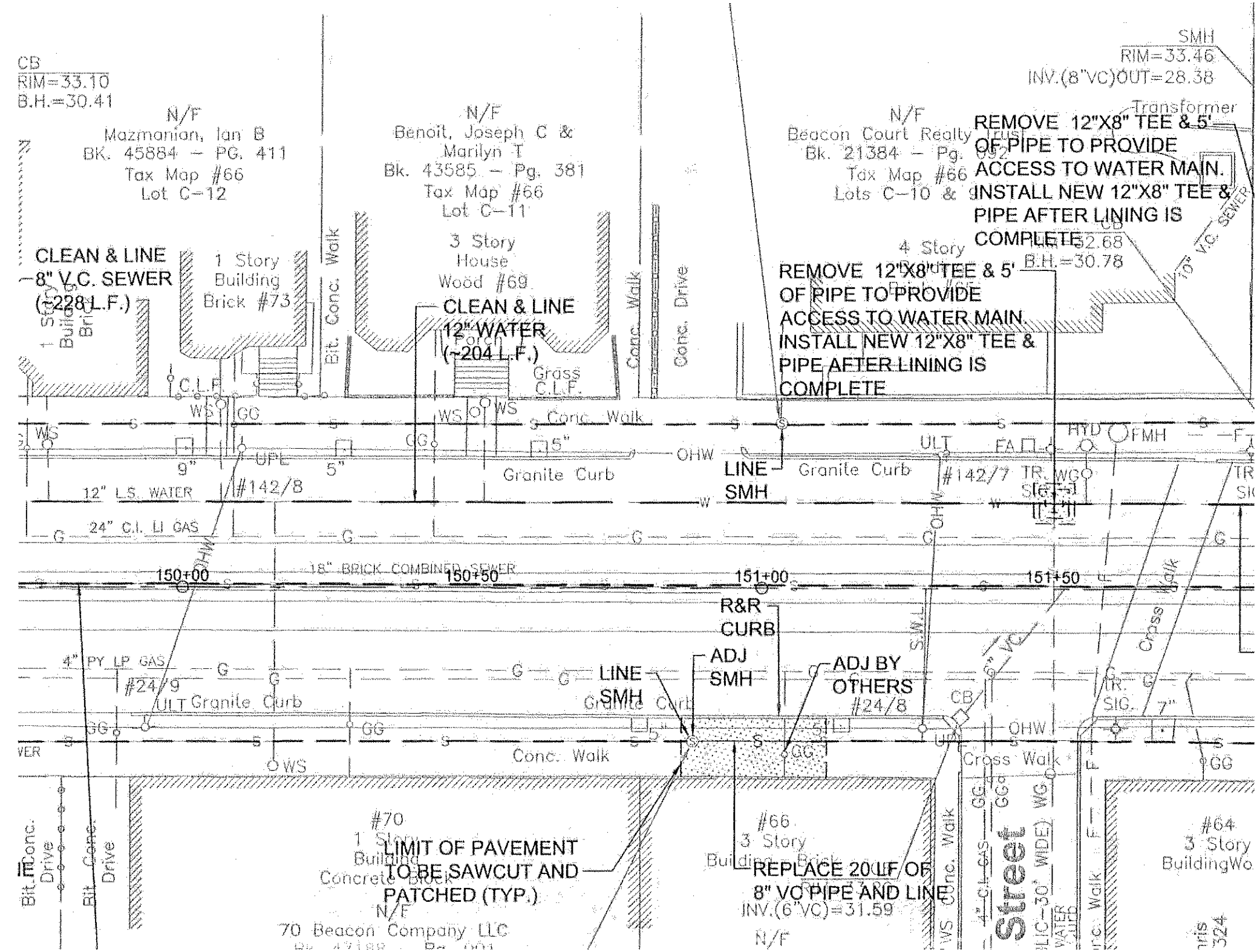

LINE SMH
120+00
120+50
121+00
121+50
#142/33
8" PY LP GAS
20" C.I. LI GAS
48" BRICK COMBINED SEWER
CLEAN & LINE 48" BRICK SEWER (~219 L.F.)
Level (3)
Granite Curb
Conc. Walk
12" V.C. SEWER
12" I.S. WATER
6" I.S. WATER
UNDERGROUND DRAINAGE
8"X6" TEE VAULT
8"WG
REM WG
8"WG
CB
RIM=14.86
(10"DI)=12.27
R&R CURB
LINE SMH
REPLACE 6" WATER MAIN WITH NEW 8" DI WATER MAIN (~1,910 L.F.)
#260
1 Story
Building
Brick
#258
3 Story
House
Wood
#252
3 Story
House
Wood
REM WG
CONNECT TO EXISTING WATER MAIN
CLEAN & LINE 10" V.C. SEWER (~125 L.F.)
CLEAN & LINE 10" V.C. SEWER (~148 L.F.)
N/F
Trust Beacon St Realty
Bk. 14295 - Pg. 070
Tax Map #39
Lot D-9
N/F
President & Fellows of Harvard
Bk. 11797 - Pg. 045
Tax Map #39
Lot D-10
N/F
President & Fellows of Harvard
Bk. 12554 - Pg. 027
Tax Map #39
Lot D-14
Beckwith Circle
(PRIVATE-28' WIDE)
Bit. Conc. Drive
Bit. Conc. Parking
SMH
RIM=14.14
INV.(10"VC)IN=6.04
INV.(10"VC)OUT=5.97
SMH
RIM=14.93
INV.(10"VC)IN=6.18
INV.(10"VC)OUT=6.18
INV.(8")IN=6.43
INV.(10")IN=PLUGGED
ED OVER)
M=BURIED
3)IN=3.97
OUT=3.97
")IN=4.99
BLOCKED)

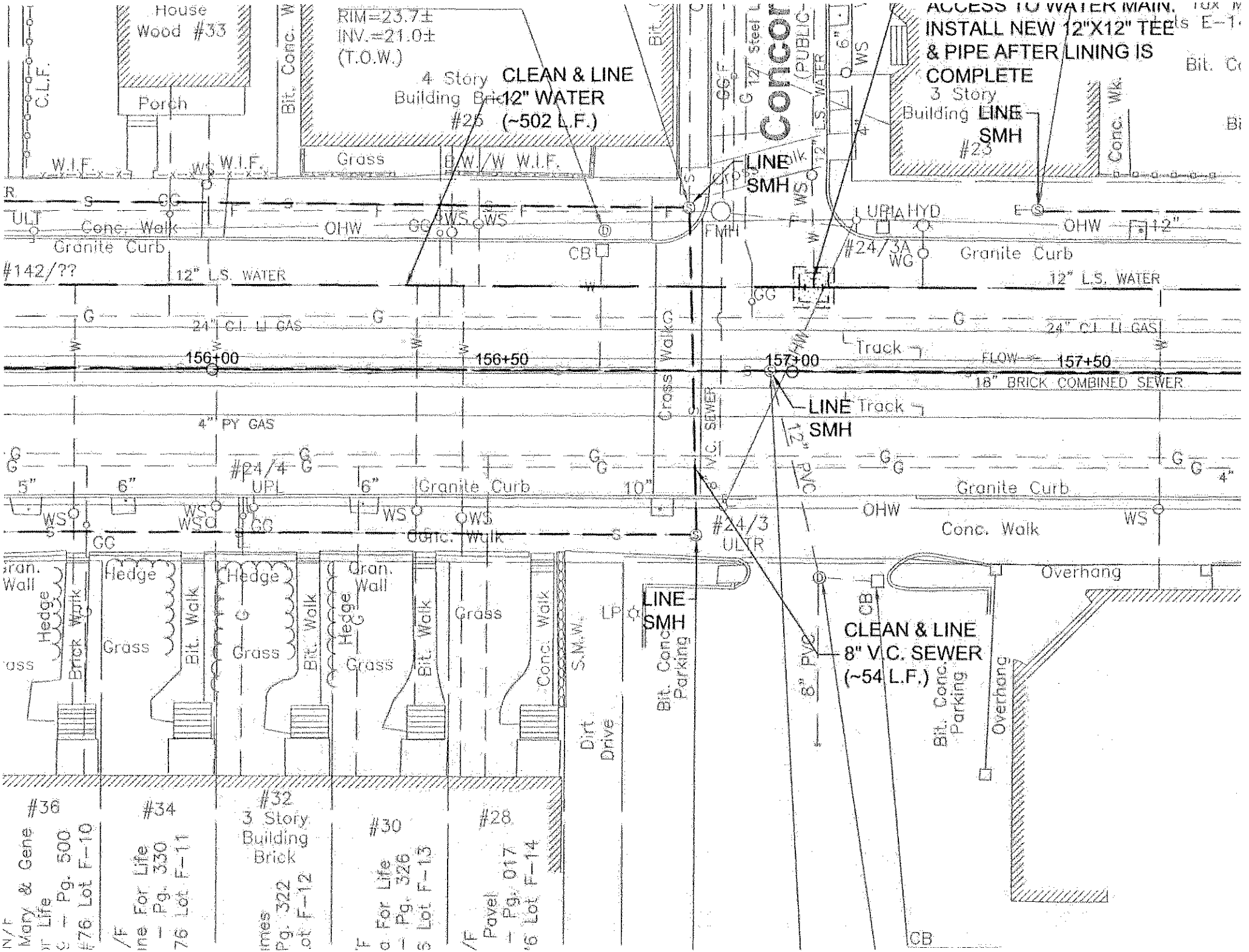

'G & 5' OF
DE ACCESS
N. INSTALL
PIPE AFTER
PLETE
N/F
BellaCasa Development, LLC
Bk. 53968 — Pg. 563
Tax Map #45
Lot G-18
N/F
Fortini, Anthony
Bk. 2445 — Pg. 1
Tax Map #45
Lot G-15
N/F
Bui, Nghia
Bk. 48482 — P
Tax Map #
Lot G-14
CLEAN & LINE
12" WATER
(~145 L.F.)
2 Story House Wood
#219 — #217
2 Sto
Hous
REMOVE 12
ACCESS TO
WG & PIPE
CB
RIM=20.60
B.H.=17.88
REPLACE 20 LF OF
15" VC PIPE AND
LINE
CLEAN & LINE
15" V.C. SEWER
(~184 L.F.)
Conc. Walk
Bit. Conc.
Hedge
ADJ BY
OTHERS
REPLACE 50 LF OF
15" VC PIPE AND
LINE
Gravel Area
CLEAN
12" WA
(~148 L
Walk
15" V.C. SEWER
12" C.I. WATER
Conc. Walk
#142/27
Granite Curb
UPLR
Level
(R&R
CURB
REMOVE 12" WG & 5' OF PIPE TO PROVIDE
ACCESS TO WATER MAIN. INSTALL NEW 12"
WG & PIPE AFTER LINING IS COMPLETE
LINE
SMH
R&R
CURB
R&R
CURB
REMOVE 12"X6" T
ACCESS TO WATE
12"X6" TEE & PIPE
COMPLETE
48" BRICK COMBINED SEWER
126+00
126+50
127+00
127+50
8" PL LP GAS
ULT
#24/30
WM
Granite Curb STUMP
STUMP
Granite Cur
Stone Masonry Wall
Chain Link Fence
SMH
RIM=21.72
INV.(15"VC)IN=5.12
INV.(15"VC)OUT=5.02
CLEAN & LINE
48" BRICK SEWER
(~512 L.F.)
N/F
President &

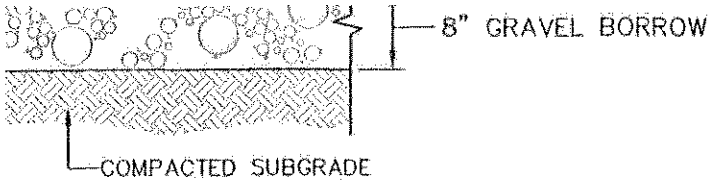

CLEAN & LINE
12" WATER
(~12 L.F.)
REMOVE 12"X6" TEE & 5'
OF PIPE TO PROVIDE
ACCESS TO WATER MAIN.
INSTALL NEW 12"X6" TEE &
PIPE AFTER LINING IS
COMPLETE
CLEAN & LINE
15" V.C. SEWER
(~306 L.F.)
LIMIT OF PAVEMENT
TO BE SAWCUT AND
PATCHED (TYP.)
CLEAN & LINE
12" WATER
(~15 L.F.)
LINE
SMH
LINE
SMH
House Wood
#189
House Wood
#187
Lot F-13
Porch
Bit. Conc.
Drive
UPL
#269/15
Cross Walk
33"
Conc.
Planter
Planter Are
B.W.
Granite Curb
#8641
UPL
#24/24
ULT
#24/25
132+00
132+50
133+00
133+50
Track
Track
Cross Walk
Cross Walk
8" PL LP GAS
Level (3)
CB
RIM=16.50
B.H.=13.71
Granite Curb
Granite Curb
Cross Walk
Bit. Walk B-11
Brick Wall
Brick Wall
Entrar
Chain Link Fence
Conc. Walk
SCOTT STREET
(PUBLIC-50' WIDE)
ONE WAY
6" C.I. LP GAS
SMH
RIM=19.91
INV.(48"B)IN=3.12
INV.(48"B)OUT=2.95
INV.(8"VC)IN=14.07(FROM CB)
INV(10"VC)=(PLUGGED)
N/F
Lapp, Katherine N
Bk. 55001 - Pg. 128
Cam. Tax Map #146A
Lot 67
#4-5 Shady Hill Sq
N
Soltan, Joanna
Bk. 26989
Cam. Tax
Lot
#6-7 Sh


REMOVE 12"X6" TEE & 5' OF PIPE TO PROVIDE ACCESS TO WATER MAIN INSTALL NEW 12"X6" TEE & PIPE AFTER LINING IS COMPLETE
CLEAN & LINE 15" V.C. SEWER (~17 L.F.)
CLEAN & LINE 12" WATER (~12 L.F.)
CLEAN & LINE 12" WATER (~44 L.F.)
CLEAN & LINE 15" V.C. SEWER (~17 L.F.)
CLEAN & LINE 15" V.C. SEWER (~286 L.F.)
CLEAN & LINE 12" WATER (~189 L.F.)
REMOVE 12"X6" TEE & 5' OF PIPE TO PROVIDE ACCESS TO WATER MAIN. INSTALL NEW 12"X6"TEE & PIPE AFTER LINING IS COMPLETE
LINE SMH
LINE SMH
LINE SMH
Lot D-14
1 Story Building Conc. Blk. #147
1 Story Building Con. Blk.
Bit. Conc. Drive
Bit. Conc. Parking
Bit. Conc. Drive
Conc. Walk
Granite Curb
Bit. Walk
Bit. Walk
Brick/Conc. Wall
Brick/Conc. Wall
Track
Track
48" BRICK COMBINED SEWER
20" C.I. LP GAS
12" L.S. WATER
138+00
138+50
139+00
139+50
#24/20
#24/19
#42/17
#42/18
SMH
RIM=15.16
INV.(8"VC)IN=8.26
INV.(8"VC)IN=4.08
INV.(48"B)IN=2.85
INV.(48"B)OUT=2.85
DES NOT CONNECT
SMH
CB
RIM=14.30
RIM=14.53
B.H.=10.50
TEL INV.(15"VC)OUT=2.99
INV.(15"VC)IN=3.08
OHW
UPL
ULTR
WM
WS
GG
E.W.


8" V.C. SEWER
(~373 L.F.)
REMOVE 12"X6" TEE & 5' OF PIPE TO PROVIDE ACCESS TO WATER MAIN. INSTALL NEW 12"X6" TEE & PIPE AFTER LINING IS COMPLETE
LINE SMH
LINE SMH
CLEAN & LINE 8" V.C. SEWER (~375 L.F.)
CLEAN & LINE 18" BRICK SEWER (~455 L.F.)
REMOVE 12"X6" 12"X8" TEE & 5' PROVIDE ACCE WATER MAIN. I NEW 12"X6" TEI TEE & PIPE AFT IS COMPLETE
#115 4 Story House Wood
#114 Story House Wood
#111 2 Story House Wood
#110 2 Story House Wood
#109 2 Story House Wood
#108 2 Story House
#106 3 Story House Wood
#105 2 Story House Con. Blk
#13
#12
#24/14
#24/13
Bit. Conc. Drive
Conc. Wk.
Grass Area
Gate
Hedge
Gravel Drive
Granite Curb
Stump
Conc. Walk
Bit. Walk
Grass
B.W.
W.P.F.
C.L.F.
OHW
UPL
ULT
WS
GG
G
W
S
15"
13"
16"
14"
6"
9"
3" C.I.
6" L.S. WATER
8" V.C. SEWER
3" Steel GAS
12" L.S. WATER
24" C.I. LI GAS
4" PY LI GAS
Track
144+00
144+50
145+00
145+50
18" BRICK COMBINED SEWER
SMH
RIM=25.13
N/F
Nyberg, Jonathan M
Bk. 36187 - Pg. 235
Tax Map #66
Lot E-3
N/F
Rego, Walter & Ann
Bk. 8657 - Pg. 093
Tax Map #66
Lot E-4
N/F
108 Beacon Street Real Estate Trust
Bk. 31839 - Pg. 133
Tax Map #66
Lot E-5
N/F
Cabral, Maria M.
Bk. 21480 - Pg. 224
Tax Map #66
Lot E-6


CB
RIM=33.10
B.H.=30.41
N/F
Mazmanian, Ian B
BK. 45884 – PG. 411
Tax Map #66
Lot C-12
N/F
Benoit, Joseph C &
Marilyn T
Bk. 43585 – Pg. 381
Tax Map #66
Lot C-11
N/F
Beacon Court Realty Trust
Bk. 21384 – Pg. 092
Tax Map #66
Lots C-10 & 9
SMH
RIM=33.46
INV.(8"VC)OUT=28.38
Transformer
REMOVE 12"X8" TEE & 5' OF PIPE TO PROVIDE ACCESS TO WATER MAIN. INSTALL NEW 12"X8" TEE & PIPE AFTER LINING IS COMPLETE
CLEAN & LINE 8" V.C. SEWER (~228 L.F.)
1 Story Building Brick #73
3 Story House Wood #69
CLEAN & LINE 12" WATER (~204 L.F.)
4 Story
REMOVE 12"X8" TEE & 5' OF PIPE TO PROVIDE ACCESS TO WATER MAIN. INSTALL NEW 12"X8" TEE & PIPE AFTER LINING IS COMPLETE
Bit. Conc. Walk
Conc. Walk
Conc. Drive
Porch
Grass
C.L.F.
WS
GG
Conc. Walk
OHW
ULT
FA
HYD
FMH
9"
UPL
5"
Granite Curb
LINE SMH
#142/7
TR. SIG.
12" L.S. WATER
#142/8
24" C.I. LI GAS
150+00
18" BRICK COMBINED SEWER
150+50
151+00
151+50
R&R CURB
ADJ SMH
LINE SMH
ADJ BY OTHERS
#24/8
4" PY LP GAS
#24/9
ULT Granite Curb
Granite Curb
CB
Cross Walk
7"
Bit. Conc. Drive
Bit. Conc. Drive
#70
1 Story Building Concrete Block
LIMIT OF PAVEMENT TO BE SAWCUT AND PATCHED (TYP.)
N/F
70 Beacon Company LLC
#66
3 Story Building Brick
REPLACE 20 LF OF 8" VC PIPE AND LINE
INV.(6"VC)=31.59
N/F
#64
3 Story Building
Cross Walk
Conc. Walk
4" C.I. GAS
Street
(PUBLIC-30' WIDE)
WATER
GAS

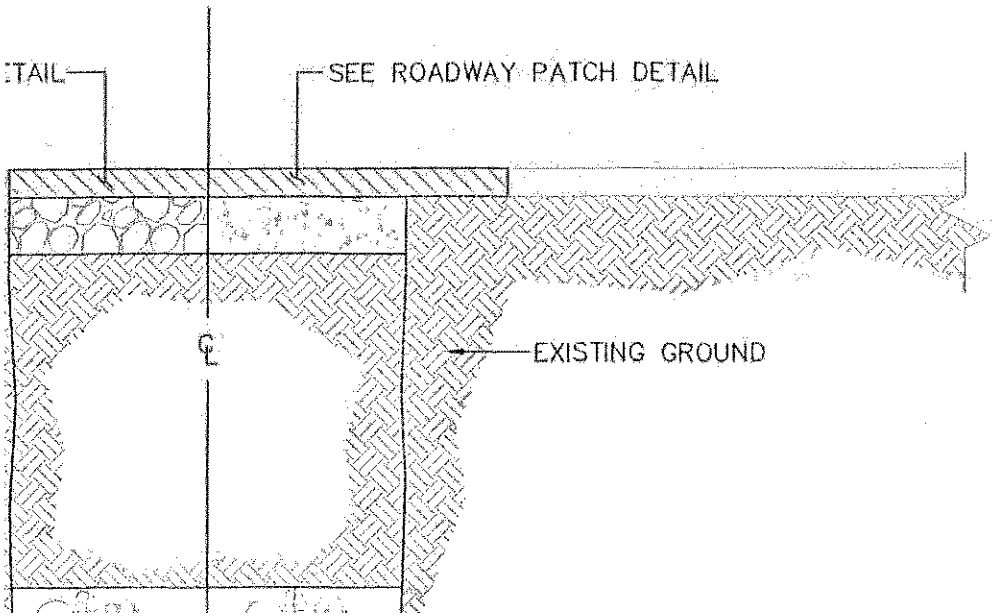

House
Wood #33
Porch
C.L.F.
Bit. Conc. W
RIM=23.7±
INV.=21.0±
(T.O.W.)
4 Story
Building Brick
#26
CLEAN & LINE
12" WATER
(~502 L.F.)
Grass
W.I.F.
W.I.F.
W.I.F.
Concrete
(PUBLIC)
12" Steel L
C.C.F.
L.S. WATER
6"
WS
4"
ACCESS TO WATER MAIN.
INSTALL NEW 12"X12" TEE
& PIPE AFTER LINING IS
COMPLETE
3 Story
Building
#23
LINE
SMH
Conc. Wlk.
Bit. Co
Bi
LINE
SMH
Walk
Grass
FMH
UPHA HYD
OHW
+2"
Granite Curb
#24/3A
WG
#142/??
12" L.S. WATER
CB
24" C.I. U GAS
156+00
156+50
157+00
157+50
FLOW
18" BRICK COMBINED SEWER
Track
LINE
SMH
4" PY GAS
#24/4
UPL
5"
6"
6"
10"
Granite Curb
OHW
Conc. Walk
#24/3
ULTR
Overhang
Hedge
Bran.
Wall
Brick Walk
Bit. Walk
Grass
Conc. Walk
S.M.W.
LP
Dirt
Drive
Bit. Conc.
Parking
LINE
SMH
CLEAN & LINE
8" V.C. SEWER
(~54 L.F.)
8" PVC
Overhang
Bit. Conc.
Parking
CB
#36
#34
#32
3 Story
Building
Brick
#30
#28
Pg. 322
Pg. 326
Pg. 017
Lot F-12
Lot F-13
Lot F-14
Lot F-11
Lot F-10

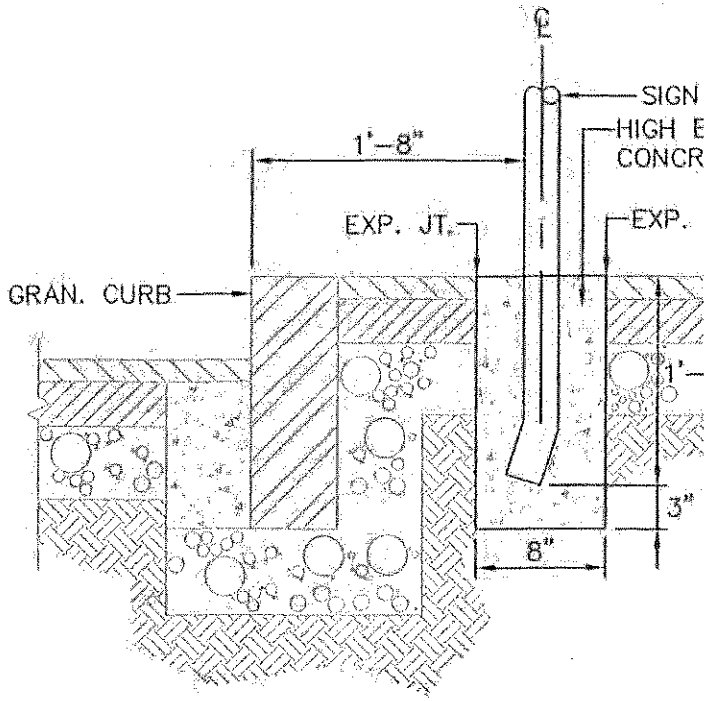


TYPICAL GATE VALVE INSTALLATION IN EXISTING WATER MAIN

NOT TO SCALE

PATCH DETAIL



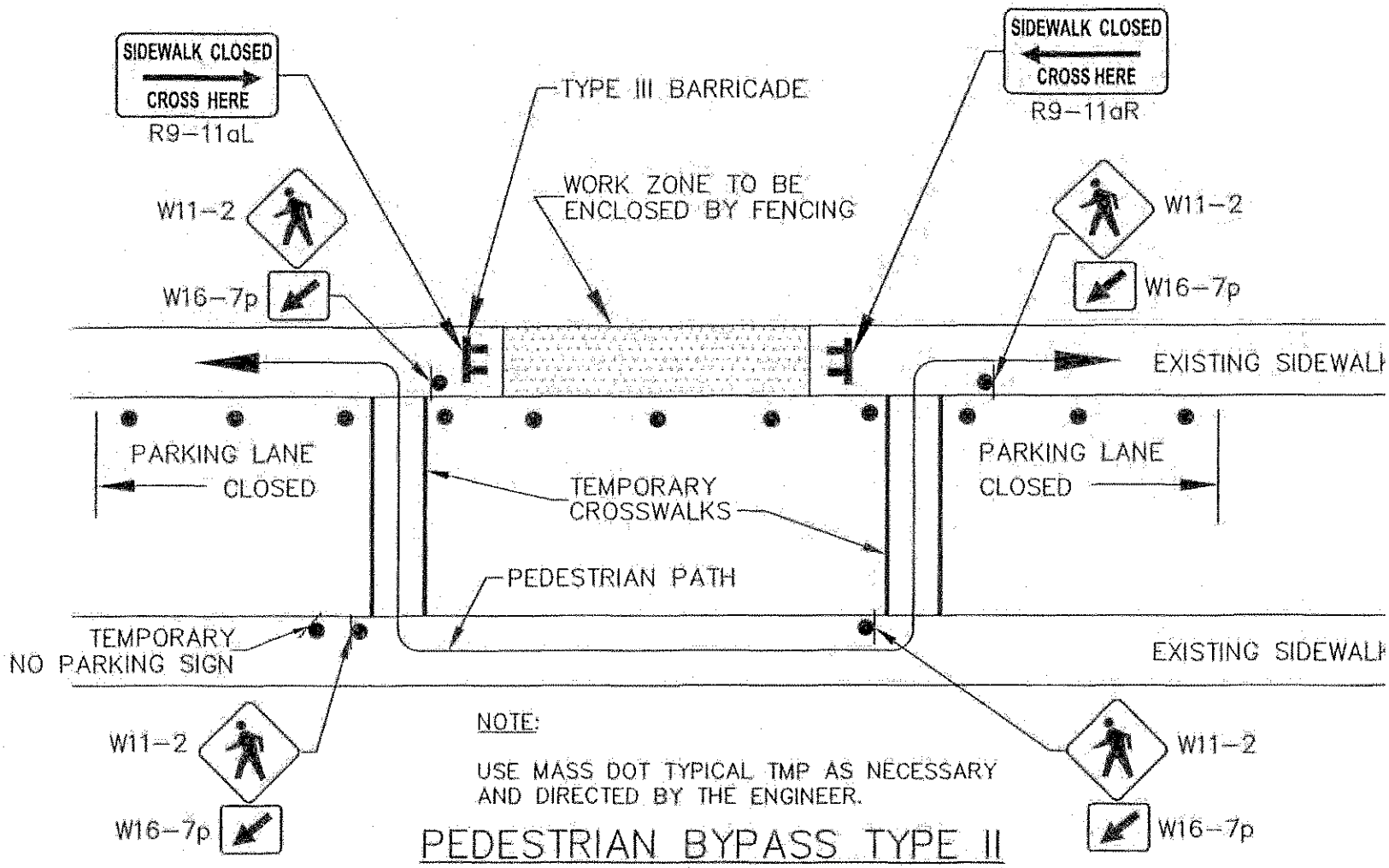


EXISTING SIDEWALK

NOTE:

USE MASS DOT TYPICAL TMP AS NECESSARY
AND DIRECTED BY THE ENGINEER.

PEDESTRIAN BYPASS TYPE I

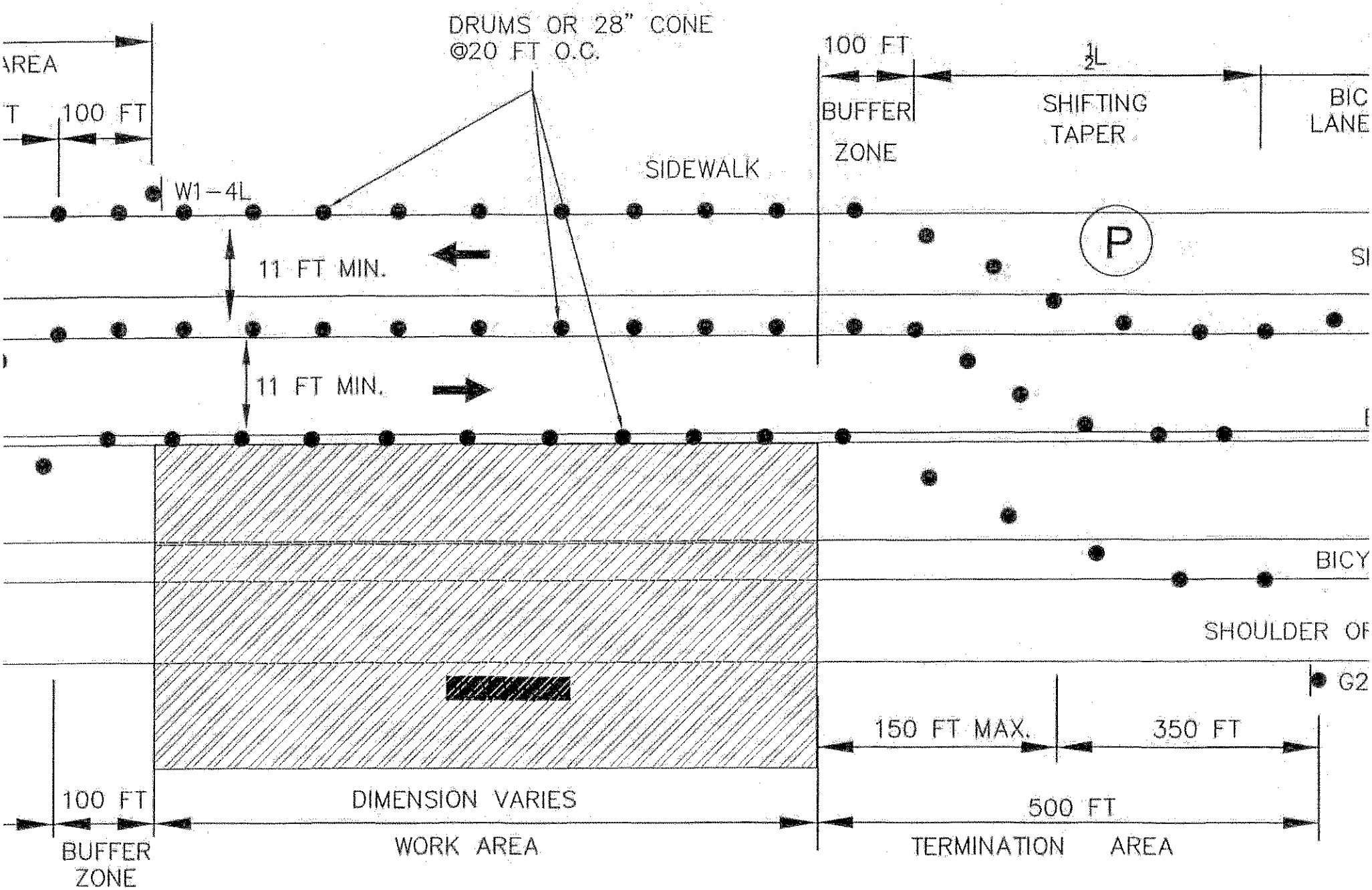


NOTE:

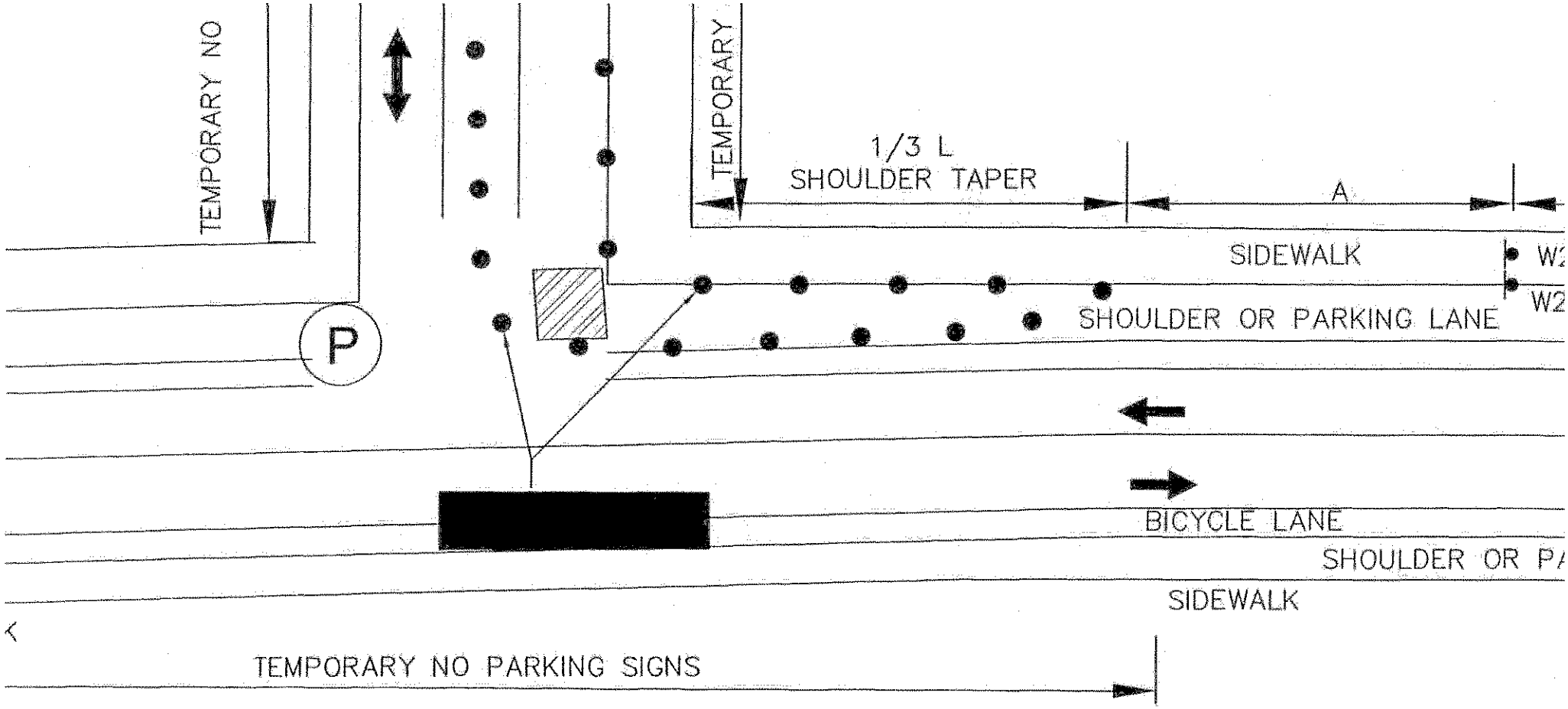
USE MASS DOT TYPICAL TMP AS NECESSARY
AND DIRECTED BY THE ENGINEER.

PEDESTRIAN BYPASS TYPE II

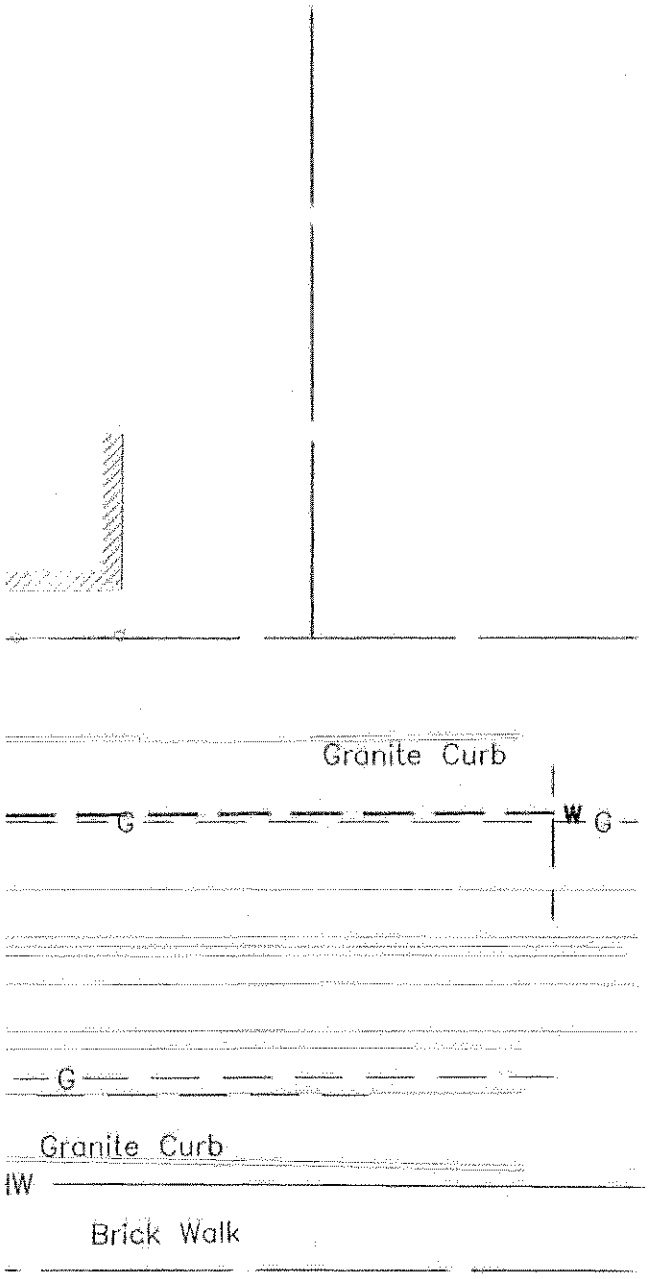
TWO WAY STREET LANE SHIFT SETUP, WITH BICYCLE LANES

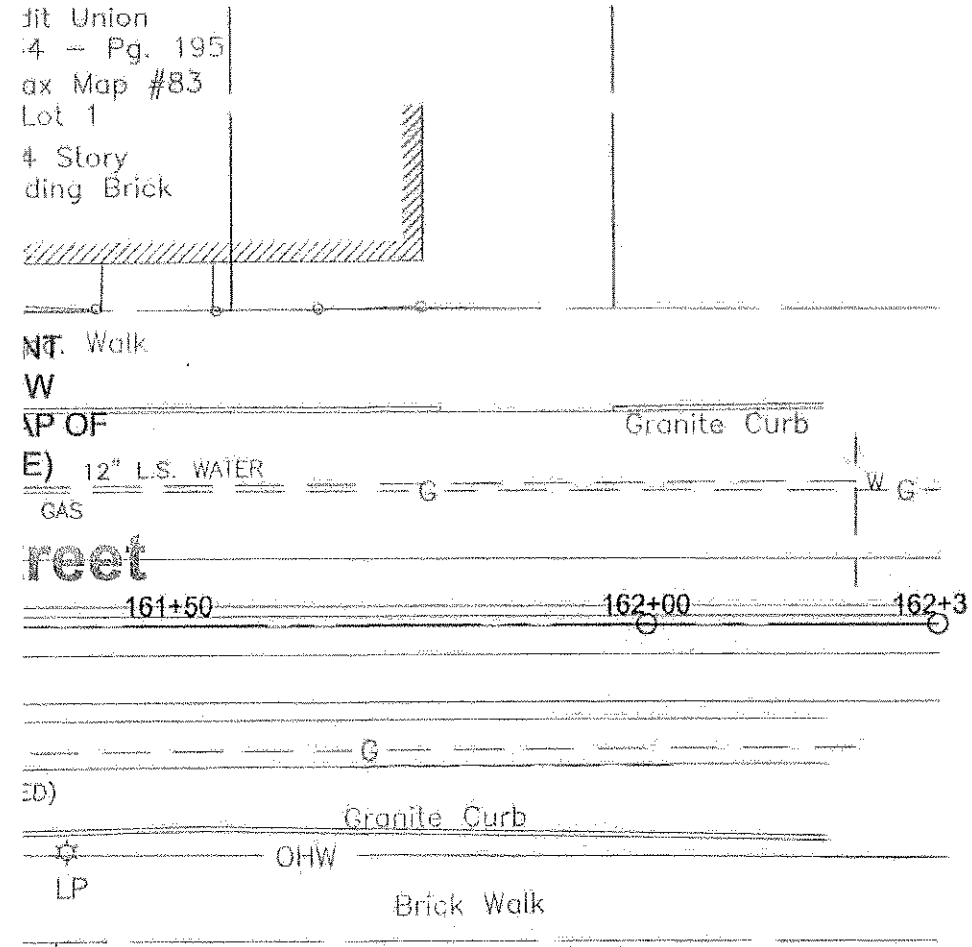


TWO WAY STREET LANE SHIFT SETUP, WITHOUT BICYCLE LANES



TYPICAL ONE QUADRANT CLOSURE SETUP


Granite Curb
G
W
G
G
Granite Curb
W
Brick Walk


dit Union
:4 – Pg. 195
ax Map #83
Lot 1
4 Story
ding Brick
NT. Walk
W
\P OF
E) 12" L.S. WATER
GAS
reet
161+50
162+00
162+3
G
W
G
Granite Curb
ED)
Granite Curb
OHW
LP
Brick Walk